

Tables de conversion

- Degrés sexagésimaux en degrés décimaux

- Degrés en heures

1 – Degrés et minutes en heures décimales (angles en temps)



2 – Minutes et secondes en heures décimales (temps en temps)



3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)



4 – Minutes et secondes en angles horaires (temps en angles)



5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)



Usage :

Convertir une longitude en heures

Exemple, 127°54'W

Table "1 – Degrés et minutes en heures décimales", colonne 127, ligne 54
on trouve 8.526667 heures.

Table "2 – Minutes et secondes en heures décimales",

On isole la partie décimale, à savoir 0.526667

on cherche à l'intérieur de la table la valeur la plus proche de 0.526667.

On trouve 0.526389 dans la colonne 31 à la ligne 35

Ainsi 127°54' correspond à 8 heures 31 minutes 35 seconds.

Convertir l'heure de la culmination en degrés

Exemple, 8h 31m 41s

Table "2 – Minutes et secondes en heures décimales", colonne 31, ligne 41
on trouve 0.528056, donc 0h 31m 41s = 0.528056 h

Table "1 – Degrés et minutes en heures décimales", on cherche 0.528056 à l'intérieur

On trouve 0.527778 colonne 7° ligne 55'

Table "1 – Degrés et minutes en heures décimales", on cherche 8.0000 à l'intérieur

On le trouve dans la colonne 120°, ligne 0'

On fait la somme 120° + 7°55', on trouve 127°55'

Donc 8h 31m 41s = 127°55'

Convertir minutes et secondes (de temps) en heures décimales

Par exemple pour extrapoler l'angle horaire ou la déclinaison à l'heure ronde inférieure

À quelle fraction d'heure correspondent 47m 38s ?

Table "2 – Minutes et secondes en heures décimales", colonne 47, ligne 38

On trouve 0.793889

Donc 47m 38s = 0.793889 h

Convertir des degrés décimaux en degrés-minutes

Exemple, 11.908832° = ?

On isole la partie décimale, à savoir 0.908832

Table "3 – Minutes et dixièmes de minutes en degrés décimaux", à l'intérieur

On trouve 0.9088333 dans la colonne 54 à la ligne 0.50

Donc 11.908832° = 11°54.5'

Convertir minutes et secondes en angle horaire

Par exemple pour extrapoler l'angle horaire du Soleil, des étoiles ou des planètes (15° par heure)

Il est 15h 9m 20s. On a obtenu l'angle horaire à l'heure ronde inférieure, à savoir 15 heures

On veut savoir à quel angle à ajouter correspondent 9m 20s

Table "4 – Minutes et secondes en angles horaires (temps en angles)", colonne 9 ligne 20

On trouve 2°20.00'

Donc 9m 20s = 2°20.00' d'angle horaire

Convertir la partie décimale d'un degré en minutes et centièmes de minute

Par exemple, la variation d'un angle horaire est 4.529545°. que représentent 0.529545°, en minutes ?

Table "5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)", on cherche à l'intérieur

le nombre le plus proche de 0.529545. On lit les minutes en haut, les centièmes de minute à gauche

On trouve 31.77

Donc 4.529545° = 4°31.77'

1 – Degrés et minutes en heures décimales (angles en temps)

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	0	1	2	3	4	5	6	7	8	9
0	0.000000	0.066667	0.133333	0.200000	0.266667	0.333333	0.400000	0.466667	0.533333	0.600000
1	0.001111	0.067778	0.134444	0.201111	0.267778	0.334444	0.401111	0.467778	0.534444	0.601111
2	0.002222	0.068889	0.135556	0.202222	0.268889	0.335556	0.402222	0.468889	0.535556	0.602222
3	0.003333	0.070000	0.136667	0.203333	0.270000	0.336667	0.403333	0.470000	0.536667	0.603333
4	0.004444	0.071111	0.137778	0.204444	0.271111	0.337778	0.404444	0.471111	0.537778	0.604444
5	0.005556	0.072222	0.138889	0.205556	0.272222	0.338889	0.405556	0.472222	0.538889	0.605556
6	0.006667	0.073333	0.140000	0.206667	0.273333	0.340000	0.406667	0.473333	0.540000	0.606667
7	0.007778	0.074444	0.141111	0.207778	0.274444	0.341111	0.407778	0.474444	0.541111	0.607778
8	0.008889	0.075556	0.142222	0.208889	0.275556	0.342222	0.408889	0.475556	0.542222	0.608889
9	0.010000	0.076667	0.143333	0.210000	0.276667	0.343333	0.410000	0.476667	0.543333	0.610000
10	0.011111	0.077778	0.144444	0.211111	0.277778	0.344444	0.411111	0.477778	0.544444	0.611111
11	0.012222	0.078889	0.145556	0.212222	0.278889	0.345556	0.412222	0.478889	0.545556	0.612222
12	0.013333	0.080000	0.146667	0.213333	0.280000	0.346667	0.413333	0.480000	0.546667	0.613333
13	0.014444	0.081111	0.147778	0.214444	0.281111	0.347778	0.414444	0.481111	0.547778	0.614444
14	0.015556	0.082222	0.148889	0.215556	0.282222	0.348889	0.415556	0.482222	0.548889	0.615556
15	0.016667	0.083333	0.150000	0.216667	0.283333	0.350000	0.416667	0.483333	0.550000	0.616667
16	0.017778	0.084444	0.151111	0.217778	0.284444	0.351111	0.417778	0.484444	0.551111	0.617778
17	0.018889	0.085556	0.152222	0.218889	0.285556	0.352222	0.418889	0.485556	0.552222	0.618889
18	0.020000	0.086667	0.153333	0.220000	0.286667	0.353333	0.420000	0.486667	0.553333	0.620000
19	0.021111	0.087778	0.154444	0.221111	0.287778	0.354444	0.421111	0.487778	0.554444	0.621111
20	0.022222	0.088889	0.155556	0.222222	0.288889	0.355556	0.422222	0.488889	0.555556	0.622222
21	0.023333	0.090000	0.156667	0.223333	0.290000	0.356667	0.423333	0.490000	0.556667	0.623333
22	0.024444	0.091111	0.157778	0.224444	0.291111	0.357778	0.424444	0.491111	0.557778	0.624444
23	0.025556	0.092222	0.158889	0.225556	0.292222	0.358889	0.425556	0.492222	0.558889	0.625556
24	0.026667	0.093333	0.160000	0.226667	0.293333	0.360000	0.426667	0.493333	0.560000	0.626667
25	0.027778	0.094444	0.161111	0.227778	0.294444	0.361111	0.427778	0.494444	0.561111	0.627778
26	0.028889	0.095556	0.162222	0.228889	0.295556	0.362222	0.428889	0.495556	0.562222	0.628889
27	0.030000	0.096667	0.163333	0.230000	0.296667	0.363333	0.430000	0.496667	0.563333	0.630000
28	0.031111	0.097778	0.164444	0.231111	0.297778	0.364444	0.431111	0.497778	0.564444	0.631111
29	0.032222	0.098889	0.165556	0.232222	0.298889	0.365556	0.432222	0.498889	0.565556	0.632222
30	0.033333	0.100000	0.166667	0.233333	0.300000	0.366667	0.433333	0.500000	0.566667	0.633333
31	0.034444	0.101111	0.167778	0.234444	0.301111	0.367778	0.434444	0.501111	0.567778	0.634444
32	0.035556	0.102222	0.168889	0.235556	0.302222	0.368889	0.435556	0.502222	0.568889	0.635556
33	0.036667	0.103333	0.170000	0.236667	0.303333	0.370000	0.436667	0.503333	0.570000	0.636667
34	0.037778	0.104444	0.171111	0.237778	0.304444	0.371111	0.437778	0.504444	0.571111	0.637778
35	0.038889	0.105556	0.172222	0.238889	0.305556	0.372222	0.438889	0.505556	0.572222	0.638889
36	0.040000	0.106667	0.173333	0.240000	0.306667	0.373333	0.440000	0.506667	0.573333	0.640000
37	0.041111	0.107778	0.174444	0.241111	0.307778	0.374444	0.441111	0.507778	0.574444	0.641111
38	0.042222	0.108889	0.175556	0.242222	0.308889	0.375556	0.442222	0.508889	0.575556	0.642222
39	0.043333	0.110000	0.176667	0.243333	0.310000	0.376667	0.443333	0.510000	0.576667	0.643333
40	0.044444	0.111111	0.177778	0.244444	0.311111	0.377778	0.444444	0.511111	0.577778	0.644444
41	0.045556	0.112222	0.178889	0.245556	0.312222	0.378889	0.445556	0.512222	0.578889	0.645556
42	0.046667	0.113333	0.180000	0.246667	0.313333	0.380000	0.446667	0.513333	0.580000	0.646667
43	0.047778	0.114444	0.181111	0.247778	0.314444	0.381111	0.447778	0.514444	0.581111	0.647778
44	0.048889	0.115556	0.182222	0.248889	0.315556	0.382222	0.448889	0.515556	0.582222	0.648889
45	0.050000	0.116667	0.183333	0.250000	0.316667	0.383333	0.450000	0.516667	0.583333	0.650000
46	0.051111	0.117778	0.184444	0.251111	0.317778	0.384444	0.451111	0.517778	0.584444	0.651111
47	0.052222	0.118889	0.185556	0.252222	0.318889	0.385556	0.452222	0.518889	0.585556	0.652222
48	0.053333	0.120000	0.186667	0.253333	0.320000	0.386667	0.453333	0.520000	0.586667	0.653333
49	0.054444	0.121111	0.187778	0.254444	0.321111	0.387778	0.454444	0.521111	0.587778	0.654444
50	0.055556	0.122222	0.188889	0.255556	0.322222	0.388889	0.455556	0.522222	0.588889	0.655556
51	0.056667	0.123333	0.190000	0.256667	0.323333	0.390000	0.456667	0.523333	0.590000	0.656667
52	0.057778	0.124444	0.191111	0.257778	0.324444	0.391111	0.457778	0.524444	0.591111	0.657778
53	0.058889	0.125556	0.192222	0.258889	0.325556	0.392222	0.458889	0.525556	0.592222	0.658889
54	0.060000	0.126667	0.193333	0.260000	0.326667	0.393333	0.460000	0.526667	0.593333	0.660000
55	0.061111	0.127778	0.194444	0.261111	0.327778	0.394444	0.461111	0.527778	0.594444	0.661111
56	0.062222	0.128889	0.195556	0.262222	0.328889	0.395556	0.462222	0.528889	0.595556	0.662222
57	0.063333	0.130000	0.196667	0.263333	0.330000	0.396667	0.463333	0.530000	0.596667	0.663333
58	0.064444	0.131111	0.197778	0.264444	0.331111	0.397778	0.464444	0.531111	0.597778	0.664444
59	0.065556	0.132222	0.198889	0.265556	0.332222	0.398889	0.465556	0.532222	0.598889	0.665556

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	10	11	12	13	14	15	16	17	18	19
0	0.666667	0.733333	0.800000	0.866667	0.933333	1.000000	1.066667	1.133333	1.200000	1.266667
1	0.667778	0.734444	0.801111	0.867778	0.934444	1.001111	1.067778	1.134444	1.201111	1.267778
2	0.668889	0.735556	0.802222	0.868889	0.935556	1.002222	1.068889	1.135556	1.202222	1.268889
3	0.670000	0.736667	0.803333	0.870000	0.936667	1.003333	1.070000	1.136667	1.203333	1.270000
4	0.671111	0.737778	0.804444	0.871111	0.937778	1.004444	1.071111	1.137778	1.204444	1.271111
5	0.672222	0.738889	0.805556	0.872222	0.938889	1.005556	1.072222	1.138889	1.205556	1.272222
6	0.673333	0.740000	0.806667	0.873333	0.940000	1.006667	1.073333	1.140000	1.206667	1.273333
7	0.674444	0.741111	0.807778	0.874444	0.941111	1.007778	1.074444	1.141111	1.207778	1.274444
8	0.675556	0.742222	0.808889	0.875556	0.942222	1.008889	1.075556	1.142222	1.208889	1.275556
9	0.676667	0.743333	0.810000	0.876667	0.943333	1.010000	1.076667	1.143333	1.210000	1.276667
10	0.677778	0.744444	0.811111	0.877778	0.944444	1.011111	1.077778	1.144444	1.211111	1.277778
11	0.678889	0.745556	0.812222	0.878889	0.945556	1.012222	1.078889	1.145556	1.212222	1.278889
12	0.680000	0.746667	0.813333	0.880000	0.946667	1.013333	1.080000	1.146667	1.213333	1.280000
13	0.681111	0.747778	0.814444	0.881111	0.947778	1.014444	1.081111	1.147778	1.214444	1.281111
14	0.682222	0.748889	0.815556	0.882222	0.948889	1.015556	1.082222	1.148889	1.215556	1.282222
15	0.683333	0.750000	0.816667	0.883333	0.950000	1.016667	1.083333	1.150000	1.216667	1.283333
16	0.684444	0.751111	0.817778	0.884444	0.951111	1.017778	1.084444	1.151111	1.217778	1.284444
17	0.685556	0.752222	0.818889	0.885556	0.952222	1.018889	1.085556	1.152222	1.218889	1.285556
18	0.686667	0.753333	0.820000	0.886667	0.953333	1.020000	1.086667	1.153333	1.220000	1.286667
19	0.687778	0.754444	0.821111	0.887778	0.954444	1.021111	1.087778	1.154444	1.221111	1.287778
20	0.688889	0.755556	0.822222	0.888889	0.955556	1.022222	1.088889	1.155556	1.222222	1.288889
21	0.690000	0.756667	0.823333	0.890000	0.956667	1.023333	1.090000	1.156667	1.223333	1.290000
22	0.691111	0.757778	0.824444	0.891111	0.957778	1.024444	1.091111	1.157778	1.224444	1.291111
23	0.692222	0.758889	0.825556	0.892222	0.958889	1.025556	1.092222	1.158889	1.225556	1.292222
24	0.693333	0.760000	0.826667	0.893333	0.960000	1.026667	1.093333	1.160000	1.226667	1.293333
25	0.694444	0.761111	0.827778	0.894444	0.961111	1.027778	1.094444	1.161111	1.227778	1.294444
26	0.695556	0.762222	0.828889	0.895556	0.962222	1.028889	1.095556	1.162222	1.228889	1.295556
27	0.696667	0.763333	0.830000	0.896667	0.963333	1.030000	1.096667	1.163333	1.230000	1.296667
28	0.697778	0.764444	0.831111	0.897778	0.964444	1.031111	1.097778	1.164444	1.231111	1.297778
29	0.698889	0.765556	0.832222	0.898889	0.965556	1.032222	1.098889	1.165556	1.232222	1.298889
30	0.700000	0.766667	0.833333	0.900000	0.966667	1.033333	1.100000	1.166667	1.233333	1.300000
31	0.701111	0.767778	0.834444	0.901111	0.967778	1.034444	1.101111	1.167778	1.234444	1.301111
32	0.702222	0.768889	0.835556	0.902222	0.968889	1.035556	1.102222	1.168889	1.235556	1.302222
33	0.703333	0.770000	0.836667	0.903333	0.970000	1.036667	1.103333	1.170000	1.236667	1.303333
34	0.704444	0.771111	0.837778	0.904444	0.971111	1.037778	1.104444	1.171111	1.237778	1.304444
35	0.705556	0.772222	0.838889	0.905556	0.972222	1.038889	1.105556	1.172222	1.238889	1.305556
36	0.706667	0.773333	0.840000	0.906667	0.973333	1.040000	1.106667	1.173333	1.240000	1.306667
37	0.707778	0.774444	0.841111	0.907778	0.974444	1.041111	1.107778	1.174444	1.241111	1.307778
38	0.708889	0.775556	0.842222	0.908889	0.975556	1.042222	1.108889	1.175556	1.242222	1.308889
39	0.710000	0.776667	0.843333	0.910000	0.976667	1.043333	1.110000	1.176667	1.243333	1.310000
40	0.711111	0.777778	0.844444	0.911111	0.977778	1.044444	1.111111	1.177778	1.244444	1.311111
41	0.712222	0.778889	0.845556	0.912222	0.978889	1.045556	1.112222	1.178889	1.245556	1.312222
42	0.713333	0.780000	0.846667	0.913333	0.980000	1.046667	1.113333	1.180000	1.246667	1.313333
43	0.714444	0.781111	0.847778	0.914444	0.981111	1.047778	1.114444	1.181111	1.247778	1.314444
44	0.715556	0.782222	0.848889	0.915556	0.982222	1.048889	1.115556	1.182222	1.248889	1.315556
45	0.716667	0.783333	0.850000	0.916667	0.983333	1.050000	1.116667	1.183333	1.250000	1.316667
46	0.717778	0.784444	0.851111	0.917778	0.984444	1.051111	1.117778	1.184444	1.251111	1.317778
47	0.718889	0.785556	0.852222	0.918889	0.985556	1.052222	1.118889	1.185556	1.252222	1.318889
48	0.720000	0.786667	0.853333	0.920000	0.986667	1.053333	1.120000	1.186667	1.253333	1.320000
49	0.721111	0.787778	0.854444	0.921111	0.987778	1.054444	1.121111	1.187778	1.254444	1.321111
50	0.722222	0.788889	0.855556	0.922222	0.988889	1.055556	1.122222	1.188889	1.255556	1.322222
51	0.723333	0.790000	0.856667	0.923333	0.990000	1.056667	1.123333	1.190000	1.256667	1.323333
52	0.724444	0.791111	0.857778	0.924444	0.991111	1.057778	1.124444	1.191111	1.257778	1.324444
53	0.725556	0.792222	0.858889	0.925556	0.992222	1.058889	1.125556	1.192222	1.258889	1.325556
54	0.726667	0.793333	0.860000	0.926667	0.993333	1.060000	1.126667	1.193333	1.260000	1.326667
55	0.727778	0.794444	0.861111	0.927778	0.994444	1.061111	1.127778	1.194444	1.261111	1.327778
56	0.728889	0.795556	0.862222	0.928889	0.995556	1.062222	1.128889	1.195556	1.262222	1.328889
57	0.730000	0.796667	0.863333	0.930000	0.996667	1.063333	1.130000	1.196667	1.263333	1.330000
58	0.731111	0.797778	0.864444	0.931111	0.997778	1.064444	1.131111	1.197778	1.264444	1.331111
59	0.732222	0.798889	0.865556	0.932222	0.998889	1.065556	1.132222	1.198889	1.265556	1.332222

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	20	21	22	23	24	25	26	27	28	29
0	1.333333	1.400000	1.466667	1.533333	1.600000	1.666667	1.733333	1.800000	1.866667	1.933333
1	1.334444	1.401111	1.467778	1.534444	1.601111	1.667778	1.734444	1.801111	1.867778	1.934444
2	1.335556	1.402222	1.468889	1.535556	1.602222	1.668889	1.735556	1.802222	1.868889	1.935556
3	1.336667	1.403333	1.470000	1.536667	1.603333	1.670000	1.736667	1.803333	1.870000	1.936667
4	1.337778	1.404444	1.471111	1.537778	1.604444	1.671111	1.737778	1.804444	1.871111	1.937778
5	1.338889	1.405556	1.472222	1.538889	1.605556	1.672222	1.738889	1.805556	1.872222	1.938889
6	1.340000	1.406667	1.473333	1.540000	1.606667	1.673333	1.740000	1.806667	1.873333	1.940000
7	1.341111	1.407778	1.474444	1.541111	1.607778	1.674444	1.741111	1.807778	1.874444	1.941111
8	1.342222	1.408889	1.475556	1.542222	1.608889	1.675556	1.742222	1.808889	1.875556	1.942222
9	1.343333	1.410000	1.476667	1.543333	1.610000	1.676667	1.743333	1.810000	1.876667	1.943333
10	1.344444	1.411111	1.477778	1.544444	1.611111	1.677778	1.744444	1.811111	1.877778	1.944444
11	1.345556	1.412222	1.478889	1.545556	1.612222	1.678889	1.745556	1.812222	1.878889	1.945556
12	1.346667	1.413333	1.480000	1.546667	1.613333	1.680000	1.746667	1.813333	1.880000	1.946667
13	1.347778	1.414444	1.481111	1.547778	1.614444	1.681111	1.747778	1.814444	1.881111	1.947778
14	1.348889	1.415556	1.482222	1.548889	1.615556	1.682222	1.748889	1.815556	1.882222	1.948889
15	1.350000	1.416667	1.483333	1.550000	1.616667	1.683333	1.750000	1.816667	1.883333	1.950000
16	1.351111	1.417778	1.484444	1.551111	1.617778	1.684444	1.751111	1.817778	1.884444	1.951111
17	1.352222	1.418889	1.485556	1.552222	1.618889	1.685556	1.752222	1.818889	1.885556	1.952222
18	1.353333	1.420000	1.486667	1.553333	1.620000	1.686667	1.753333	1.820000	1.886667	1.953333
19	1.354444	1.421111	1.487778	1.554444	1.621111	1.687778	1.754444	1.821111	1.887778	1.954444
20	1.355556	1.422222	1.488889	1.555556	1.622222	1.688889	1.755556	1.822222	1.888889	1.955556
21	1.356667	1.423333	1.490000	1.556667	1.623333	1.690000	1.756667	1.823333	1.890000	1.956667
22	1.357778	1.424444	1.491111	1.557778	1.624444	1.691111	1.757778	1.824444	1.891111	1.957778
23	1.358889	1.425556	1.492222	1.558889	1.625556	1.692222	1.758889	1.825556	1.892222	1.958889
24	1.360000	1.426667	1.493333	1.560000	1.626667	1.693333	1.760000	1.826667	1.893333	1.960000
25	1.361111	1.427778	1.494444	1.561111	1.627778	1.694444	1.761111	1.827778	1.894444	1.961111
26	1.362222	1.428889	1.495556	1.562222	1.628889	1.695556	1.762222	1.828889	1.895556	1.962222
27	1.363333	1.430000	1.496667	1.563333	1.630000	1.696667	1.763333	1.830000	1.896667	1.963333
28	1.364444	1.431111	1.497778	1.564444	1.631111	1.697778	1.764444	1.831111	1.897778	1.964444
29	1.365556	1.432222	1.498889	1.565556	1.632222	1.698889	1.765556	1.832222	1.898889	1.965556
30	1.366667	1.433333	1.500000	1.566667	1.633333	1.700000	1.766667	1.833333	1.900000	1.966667
31	1.367778	1.434444	1.501111	1.567778	1.634444	1.701111	1.767778	1.834444	1.901111	1.967778
32	1.368889	1.435556	1.502222	1.568889	1.635556	1.702222	1.768889	1.835556	1.902222	1.968889
33	1.370000	1.436667	1.503333	1.570000	1.636667	1.703333	1.770000	1.836667	1.903333	1.970000
34	1.371111	1.437778	1.504444	1.571111	1.637778	1.704444	1.771111	1.837778	1.904444	1.971111
35	1.372222	1.438889	1.505556	1.572222	1.638889	1.705556	1.772222	1.838889	1.905556	1.972222
36	1.373333	1.440000	1.506667	1.573333	1.640000	1.706667	1.773333	1.840000	1.906667	1.973333
37	1.374444	1.441111	1.507778	1.574444	1.641111	1.707778	1.774444	1.841111	1.907778	1.974444
38	1.375556	1.442222	1.508889	1.575556	1.642222	1.708889	1.775556	1.842222	1.908889	1.975556
39	1.376667	1.443333	1.510000	1.576667	1.643333	1.710000	1.776667	1.843333	1.910000	1.976667
40	1.377778	1.444444	1.511111	1.577778	1.644444	1.711111	1.777778	1.844444	1.911111	1.977778
41	1.378889	1.445556	1.512222	1.578889	1.645556	1.712222	1.778889	1.845556	1.912222	1.978889
42	1.380000	1.446667	1.513333	1.580000	1.646667	1.713333	1.780000	1.846667	1.913333	1.980000
43	1.381111	1.447778	1.514444	1.581111	1.647778	1.714444	1.781111	1.847778	1.914444	1.981111
44	1.382222	1.448889	1.515556	1.582222	1.648889	1.715556	1.782222	1.848889	1.915556	1.982222
45	1.383333	1.450000	1.516667	1.583333	1.650000	1.716667	1.783333	1.850000	1.916667	1.983333
46	1.384444	1.451111	1.517778	1.584444	1.651111	1.717778	1.784444	1.851111	1.917778	1.984444
47	1.385556	1.452222	1.518889	1.585556	1.652222	1.718889	1.785556	1.852222	1.918889	1.985556
48	1.386667	1.453333	1.520000	1.586667	1.653333	1.720000	1.786667	1.853333	1.920000	1.986667
49	1.387778	1.454444	1.521111	1.587778	1.654444	1.721111	1.787778	1.854444	1.921111	1.987778
50	1.388889	1.455556	1.522222	1.588889	1.655556	1.722222	1.788889	1.855556	1.922222	1.988889
51	1.390000	1.456667	1.523333	1.590000	1.656667	1.723333	1.790000	1.856667	1.923333	1.990000
52	1.391111	1.457778	1.524444	1.591111	1.657778	1.724444	1.791111	1.857778	1.924444	1.991111
53	1.392222	1.458889	1.525556	1.592222	1.658889	1.725556	1.792222	1.858889	1.925556	1.992222
54	1.393333	1.460000	1.526667	1.593333	1.660000	1.726667	1.793333	1.860000	1.926667	1.993333
55	1.394444	1.461111	1.527778	1.594444	1.661111	1.727778	1.794444	1.861111	1.927778	1.994444
56	1.395556	1.462222	1.528889	1.595556	1.662222	1.728889	1.795556	1.862222	1.928889	1.995556
57	1.396667	1.463333	1.530000	1.596667	1.663333	1.730000	1.796667	1.863333	1.930000	1.996667
58	1.397778	1.464444	1.531111	1.597778	1.664444	1.731111	1.797778	1.864444	1.931111	1.997778
59	1.398889	1.465556	1.532222	1.598889	1.665556	1.732222	1.798889	1.865556	1.932222	1.998889

1 – Degrés et minutes en heures décimales (angles en temps)

		degrés									
minutes		30	31	32	33	34	35	36	37	38	39
0		2.000000	2.066667	2.133333	2.200000	2.266667	2.333333	2.400000	2.466667	2.533333	2.600000
1		2.001111	2.067778	2.134444	2.201111	2.267778	2.334444	2.401111	2.467778	2.534444	2.601111
2		2.002222	2.068889	2.135556	2.202222	2.268889	2.335556	2.402222	2.468889	2.535556	2.602222
3		2.003333	2.070000	2.136667	2.203333	2.270000	2.336667	2.403333	2.470000	2.536667	2.603333
4		2.004444	2.071111	2.137778	2.204444	2.271111	2.337778	2.404444	2.471111	2.537778	2.604444
5		2.005556	2.072222	2.138889	2.205556	2.272222	2.338889	2.405556	2.472222	2.538889	2.605556
6		2.006667	2.073333	2.140000	2.206667	2.273333	2.340000	2.406667	2.473333	2.540000	2.606667
7		2.007778	2.074444	2.141111	2.207778	2.274444	2.341111	2.407778	2.474444	2.541111	2.607778
8		2.008889	2.075556	2.142222	2.208889	2.275556	2.342222	2.408889	2.475556	2.542222	2.608889
9		2.010000	2.076667	2.143333	2.210000	2.276667	2.343333	2.410000	2.476667	2.543333	2.610000
10		2.011111	2.077778	2.144444	2.211111	2.277778	2.344444	2.411111	2.477778	2.544444	2.611111
11		2.012222	2.078889	2.145556	2.212222	2.278889	2.345556	2.412222	2.478889	2.545556	2.612222
12		2.013333	2.080000	2.146667	2.213333	2.280000	2.346667	2.413333	2.480000	2.546667	2.613333
13		2.014444	2.081111	2.147778	2.214444	2.281111	2.347778	2.414444	2.481111	2.547778	2.614444
14		2.015556	2.082222	2.148889	2.215556	2.282222	2.348889	2.415556	2.482222	2.548889	2.615556
15		2.016667	2.083333	2.150000	2.216667	2.283333	2.350000	2.416667	2.483333	2.550000	2.616667
16		2.017778	2.084444	2.151111	2.217778	2.284444	2.351111	2.417778	2.484444	2.551111	2.617778
17		2.018889	2.085556	2.152222	2.218889	2.285556	2.352222	2.418889	2.485556	2.552222	2.618889
18		2.020000	2.086667	2.153333	2.220000	2.286667	2.353333	2.420000	2.486667	2.553333	2.620000
19		2.021111	2.087778	2.154444	2.221111	2.287778	2.354444	2.421111	2.487778	2.554444	2.621111
20		2.022222	2.088889	2.155556	2.222222	2.288889	2.355556	2.422222	2.488889	2.555556	2.622222
21		2.023333	2.090000	2.156667	2.223333	2.290000	2.356667	2.423333	2.490000	2.556667	2.623333
22		2.024444	2.091111	2.157778	2.224444	2.291111	2.357778	2.424444	2.491111	2.557778	2.624444
23		2.025556	2.092222	2.158889	2.225556	2.292222	2.358889	2.425556	2.492222	2.558889	2.625556
24		2.026667	2.093333	2.160000	2.226667	2.293333	2.360000	2.426667	2.493333	2.560000	2.626667
25		2.027778	2.094444	2.161111	2.227778	2.294444	2.361111	2.427778	2.494444	2.561111	2.627778
26		2.028889	2.095556	2.162222	2.228889	2.295556	2.362222	2.428889	2.495556	2.562222	2.628889
27		2.030000	2.096667	2.163333	2.230000	2.296667	2.363333	2.430000	2.496667	2.563333	2.630000
28		2.031111	2.097778	2.164444	2.231111	2.297778	2.364444	2.431111	2.497778	2.564444	2.631111
29		2.032222	2.098889	2.165556	2.232222	2.298889	2.365556	2.432222	2.498889	2.565556	2.632222
30		2.033333	2.100000	2.166667	2.233333	2.300000	2.366667	2.433333	2.500000	2.566667	2.633333
31		2.034444	2.101111	2.167778	2.234444	2.301111	2.367778	2.434444	2.501111	2.567778	2.634444
32		2.035556	2.102222	2.168889	2.235556	2.302222	2.368889	2.435556	2.502222	2.568889	2.635556
33		2.036667	2.103333	2.170000	2.236667	2.303333	2.370000	2.436667	2.503333	2.570000	2.636667
34		2.037778	2.104444	2.171111	2.237778	2.304444	2.371111	2.437778	2.504444	2.571111	2.637778
35		2.038889	2.105556	2.172222	2.238889	2.305556	2.372222	2.438889	2.505556	2.572222	2.638889
36		2.040000	2.106667	2.173333	2.240000	2.306667	2.373333	2.440000	2.506667	2.573333	2.640000
37		2.041111	2.107778	2.174444	2.241111	2.307778	2.374444	2.441111	2.507778	2.574444	2.641111
38		2.042222	2.108889	2.175556	2.242222	2.308889	2.375556	2.442222	2.508889	2.575556	2.642222
39		2.043333	2.110000	2.176667	2.243333	2.310000	2.376667	2.443333	2.510000	2.576667	2.643333
40		2.044444	2.111111	2.177778	2.244444	2.311111	2.377778	2.444444	2.511111	2.577778	2.644444
41		2.045556	2.112222	2.178889	2.245556	2.312222	2.378889	2.445556	2.512222	2.578889	2.645556
42		2.046667	2.113333	2.180000	2.246667	2.313333	2.380000	2.446667	2.513333	2.580000	2.646667
43		2.047778	2.114444	2.181111	2.247778	2.314444	2.381111	2.447778	2.514444	2.581111	2.647778
44		2.048889	2.115556	2.182222	2.248889	2.315556	2.382222	2.448889	2.515556	2.582222	2.648889
45		2.050000	2.116667	2.183333	2.250000	2.316667	2.383333	2.450000	2.516667	2.583333	2.650000
46		2.051111	2.117778	2.184444	2.251111	2.317778	2.384444	2.451111	2.517778	2.584444	2.651111
47		2.052222	2.118889	2.185556	2.252222	2.318889	2.385556	2.452222	2.518889	2.585556	2.652222
48		2.053333	2.120000	2.186667	2.253333	2.320000	2.386667	2.453333	2.520000	2.586667	2.653333
49		2.054444	2.121111	2.187778	2.254444	2.321111	2.387778	2.454444	2.521111	2.587778	2.654444
50		2.055556	2.122222	2.188889	2.255556	2.322222	2.388889	2.455556	2.522222	2.588889	2.655556
51		2.056667	2.123333	2.190000	2.256667	2.323333	2.390000	2.456667	2.523333	2.590000	2.656667
52		2.057778	2.124444	2.191111	2.257778	2.324444	2.391111	2.457778	2.524444	2.591111	2.657778
53		2.058889	2.125556	2.192222	2.258889	2.325556	2.392222	2.458889	2.525556	2.592222	2.658889
54		2.060000	2.126667	2.193333	2.260000	2.326667	2.393333	2.460000	2.526667	2.593333	2.660000
55		2.061111	2.127778	2.194444	2.261111	2.327778	2.394444	2.461111	2.527778	2.594444	2.661111
56		2.062222	2.128889	2.195556	2.262222	2.328889	2.395556	2.462222	2.528889	2.595556	2.662222
57		2.063333	2.130000	2.196667	2.263333	2.330000	2.396667	2.463333	2.530000	2.596667	2.663333
58		2.064444	2.131111	2.197778	2.264444	2.331111	2.397778	2.464444	2.531111	2.597778	2.664444
59		2.065556	2.132222	2.198889	2.265556	2.332222	2.398889	2.465556	2.532222	2.598889	2.665556

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	40	41	42	43	44	45	46	47	48	49
0	2.666667	2.733333	2.800000	2.866667	2.933333	3.000000	3.066667	3.133333	3.200000	3.266667
1	2.667778	2.734444	2.801111	2.867778	2.934444	3.001111	3.067778	3.134444	3.201111	3.267778
2	2.668889	2.735556	2.802222	2.868889	2.935556	3.002222	3.068889	3.135556	3.202222	3.268889
3	2.670000	2.736667	2.803333	2.870000	2.936667	3.003333	3.070000	3.136667	3.203333	3.270000
4	2.671111	2.737778	2.804444	2.871111	2.937778	3.004444	3.071111	3.137778	3.204444	3.271111
5	2.672222	2.738889	2.805556	2.872222	2.938889	3.005556	3.072222	3.138889	3.205556	3.272222
6	2.673333	2.740000	2.806667	2.873333	2.940000	3.006667	3.073333	3.140000	3.206667	3.273333
7	2.674444	2.741111	2.807778	2.874444	2.941111	3.007778	3.074444	3.141111	3.207778	3.274444
8	2.675556	2.742222	2.808889	2.875556	2.942222	3.008889	3.075556	3.142222	3.208889	3.275556
9	2.676667	2.743333	2.810000	2.876667	2.943333	3.010000	3.076667	3.143333	3.210000	3.276667
10	2.677778	2.744444	2.811111	2.877778	2.944444	3.011111	3.077778	3.144444	3.211111	3.277778
11	2.678889	2.745556	2.812222	2.878889	2.945556	3.012222	3.078889	3.145556	3.212222	3.278889
12	2.680000	2.746667	2.813333	2.880000	2.946667	3.013333	3.080000	3.146667	3.213333	3.280000
13	2.681111	2.747778	2.814444	2.881111	2.947778	3.014444	3.081111	3.147778	3.214444	3.281111
14	2.682222	2.748889	2.815556	2.882222	2.948889	3.015556	3.082222	3.148889	3.215556	3.282222
15	2.683333	2.750000	2.816667	2.883333	2.950000	3.016667	3.083333	3.150000	3.216667	3.283333
16	2.684444	2.751111	2.817778	2.884444	2.951111	3.017778	3.084444	3.151111	3.217778	3.284444
17	2.685556	2.752222	2.818889	2.885556	2.952222	3.018889	3.085556	3.152222	3.218889	3.285556
18	2.686667	2.753333	2.820000	2.886667	2.953333	3.020000	3.086667	3.153333	3.220000	3.286667
19	2.687778	2.754444	2.821111	2.887778	2.954444	3.021111	3.087778	3.154444	3.221111	3.287778
20	2.688889	2.755556	2.822222	2.888889	2.955556	3.022222	3.088889	3.155556	3.222222	3.288889
21	2.690000	2.756667	2.823333	2.890000	2.956667	3.023333	3.090000	3.156667	3.223333	3.290000
22	2.691111	2.757778	2.824444	2.891111	2.957778	3.024444	3.091111	3.157778	3.224444	3.291111
23	2.692222	2.758889	2.825556	2.892222	2.958889	3.025556	3.092222	3.158889	3.225556	3.292222
24	2.693333	2.760000	2.826667	2.893333	2.960000	3.026667	3.093333	3.160000	3.226667	3.293333
25	2.694444	2.761111	2.827778	2.894444	2.961111	3.027778	3.094444	3.161111	3.227778	3.294444
26	2.695556	2.762222	2.828889	2.895556	2.962222	3.028889	3.095556	3.162222	3.228889	3.295556
27	2.696667	2.763333	2.830000	2.896667	2.963333	3.030000	3.096667	3.163333	3.230000	3.296667
28	2.697778	2.764444	2.831111	2.897778	2.964444	3.031111	3.097778	3.164444	3.231111	3.297778
29	2.698889	2.765556	2.832222	2.898889	2.965556	3.032222	3.098889	3.165556	3.232222	3.298889
30	2.700000	2.766667	2.833333	2.900000	2.966667	3.033333	3.100000	3.166667	3.233333	3.300000
31	2.701111	2.767778	2.834444	2.901111	2.967778	3.034444	3.101111	3.167778	3.234444	3.301111
32	2.702222	2.768889	2.835556	2.902222	2.968889	3.035556	3.102222	3.168889	3.235556	3.302222
33	2.703333	2.770000	2.836667	2.903333	2.970000	3.036667	3.103333	3.170000	3.236667	3.303333
34	2.704444	2.771111	2.837778	2.904444	2.971111	3.037778	3.104444	3.171111	3.237778	3.304444
35	2.705556	2.772222	2.838889	2.905556	2.972222	3.038889	3.105556	3.172222	3.238889	3.305556
36	2.706667	2.773333	2.840000	2.906667	2.973333	3.040000	3.106667	3.173333	3.240000	3.306667
37	2.707778	2.774444	2.841111	2.907778	2.974444	3.041111	3.107778	3.174444	3.241111	3.307778
38	2.708889	2.775556	2.842222	2.908889	2.975556	3.042222	3.108889	3.175556	3.242222	3.308889
39	2.710000	2.776667	2.843333	2.910000	2.976667	3.043333	3.110000	3.176667	3.243333	3.310000
40	2.711111	2.777778	2.844444	2.911111	2.977778	3.044444	3.111111	3.177778	3.244444	3.311111
41	2.712222	2.778889	2.845556	2.912222	2.978889	3.045556	3.112222	3.178889	3.245556	3.312222
42	2.713333	2.780000	2.846667	2.913333	2.980000	3.046667	3.113333	3.180000	3.246667	3.313333
43	2.714444	2.781111	2.847778	2.914444	2.981111	3.047778	3.114444	3.181111	3.247778	3.314444
44	2.715556	2.782222	2.848889	2.915556	2.982222	3.048889	3.115556	3.182222	3.248889	3.315556
45	2.716667	2.783333	2.850000	2.916667	2.983333	3.050000	3.116667	3.183333	3.250000	3.316667
46	2.717778	2.784444	2.851111	2.917778	2.984444	3.051111	3.117778	3.184444	3.251111	3.317778
47	2.718889	2.785556	2.852222	2.918889	2.985556	3.052222	3.118889	3.185556	3.252222	3.318889
48	2.720000	2.786667	2.853333	2.920000	2.986667	3.053333	3.120000	3.186667	3.253333	3.320000
49	2.721111	2.787778	2.854444	2.921111	2.987778	3.054444	3.121111	3.187778	3.254444	3.321111
50	2.722222	2.788889	2.855556	2.922222	2.988889	3.055556	3.122222	3.188889	3.255556	3.322222
51	2.723333	2.790000	2.856667	2.923333	2.990000	3.056667	3.123333	3.190000	3.256667	3.323333
52	2.724444	2.791111	2.857778	2.924444	2.991111	3.057778	3.124444	3.191111	3.257778	3.324444
53	2.725556	2.792222	2.858889	2.925556	2.992222	3.058889	3.125556	3.192222	3.258889	3.325556
54	2.726667	2.793333	2.860000	2.926667	2.993333	3.060000	3.126667	3.193333	3.260000	3.326667
55	2.727778	2.794444	2.861111	2.927778	2.994444	3.061111	3.127778	3.194444	3.261111	3.327778
56	2.728889	2.795556	2.862222	2.928889	2.995556	3.062222	3.128889	3.195556	3.262222	3.328889
57	2.730000	2.796667	2.863333	2.930000	2.996667	3.063333	3.130000	3.196667	3.263333	3.330000
58	2.731111	2.797778	2.864444	2.931111	2.997778	3.064444	3.131111	3.197778	3.264444	3.331111
59	2.732222	2.798889	2.865556	2.932222	2.998889	3.065556	3.132222	3.198889	3.265556	3.332222

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	50	51	52	53	54	55	56	57	58	59
0	3.333333	3.400000	3.466667	3.533333	3.600000	3.666667	3.733333	3.800000	3.866667	3.933333
1	3.334444	3.401111	3.467778	3.534444	3.601111	3.667778	3.734444	3.801111	3.867778	3.934444
2	3.335556	3.402222	3.468889	3.535556	3.602222	3.668889	3.735556	3.802222	3.868889	3.935556
3	3.336667	3.403333	3.470000	3.536667	3.603333	3.670000	3.736667	3.803333	3.870000	3.936667
4	3.337778	3.404444	3.471111	3.537778	3.604444	3.671111	3.737778	3.804444	3.871111	3.937778
5	3.338889	3.405556	3.472222	3.538889	3.605556	3.672222	3.738889	3.805556	3.872222	3.938889
6	3.340000	3.406667	3.473333	3.540000	3.606667	3.673333	3.740000	3.806667	3.873333	3.940000
7	3.341111	3.407778	3.474444	3.541111	3.607778	3.674444	3.741111	3.807778	3.874444	3.941111
8	3.342222	3.408889	3.475556	3.542222	3.608889	3.675556	3.742222	3.808889	3.875556	3.942222
9	3.343333	3.410000	3.476667	3.543333	3.610000	3.676667	3.743333	3.810000	3.876667	3.943333
10	3.344444	3.411111	3.477778	3.544444	3.611111	3.677778	3.744444	3.811111	3.877778	3.944444
11	3.345556	3.412222	3.478889	3.545556	3.612222	3.678889	3.745556	3.812222	3.878889	3.945556
12	3.346667	3.413333	3.480000	3.546667	3.613333	3.680000	3.746667	3.813333	3.880000	3.946667
13	3.347778	3.414444	3.481111	3.547778	3.614444	3.681111	3.747778	3.814444	3.881111	3.947778
14	3.348889	3.415556	3.482222	3.548889	3.615556	3.682222	3.748889	3.815556	3.882222	3.948889
15	3.350000	3.416667	3.483333	3.550000	3.616667	3.683333	3.750000	3.816667	3.883333	3.950000
16	3.351111	3.417778	3.484444	3.551111	3.617778	3.684444	3.751111	3.817778	3.884444	3.951111
17	3.352222	3.418889	3.485556	3.552222	3.618889	3.685556	3.752222	3.818889	3.885556	3.952222
18	3.353333	3.420000	3.486667	3.553333	3.620000	3.686667	3.753333	3.820000	3.886667	3.953333
19	3.354444	3.421111	3.487778	3.554444	3.621111	3.687778	3.754444	3.821111	3.887778	3.954444
20	3.355556	3.422222	3.488889	3.555556	3.622222	3.688889	3.755556	3.822222	3.888889	3.955556
21	3.356667	3.423333	3.490000	3.556667	3.623333	3.690000	3.756667	3.823333	3.890000	3.956667
22	3.357778	3.424444	3.491111	3.557778	3.624444	3.691111	3.757778	3.824444	3.891111	3.957778
23	3.358889	3.425556	3.492222	3.558889	3.625556	3.692222	3.758889	3.825556	3.892222	3.958889
24	3.360000	3.426667	3.493333	3.560000	3.626667	3.693333	3.760000	3.826667	3.893333	3.960000
25	3.361111	3.427778	3.494444	3.561111	3.627778	3.694444	3.761111	3.827778	3.894444	3.961111
26	3.362222	3.428889	3.495556	3.562222	3.628889	3.695556	3.762222	3.828889	3.895556	3.962222
27	3.363333	3.430000	3.496667	3.563333	3.630000	3.696667	3.763333	3.830000	3.896667	3.963333
28	3.364444	3.431111	3.497778	3.564444	3.631111	3.697778	3.764444	3.831111	3.897778	3.964444
29	3.365556	3.432222	3.498889	3.565556	3.632222	3.698889	3.765556	3.832222	3.898889	3.965556
30	3.366667	3.433333	3.500000	3.566667	3.633333	3.700000	3.766667	3.833333	3.900000	3.966667
31	3.367778	3.434444	3.501111	3.567778	3.634444	3.701111	3.767778	3.834444	3.901111	3.967778
32	3.368889	3.435556	3.502222	3.568889	3.635556	3.702222	3.768889	3.835556	3.902222	3.968889
33	3.370000	3.436667	3.503333	3.570000	3.636667	3.703333	3.770000	3.836667	3.903333	3.970000
34	3.371111	3.437778	3.504444	3.571111	3.637778	3.704444	3.771111	3.837778	3.904444	3.971111
35	3.372222	3.438889	3.505556	3.572222	3.638889	3.705556	3.772222	3.838889	3.905556	3.972222
36	3.373333	3.440000	3.506667	3.573333	3.640000	3.706667	3.773333	3.840000	3.906667	3.973333
37	3.374444	3.441111	3.507778	3.574444	3.641111	3.707778	3.774444	3.841111	3.907778	3.974444
38	3.375556	3.442222	3.508889	3.575556	3.642222	3.708889	3.775556	3.842222	3.908889	3.975556
39	3.376667	3.443333	3.510000	3.576667	3.643333	3.710000	3.776667	3.843333	3.910000	3.976667
40	3.377778	3.444444	3.511111	3.577778	3.644444	3.711111	3.777778	3.844444	3.911111	3.977778
41	3.378889	3.445556	3.512222	3.578889	3.645556	3.712222	3.778889	3.845556	3.912222	3.978889
42	3.380000	3.446667	3.513333	3.580000	3.646667	3.713333	3.780000	3.846667	3.913333	3.980000
43	3.381111	3.447778	3.514444	3.581111	3.647778	3.714444	3.781111	3.847778	3.914444	3.981111
44	3.382222	3.448889	3.515556	3.582222	3.648889	3.715556	3.782222	3.848889	3.915556	3.982222
45	3.383333	3.450000	3.516667	3.583333	3.650000	3.716667	3.783333	3.850000	3.916667	3.983333
46	3.384444	3.451111	3.517778	3.584444	3.651111	3.717778	3.784444	3.851111	3.917778	3.984444
47	3.385556	3.452222	3.518889	3.585556	3.652222	3.718889	3.785556	3.852222	3.918889	3.985556
48	3.386667	3.453333	3.520000	3.586667	3.653333	3.720000	3.786667	3.853333	3.920000	3.986667
49	3.387778	3.454444	3.521111	3.587778	3.654444	3.721111	3.787778	3.854444	3.921111	3.987778
50	3.388889	3.455556	3.522222	3.588889	3.655556	3.722222	3.788889	3.855556	3.922222	3.988889
51	3.390000	3.456667	3.523333	3.590000	3.656667	3.723333	3.790000	3.856667	3.923333	3.990000
52	3.391111	3.457778	3.524444	3.591111	3.657778	3.724444	3.791111	3.857778	3.924444	3.991111
53	3.392222	3.458889	3.525556	3.592222	3.658889	3.725556	3.792222	3.858889	3.925556	3.992222
54	3.393333	3.460000	3.526667	3.593333	3.660000	3.726667	3.793333	3.860000	3.926667	3.993333
55	3.394444	3.461111	3.527778	3.594444	3.661111	3.727778	3.794444	3.861111	3.927778	3.994444
56	3.395556	3.462222	3.528889	3.595556	3.662222	3.728889	3.795556	3.862222	3.928889	3.995556
57	3.396667	3.463333	3.530000	3.596667	3.663333	3.730000	3.796667	3.863333	3.930000	3.996667
58	3.397778	3.464444	3.531111	3.597778	3.664444	3.731111	3.797778	3.864444	3.931111	3.997778
59	3.398889	3.465556	3.532222	3.598889	3.665556	3.732222	3.798889	3.865556	3.932222	3.998889

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	60	61	62	63	64	65	66	67	68	69
0	4.000000	4.066667	4.133333	4.200000	4.266667	4.333333	4.400000	4.466667	4.533333	4.600000
1	4.001111	4.067778	4.134444	4.201111	4.267778	4.334444	4.401111	4.467778	4.534444	4.601111
2	4.002222	4.068889	4.135556	4.202222	4.268889	4.335556	4.402222	4.468889	4.535556	4.602222
3	4.003333	4.070000	4.136667	4.203333	4.270000	4.336667	4.403333	4.470000	4.536667	4.603333
4	4.004444	4.071111	4.137778	4.204444	4.271111	4.337778	4.404444	4.471111	4.537778	4.604444
5	4.005556	4.072222	4.138889	4.205556	4.272222	4.338889	4.405556	4.472222	4.538889	4.605556
6	4.006667	4.073333	4.140000	4.206667	4.273333	4.340000	4.406667	4.473333	4.540000	4.606667
7	4.007778	4.074444	4.141111	4.207778	4.274444	4.341111	4.407778	4.474444	4.541111	4.607778
8	4.008889	4.075556	4.142222	4.208889	4.275556	4.342222	4.408889	4.475556	4.542222	4.608889
9	4.010000	4.076667	4.143333	4.210000	4.276667	4.343333	4.410000	4.476667	4.543333	4.610000
10	4.011111	4.077778	4.144444	4.211111	4.277778	4.344444	4.411111	4.477778	4.544444	4.611111
11	4.012222	4.078889	4.145556	4.212222	4.278889	4.345556	4.412222	4.478889	4.545556	4.612222
12	4.013333	4.080000	4.146667	4.213333	4.280000	4.346667	4.413333	4.480000	4.546667	4.613333
13	4.014444	4.081111	4.147778	4.214444	4.281111	4.347778	4.414444	4.481111	4.547778	4.614444
14	4.015556	4.082222	4.148889	4.215556	4.282222	4.348889	4.415556	4.482222	4.548889	4.615556
15	4.016667	4.083333	4.150000	4.216667	4.283333	4.350000	4.416667	4.483333	4.550000	4.616667
16	4.017778	4.084444	4.151111	4.217778	4.284444	4.351111	4.417778	4.484444	4.551111	4.617778
17	4.018889	4.085556	4.152222	4.218889	4.285556	4.352222	4.418889	4.485556	4.552222	4.618889
18	4.020000	4.086667	4.153333	4.220000	4.286667	4.353333	4.420000	4.486667	4.553333	4.620000
19	4.021111	4.087778	4.154444	4.221111	4.287778	4.354444	4.421111	4.487778	4.554444	4.621111
20	4.022222	4.088889	4.155556	4.222222	4.288889	4.355556	4.422222	4.488889	4.555556	4.622222
21	4.023333	4.090000	4.156667	4.223333	4.290000	4.356667	4.423333	4.490000	4.556667	4.623333
22	4.024444	4.091111	4.157778	4.224444	4.291111	4.357778	4.424444	4.491111	4.557778	4.624444
23	4.025556	4.092222	4.158889	4.225556	4.292222	4.358889	4.425556	4.492222	4.558889	4.625556
24	4.026667	4.093333	4.160000	4.226667	4.293333	4.360000	4.426667	4.493333	4.560000	4.626667
25	4.027778	4.094444	4.161111	4.227778	4.294444	4.361111	4.427778	4.494444	4.561111	4.627778
26	4.028889	4.095556	4.162222	4.228889	4.295556	4.362222	4.428889	4.495556	4.562222	4.628889
27	4.030000	4.096667	4.163333	4.230000	4.296667	4.363333	4.430000	4.496667	4.563333	4.630000
28	4.031111	4.097778	4.164444	4.231111	4.297778	4.364444	4.431111	4.497778	4.564444	4.631111
29	4.032222	4.098889	4.165556	4.232222	4.298889	4.365556	4.432222	4.498889	4.565556	4.632222
30	4.033333	4.100000	4.166667	4.233333	4.300000	4.366667	4.433333	4.500000	4.566667	4.633333
31	4.034444	4.101111	4.167778	4.234444	4.301111	4.367778	4.434444	4.501111	4.567778	4.634444
32	4.035556	4.102222	4.168889	4.235556	4.302222	4.368889	4.435556	4.502222	4.568889	4.635556
33	4.036667	4.103333	4.170000	4.236667	4.303333	4.370000	4.436667	4.503333	4.570000	4.636667
34	4.037778	4.104444	4.171111	4.237778	4.304444	4.371111	4.437778	4.504444	4.571111	4.637778
35	4.038889	4.105556	4.172222	4.238889	4.305556	4.372222	4.438889	4.505556	4.572222	4.638889
36	4.040000	4.106667	4.173333	4.240000	4.306667	4.373333	4.440000	4.506667	4.573333	4.640000
37	4.041111	4.107778	4.174444	4.241111	4.307778	4.374444	4.441111	4.507778	4.574444	4.641111
38	4.042222	4.108889	4.175556	4.242222	4.308889	4.375556	4.442222	4.508889	4.575556	4.642222
39	4.043333	4.110000	4.176667	4.243333	4.310000	4.376667	4.443333	4.510000	4.576667	4.643333
40	4.044444	4.111111	4.177778	4.244444	4.311111	4.377778	4.444444	4.511111	4.577778	4.644444
41	4.045556	4.112222	4.178889	4.245556	4.312222	4.378889	4.445556	4.512222	4.578889	4.645556
42	4.046667	4.113333	4.180000	4.246667	4.313333	4.380000	4.446667	4.513333	4.580000	4.646667
43	4.047778	4.114444	4.181111	4.247778	4.314444	4.381111	4.447778	4.514444	4.581111	4.647778
44	4.048889	4.115556	4.182222	4.248889	4.315556	4.382222	4.448889	4.515556	4.582222	4.648889
45	4.050000	4.116667	4.183333	4.250000	4.316667	4.383333	4.450000	4.516667	4.583333	4.650000
46	4.051111	4.117778	4.184444	4.251111	4.317778	4.384444	4.451111	4.517778	4.584444	4.651111
47	4.052222	4.118889	4.185556	4.252222	4.318889	4.385556	4.452222	4.518889	4.585556	4.652222
48	4.053333	4.120000	4.186667	4.253333	4.320000	4.386667	4.453333	4.520000	4.586667	4.653333
49	4.054444	4.121111	4.187778	4.254444	4.321111	4.387778	4.454444	4.521111	4.587778	4.654444
50	4.055556	4.122222	4.188889	4.255556	4.322222	4.388889	4.455556	4.522222	4.588889	4.655556
51	4.056667	4.123333	4.190000	4.256667	4.323333	4.390000	4.456667	4.523333	4.590000	4.656667
52	4.057778	4.124444	4.191111	4.257778	4.324444	4.391111	4.457778	4.524444	4.591111	4.657778
53	4.058889	4.125556	4.192222	4.258889	4.325556	4.392222	4.458889	4.525556	4.592222	4.658889
54	4.060000	4.126667	4.193333	4.260000	4.326667	4.393333	4.460000	4.526667	4.593333	4.660000
55	4.061111	4.127778	4.194444	4.261111	4.327778	4.394444	4.461111	4.527778	4.594444	4.661111
56	4.062222	4.128889	4.195556	4.262222	4.328889	4.395556	4.462222	4.528889	4.595556	4.662222
57	4.063333	4.130000	4.196667	4.263333	4.330000	4.396667	4.463333	4.530000	4.596667	4.663333
58	4.064444	4.131111	4.197778	4.264444	4.331111	4.397778	4.464444	4.531111	4.597778	4.664444
59	4.065556	4.132222	4.198889	4.265556	4.332222	4.398889	4.465556	4.532222	4.598889	4.665556

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	70	71	72	73	74	75	76	77	78	79
0	4.666667	4.733333	4.800000	4.866667	4.933333	5.000000	5.066667	5.133333	5.200000	5.266667
1	4.667778	4.734444	4.801111	4.867778	4.934444	5.001111	5.067778	5.134444	5.201111	5.267778
2	4.668889	4.735556	4.802222	4.868889	4.935556	5.002222	5.068889	5.135556	5.202222	5.268889
3	4.670000	4.736667	4.803333	4.870000	4.936667	5.003333	5.070000	5.136667	5.203333	5.270000
4	4.671111	4.737778	4.804444	4.871111	4.937778	5.004444	5.071111	5.137778	5.204444	5.271111
5	4.672222	4.738889	4.805556	4.872222	4.938889	5.005556	5.072222	5.138889	5.205556	5.272222
6	4.673333	4.740000	4.806667	4.873333	4.940000	5.006667	5.073333	5.140000	5.206667	5.273333
7	4.674444	4.741111	4.807778	4.874444	4.941111	5.007778	5.074444	5.141111	5.207778	5.274444
8	4.675556	4.742222	4.808889	4.875556	4.942222	5.008889	5.075556	5.142222	5.208889	5.275556
9	4.676667	4.743333	4.810000	4.876667	4.943333	5.010000	5.076667	5.143333	5.210000	5.276667
10	4.677778	4.744444	4.811111	4.877778	4.944444	5.011111	5.077778	5.144444	5.211111	5.277778
11	4.678889	4.745556	4.812222	4.878889	4.945556	5.012222	5.078889	5.145556	5.212222	5.278889
12	4.680000	4.746667	4.813333	4.880000	4.946667	5.013333	5.080000	5.146667	5.213333	5.280000
13	4.681111	4.747778	4.814444	4.881111	4.947778	5.014444	5.081111	5.147778	5.214444	5.281111
14	4.682222	4.748889	4.815556	4.882222	4.948889	5.015556	5.082222	5.148889	5.215556	5.282222
15	4.683333	4.750000	4.816667	4.883333	4.950000	5.016667	5.083333	5.150000	5.216667	5.283333
16	4.684444	4.751111	4.817778	4.884444	4.951111	5.017778	5.084444	5.151111	5.217778	5.284444
17	4.685556	4.752222	4.818889	4.885556	4.952222	5.018889	5.085556	5.152222	5.218889	5.285556
18	4.686667	4.753333	4.820000	4.886667	4.953333	5.020000	5.086667	5.153333	5.220000	5.286667
19	4.687778	4.754444	4.821111	4.887778	4.954444	5.021111	5.087778	5.154444	5.221111	5.287778
20	4.688889	4.755556	4.822222	4.888889	4.955556	5.022222	5.088889	5.155556	5.222222	5.288889
21	4.690000	4.756667	4.823333	4.890000	4.956667	5.023333	5.090000	5.156667	5.223333	5.290000
22	4.691111	4.757778	4.824444	4.891111	4.957778	5.024444	5.091111	5.157778	5.224444	5.291111
23	4.692222	4.758889	4.825556	4.892222	4.958889	5.025556	5.092222	5.158889	5.225556	5.292222
24	4.693333	4.760000	4.826667	4.893333	4.960000	5.026667	5.093333	5.160000	5.226667	5.293333
25	4.694444	4.761111	4.827778	4.894444	4.961111	5.027778	5.094444	5.161111	5.227778	5.294444
26	4.695556	4.762222	4.828889	4.895556	4.962222	5.028889	5.095556	5.162222	5.228889	5.295556
27	4.696667	4.763333	4.830000	4.896667	4.963333	5.030000	5.096667	5.163333	5.230000	5.296667
28	4.697778	4.764444	4.831111	4.897778	4.964444	5.031111	5.097778	5.164444	5.231111	5.297778
29	4.698889	4.765556	4.832222	4.898889	4.965556	5.032222	5.098889	5.165556	5.232222	5.298889
30	4.700000	4.766667	4.833333	4.900000	4.966667	5.033333	5.100000	5.166667	5.233333	5.300000
31	4.701111	4.767778	4.834444	4.901111	4.967778	5.034444	5.101111	5.167778	5.234444	5.301111
32	4.702222	4.768889	4.835556	4.902222	4.968889	5.035556	5.102222	5.168889	5.235556	5.302222
33	4.703333	4.770000	4.836667	4.903333	4.970000	5.036667	5.103333	5.170000	5.236667	5.303333
34	4.704444	4.771111	4.837778	4.904444	4.971111	5.037778	5.104444	5.171111	5.237778	5.304444
35	4.705556	4.772222	4.838889	4.905556	4.972222	5.038889	5.105556	5.172222	5.238889	5.305556
36	4.706667	4.773333	4.840000	4.906667	4.973333	5.040000	5.106667	5.173333	5.240000	5.306667
37	4.707778	4.774444	4.841111	4.907778	4.974444	5.041111	5.107778	5.174444	5.241111	5.307778
38	4.708889	4.775556	4.842222	4.908889	4.975556	5.042222	5.108889	5.175556	5.242222	5.308889
39	4.710000	4.776667	4.843333	4.910000	4.976667	5.043333	5.110000	5.176667	5.243333	5.310000
40	4.711111	4.777778	4.844444	4.911111	4.977778	5.044444	5.111111	5.177778	5.244444	5.311111
41	4.712222	4.778889	4.845556	4.912222	4.978889	5.045556	5.112222	5.178889	5.245556	5.312222
42	4.713333	4.780000	4.846667	4.913333	4.980000	5.046667	5.113333	5.180000	5.246667	5.313333
43	4.714444	4.781111	4.847778	4.914444	4.981111	5.047778	5.114444	5.181111	5.247778	5.314444
44	4.715556	4.782222	4.848889	4.915556	4.982222	5.048889	5.115556	5.182222	5.248889	5.315556
45	4.716667	4.783333	4.850000	4.916667	4.983333	5.050000	5.116667	5.183333	5.250000	5.316667
46	4.717778	4.784444	4.851111	4.917778	4.984444	5.051111	5.117778	5.184444	5.251111	5.317778
47	4.718889	4.785556	4.852222	4.918889	4.985556	5.052222	5.118889	5.185556	5.252222	5.318889
48	4.720000	4.786667	4.853333	4.920000	4.986667	5.053333	5.120000	5.186667	5.253333	5.320000
49	4.721111	4.787778	4.854444	4.921111	4.987778	5.054444	5.121111	5.187778	5.254444	5.321111
50	4.722222	4.788889	4.855556	4.922222	4.988889	5.055556	5.122222	5.188889	5.255556	5.322222
51	4.723333	4.790000	4.856667	4.923333	4.990000	5.056667	5.123333	5.190000	5.256667	5.323333
52	4.724444	4.791111	4.857778	4.924444	4.991111	5.057778	5.124444	5.191111	5.257778	5.324444
53	4.725556	4.792222	4.858889	4.925556	4.992222	5.058889	5.125556	5.192222	5.258889	5.325556
54	4.726667	4.793333	4.860000	4.926667	4.993333	5.060000	5.126667	5.193333	5.260000	5.326667
55	4.727778	4.794444	4.861111	4.927778	4.994444	5.061111	5.127778	5.194444	5.261111	5.327778
56	4.728889	4.795556	4.862222	4.928889	4.995556	5.062222	5.128889	5.195556	5.262222	5.328889
57	4.730000	4.796667	4.863333	4.930000	4.996667	5.063333	5.130000	5.196667	5.263333	5.330000
58	4.731111	4.797778	4.864444	4.931111	4.997778	5.064444	5.131111	5.197778	5.264444	5.331111
59	4.732222	4.798889	4.865556	4.932222	4.998889	5.065556	5.132222	5.198889	5.265556	5.332222

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	80	81	82	83	84	85	86	87	88	89
0	5.333333	5.400000	5.466667	5.533333	5.600000	5.666667	5.733333	5.800000	5.866667	5.933333
1	5.334444	5.401111	5.467778	5.534444	5.601111	5.667778	5.734444	5.801111	5.867778	5.934444
2	5.335556	5.402222	5.468889	5.535556	5.602222	5.668889	5.735556	5.802222	5.868889	5.935556
3	5.336667	5.403333	5.470000	5.536667	5.603333	5.670000	5.736667	5.803333	5.870000	5.936667
4	5.337778	5.404444	5.471111	5.537778	5.604444	5.671111	5.737778	5.804444	5.871111	5.937778
5	5.338889	5.405556	5.472222	5.538889	5.605556	5.672222	5.738889	5.805556	5.872222	5.938889
6	5.340000	5.406667	5.473333	5.540000	5.606667	5.673333	5.740000	5.806667	5.873333	5.940000
7	5.341111	5.407778	5.474444	5.541111	5.607778	5.674444	5.741111	5.807778	5.874444	5.941111
8	5.342222	5.408889	5.475556	5.542222	5.608889	5.675556	5.742222	5.808889	5.875556	5.942222
9	5.343333	5.410000	5.476667	5.543333	5.610000	5.676667	5.743333	5.810000	5.876667	5.943333
10	5.344444	5.411111	5.477778	5.544444	5.611111	5.677778	5.744444	5.811111	5.877778	5.944444
11	5.345556	5.412222	5.478889	5.545556	5.612222	5.678889	5.745556	5.812222	5.878889	5.945556
12	5.346667	5.413333	5.480000	5.546667	5.613333	5.680000	5.746667	5.813333	5.880000	5.946667
13	5.347778	5.414444	5.481111	5.547778	5.614444	5.681111	5.747778	5.814444	5.881111	5.947778
14	5.348889	5.415556	5.482222	5.548889	5.615556	5.682222	5.748889	5.815556	5.882222	5.948889
15	5.350000	5.416667	5.483333	5.550000	5.616667	5.683333	5.750000	5.816667	5.883333	5.950000
16	5.351111	5.417778	5.484444	5.551111	5.617778	5.684444	5.751111	5.817778	5.884444	5.951111
17	5.352222	5.418889	5.485556	5.552222	5.618889	5.685556	5.752222	5.818889	5.885556	5.952222
18	5.353333	5.420000	5.486667	5.553333	5.620000	5.686667	5.753333	5.820000	5.886667	5.953333
19	5.354444	5.421111	5.487778	5.554444	5.621111	5.687778	5.754444	5.821111	5.887778	5.954444
20	5.355556	5.422222	5.488889	5.555556	5.622222	5.688889	5.755556	5.822222	5.888889	5.955556
21	5.356667	5.423333	5.490000	5.556667	5.623333	5.690000	5.756667	5.823333	5.890000	5.956667
22	5.357778	5.424444	5.491111	5.557778	5.624444	5.691111	5.757778	5.824444	5.891111	5.957778
23	5.358889	5.425556	5.492222	5.558889	5.625556	5.692222	5.758889	5.825556	5.892222	5.958889
24	5.360000	5.426667	5.493333	5.560000	5.626667	5.693333	5.760000	5.826667	5.893333	5.960000
25	5.361111	5.427778	5.494444	5.561111	5.627778	5.694444	5.761111	5.827778	5.894444	5.961111
26	5.362222	5.428889	5.495556	5.562222	5.628889	5.695556	5.762222	5.828889	5.895556	5.962222
27	5.363333	5.430000	5.496667	5.563333	5.630000	5.696667	5.763333	5.830000	5.896667	5.963333
28	5.364444	5.431111	5.497778	5.564444	5.631111	5.697778	5.764444	5.831111	5.897778	5.964444
29	5.365556	5.432222	5.498889	5.565556	5.632222	5.698889	5.765556	5.832222	5.898889	5.965556
30	5.366667	5.433333	5.500000	5.566667	5.633333	5.700000	5.766667	5.833333	5.900000	5.966667
31	5.367778	5.434444	5.501111	5.567778	5.634444	5.701111	5.767778	5.834444	5.901111	5.967778
32	5.368889	5.435556	5.502222	5.568889	5.635556	5.702222	5.768889	5.835556	5.902222	5.968889
33	5.370000	5.436667	5.503333	5.570000	5.636667	5.703333	5.770000	5.836667	5.903333	5.970000
34	5.371111	5.437778	5.504444	5.571111	5.637778	5.704444	5.771111	5.837778	5.904444	5.971111
35	5.372222	5.438889	5.505556	5.572222	5.638889	5.705556	5.772222	5.838889	5.905556	5.972222
36	5.373333	5.440000	5.506667	5.573333	5.640000	5.706667	5.773333	5.840000	5.906667	5.973333
37	5.374444	5.441111	5.507778	5.574444	5.641111	5.707778	5.774444	5.841111	5.907778	5.974444
38	5.375556	5.442222	5.508889	5.575556	5.642222	5.708889	5.775556	5.842222	5.908889	5.975556
39	5.376667	5.443333	5.510000	5.576667	5.643333	5.710000	5.776667	5.843333	5.910000	5.976667
40	5.377778	5.444444	5.511111	5.577778	5.644444	5.711111	5.777778	5.844444	5.911111	5.977778
41	5.378889	5.445556	5.512222	5.578889	5.645556	5.712222	5.778889	5.845556	5.912222	5.978889
42	5.380000	5.446667	5.513333	5.580000	5.646667	5.713333	5.780000	5.846667	5.913333	5.980000
43	5.381111	5.447778	5.514444	5.581111	5.647778	5.714444	5.781111	5.847778	5.914444	5.981111
44	5.382222	5.448889	5.515556	5.582222	5.648889	5.715556	5.782222	5.848889	5.915556	5.982222
45	5.383333	5.450000	5.516667	5.583333	5.650000	5.716667	5.783333	5.850000	5.916667	5.983333
46	5.384444	5.451111	5.517778	5.584444	5.651111	5.717778	5.784444	5.851111	5.917778	5.984444
47	5.385556	5.452222	5.518889	5.585556	5.652222	5.718889	5.785556	5.852222	5.918889	5.985556
48	5.386667	5.453333	5.520000	5.586667	5.653333	5.720000	5.786667	5.853333	5.920000	5.986667
49	5.387778	5.454444	5.521111	5.587778	5.654444	5.721111	5.787778	5.854444	5.921111	5.987778
50	5.388889	5.455556	5.522222	5.588889	5.655556	5.722222	5.788889	5.855556	5.922222	5.988889
51	5.390000	5.456667	5.523333	5.590000	5.656667	5.723333	5.790000	5.856667	5.923333	5.990000
52	5.391111	5.457778	5.524444	5.591111	5.657778	5.724444	5.791111	5.857778	5.924444	5.991111
53	5.392222	5.458889	5.525556	5.592222	5.658889	5.725556	5.792222	5.858889	5.925556	5.992222
54	5.393333	5.460000	5.526667	5.593333	5.660000	5.726667	5.793333	5.860000	5.926667	5.993333
55	5.394444	5.461111	5.527778	5.594444	5.661111	5.727778	5.794444	5.861111	5.927778	5.994444
56	5.395556	5.462222	5.528889	5.595556	5.662222	5.728889	5.795556	5.862222	5.928889	5.995556
57	5.396667	5.463333	5.530000	5.596667	5.663333	5.730000	5.796667	5.863333	5.930000	5.996667
58	5.397778	5.464444	5.531111	5.597778	5.664444	5.731111	5.797778	5.864444	5.931111	5.997778
59	5.398889	5.465556	5.532222	5.598889	5.665556	5.732222	5.798889	5.865556	5.932222	5.998889

1 – Degrés et minutes en heures décimales (angles en temps)

		degrés								
minutes	90	91	92	93	94	95	96	97	98	99
0	6.000000	6.066667	6.133333	6.200000	6.266667	6.333333	6.400000	6.466667	6.533333	6.600000
1	6.001111	6.067778	6.134444	6.201111	6.267778	6.334444	6.401111	6.467778	6.534444	6.601111
2	6.002222	6.068889	6.135556	6.202222	6.268889	6.335556	6.402222	6.468889	6.535556	6.602222
3	6.003333	6.070000	6.136667	6.203333	6.270000	6.336667	6.403333	6.470000	6.536667	6.603333
4	6.004444	6.071111	6.137778	6.204444	6.271111	6.337778	6.404444	6.471111	6.537778	6.604444
5	6.005556	6.072222	6.138889	6.205556	6.272222	6.338889	6.405556	6.472222	6.538889	6.605556
6	6.006667	6.073333	6.140000	6.206667	6.273333	6.340000	6.406667	6.473333	6.540000	6.606667
7	6.007778	6.074444	6.141111	6.207778	6.274444	6.341111	6.407778	6.474444	6.541111	6.607778
8	6.008889	6.075556	6.142222	6.208889	6.275556	6.342222	6.408889	6.475556	6.542222	6.608889
9	6.010000	6.076667	6.143333	6.210000	6.276667	6.343333	6.410000	6.476667	6.543333	6.610000
10	6.011111	6.077778	6.144444	6.211111	6.277778	6.344444	6.411111	6.477778	6.544444	6.611111
11	6.012222	6.078889	6.145556	6.212222	6.278889	6.345556	6.412222	6.478889	6.545556	6.612222
12	6.013333	6.080000	6.146667	6.213333	6.280000	6.346667	6.413333	6.480000	6.546667	6.613333
13	6.014444	6.081111	6.147778	6.214444	6.281111	6.347778	6.414444	6.481111	6.547778	6.614444
14	6.015556	6.082222	6.148889	6.215556	6.282222	6.348889	6.415556	6.482222	6.548889	6.615556
15	6.016667	6.083333	6.150000	6.216667	6.283333	6.350000	6.416667	6.483333	6.550000	6.616667
16	6.017778	6.084444	6.151111	6.217778	6.284444	6.351111	6.417778	6.484444	6.551111	6.617778
17	6.018889	6.085556	6.152222	6.218889	6.285556	6.352222	6.418889	6.485556	6.552222	6.618889
18	6.020000	6.086667	6.153333	6.220000	6.286667	6.353333	6.420000	6.486667	6.553333	6.620000
19	6.021111	6.087778	6.154444	6.221111	6.287778	6.354444	6.421111	6.487778	6.554444	6.621111
20	6.022222	6.088889	6.155556	6.222222	6.288889	6.355556	6.422222	6.488889	6.555556	6.622222
21	6.023333	6.090000	6.156667	6.223333	6.290000	6.356667	6.423333	6.490000	6.556667	6.623333
22	6.024444	6.091111	6.157778	6.224444	6.291111	6.357778	6.424444	6.491111	6.557778	6.624444
23	6.025556	6.092222	6.158889	6.225556	6.292222	6.358889	6.425556	6.492222	6.558889	6.625556
24	6.026667	6.093333	6.160000	6.226667	6.293333	6.360000	6.426667	6.493333	6.560000	6.626667
25	6.027778	6.094444	6.161111	6.227778	6.294444	6.361111	6.427778	6.494444	6.561111	6.627778
26	6.028889	6.095556	6.162222	6.228889	6.295556	6.362222	6.428889	6.495556	6.562222	6.628889
27	6.030000	6.096667	6.163333	6.230000	6.296667	6.363333	6.430000	6.496667	6.563333	6.630000
28	6.031111	6.097778	6.164444	6.231111	6.297778	6.364444	6.431111	6.497778	6.564444	6.631111
29	6.032222	6.098889	6.165556	6.232222	6.298889	6.365556	6.432222	6.498889	6.565556	6.632222
30	6.033333	6.100000	6.166667	6.233333	6.300000	6.366667	6.433333	6.500000	6.566667	6.633333
31	6.034444	6.101111	6.167778	6.234444	6.301111	6.367778	6.434444	6.501111	6.567778	6.634444
32	6.035556	6.102222	6.168889	6.235556	6.302222	6.368889	6.435556	6.502222	6.568889	6.635556
33	6.036667	6.103333	6.170000	6.236667	6.303333	6.370000	6.436667	6.503333	6.570000	6.636667
34	6.037778	6.104444	6.171111	6.237778	6.304444	6.371111	6.437778	6.504444	6.571111	6.637778
35	6.038889	6.105556	6.172222	6.238889	6.305556	6.372222	6.438889	6.505556	6.572222	6.638889
36	6.040000	6.106667	6.173333	6.240000	6.306667	6.373333	6.440000	6.506667	6.573333	6.640000
37	6.041111	6.107778	6.174444	6.241111	6.307778	6.374444	6.441111	6.507778	6.574444	6.641111
38	6.042222	6.108889	6.175556	6.242222	6.308889	6.375556	6.442222	6.508889	6.575556	6.642222
39	6.043333	6.110000	6.176667	6.243333	6.310000	6.376667	6.443333	6.510000	6.576667	6.643333
40	6.044444	6.111111	6.177778	6.244444	6.311111	6.377778	6.444444	6.511111	6.577778	6.644444
41	6.045556	6.112222	6.178889	6.245556	6.312222	6.378889	6.445556	6.512222	6.578889	6.645556
42	6.046667	6.113333	6.180000	6.246667	6.313333	6.380000	6.446667	6.513333	6.580000	6.646667
43	6.047778	6.114444	6.181111	6.247778	6.314444	6.381111	6.447778	6.514444	6.581111	6.647778
44	6.048889	6.115556	6.182222	6.248889	6.315556	6.382222	6.448889	6.515556	6.582222	6.648889
45	6.050000	6.116667	6.183333	6.250000	6.316667	6.383333	6.450000	6.516667	6.583333	6.650000
46	6.051111	6.117778	6.184444	6.251111	6.317778	6.384444	6.451111	6.517778	6.584444	6.651111
47	6.052222	6.118889	6.185556	6.252222	6.318889	6.385556	6.452222	6.518889	6.585556	6.652222
48	6.053333	6.120000	6.186667	6.253333	6.320000	6.386667	6.453333	6.520000	6.586667	6.653333
49	6.054444	6.121111	6.187778	6.254444	6.321111	6.387778	6.454444	6.521111	6.587778	6.654444
50	6.055556	6.122222	6.188889	6.255556	6.322222	6.388889	6.455556	6.522222	6.588889	6.655556
51	6.056667	6.123333	6.190000	6.256667	6.323333	6.390000	6.456667	6.523333	6.590000	6.656667
52	6.057778	6.124444	6.191111	6.257778	6.324444	6.391111	6.457778	6.524444	6.591111	6.657778
53	6.058889	6.125556	6.192222	6.258889	6.325556	6.392222	6.458889	6.525556	6.592222	6.658889
54	6.060000	6.126667	6.193333	6.260000	6.326667	6.393333	6.460000	6.526667	6.593333	6.660000
55	6.061111	6.127778	6.194444	6.261111	6.327778	6.394444	6.461111	6.527778	6.594444	6.661111
56	6.062222	6.128889	6.195556	6.262222	6.328889	6.395556	6.462222	6.528889	6.595556	6.662222
57	6.063333	6.130000	6.196667	6.263333	6.330000	6.396667	6.463333	6.530000	6.596667	6.663333
58	6.064444	6.131111	6.197778	6.264444	6.331111	6.397778	6.464444	6.531111	6.597778	6.664444
59	6.065556	6.132222	6.198889	6.265556	6.332222	6.398889	6.465556	6.532222	6.598889	6.665556

1 – Degrés et minutes en heures décimales (angles en temps)

		degrés								
minutes	100	101	102	103	104	105	106	107	108	109
0	6.666667	6.733333	6.800000	6.866667	6.933333	7.000000	7.066667	7.133333	7.200000	7.266667
1	6.667778	6.734444	6.801111	6.867778	6.934444	7.001111	7.067778	7.134444	7.201111	7.267778
2	6.668889	6.735556	6.802222	6.868889	6.935556	7.002222	7.068889	7.135556	7.202222	7.268889
3	6.670000	6.736667	6.803333	6.870000	6.936667	7.003333	7.070000	7.136667	7.203333	7.270000
4	6.671111	6.737778	6.804444	6.871111	6.937778	7.004444	7.071111	7.137778	7.204444	7.271111
5	6.672222	6.738889	6.805556	6.872222	6.938889	7.005556	7.072222	7.138889	7.205556	7.272222
6	6.673333	6.740000	6.806667	6.873333	6.940000	7.006667	7.073333	7.140000	7.206667	7.273333
7	6.674444	6.741111	6.807778	6.874444	6.941111	7.007778	7.074444	7.141111	7.207778	7.274444
8	6.675556	6.742222	6.808889	6.875556	6.942222	7.008889	7.075556	7.142222	7.208889	7.275556
9	6.676667	6.743333	6.810000	6.876667	6.943333	7.010000	7.076667	7.143333	7.210000	7.276667
10	6.677778	6.744444	6.811111	6.877778	6.944444	7.011111	7.077778	7.144444	7.211111	7.277778
11	6.678889	6.745556	6.812222	6.878889	6.945556	7.012222	7.078889	7.145556	7.212222	7.278889
12	6.680000	6.746667	6.813333	6.880000	6.946667	7.013333	7.080000	7.146667	7.213333	7.280000
13	6.681111	6.747778	6.814444	6.881111	6.947778	7.014444	7.081111	7.147778	7.214444	7.281111
14	6.682222	6.748889	6.815556	6.882222	6.948889	7.015556	7.082222	7.148889	7.215556	7.282222
15	6.683333	6.750000	6.816667	6.883333	6.950000	7.016667	7.083333	7.150000	7.216667	7.283333
16	6.684444	6.751111	6.817778	6.884444	6.951111	7.017778	7.084444	7.151111	7.217778	7.284444
17	6.685556	6.752222	6.818889	6.885556	6.952222	7.018889	7.085556	7.152222	7.218889	7.285556
18	6.686667	6.753333	6.820000	6.886667	6.953333	7.020000	7.086667	7.153333	7.220000	7.286667
19	6.687778	6.754444	6.821111	6.887778	6.954444	7.021111	7.087778	7.154444	7.221111	7.287778
20	6.688889	6.755556	6.822222	6.888889	6.955556	7.022222	7.088889	7.155556	7.222222	7.288889
21	6.690000	6.756667	6.823333	6.890000	6.956667	7.023333	7.090000	7.156667	7.223333	7.290000
22	6.691111	6.757778	6.824444	6.891111	6.957778	7.024444	7.091111	7.157778	7.224444	7.291111
23	6.692222	6.758889	6.825556	6.892222	6.958889	7.025556	7.092222	7.158889	7.225556	7.292222
24	6.693333	6.760000	6.826667	6.893333	6.960000	7.026667	7.093333	7.160000	7.226667	7.293333
25	6.694444	6.761111	6.827778	6.894444	6.961111	7.027778	7.094444	7.161111	7.227778	7.294444
26	6.695556	6.762222	6.828889	6.895556	6.962222	7.028889	7.095556	7.162222	7.228889	7.295556
27	6.696667	6.763333	6.830000	6.896667	6.963333	7.030000	7.096667	7.163333	7.230000	7.296667
28	6.697778	6.764444	6.831111	6.897778	6.964444	7.031111	7.097778	7.164444	7.231111	7.297778
29	6.698889	6.765556	6.832222	6.898889	6.965556	7.032222	7.098889	7.165556	7.232222	7.298889
30	6.700000	6.766667	6.833333	6.900000	6.966667	7.033333	7.100000	7.166667	7.233333	7.300000
31	6.701111	6.767778	6.834444	6.901111	6.967778	7.034444	7.101111	7.167778	7.234444	7.301111
32	6.702222	6.768889	6.835556	6.902222	6.968889	7.035556	7.102222	7.168889	7.235556	7.302222
33	6.703333	6.770000	6.836667	6.903333	6.970000	7.036667	7.103333	7.170000	7.236667	7.303333
34	6.704444	6.771111	6.837778	6.904444	6.971111	7.037778	7.104444	7.171111	7.237778	7.304444
35	6.705556	6.772222	6.838889	6.905556	6.972222	7.038889	7.105556	7.172222	7.238889	7.305556
36	6.706667	6.773333	6.840000	6.906667	6.973333	7.040000	7.106667	7.173333	7.240000	7.306667
37	6.707778	6.774444	6.841111	6.907778	6.974444	7.041111	7.107778	7.174444	7.241111	7.307778
38	6.708889	6.775556	6.842222	6.908889	6.975556	7.042222	7.108889	7.175556	7.242222	7.308889
39	6.710000	6.776667	6.843333	6.910000	6.976667	7.043333	7.110000	7.176667	7.243333	7.310000
40	6.711111	6.777778	6.844444	6.911111	6.977778	7.044444	7.111111	7.177778	7.244444	7.311111
41	6.712222	6.778889	6.845556	6.912222	6.978889	7.045556	7.112222	7.178889	7.245556	7.312222
42	6.713333	6.780000	6.846667	6.913333	6.980000	7.046667	7.113333	7.180000	7.246667	7.313333
43	6.714444	6.781111	6.847778	6.914444	6.981111	7.047778	7.114444	7.181111	7.247778	7.314444
44	6.715556	6.782222	6.848889	6.915556	6.982222	7.048889	7.115556	7.182222	7.248889	7.315556
45	6.716667	6.783333	6.850000	6.916667	6.983333	7.050000	7.116667	7.183333	7.250000	7.316667
46	6.717778	6.784444	6.851111	6.917778	6.984444	7.051111	7.117778	7.184444	7.251111	7.317778
47	6.718889	6.785556	6.852222	6.918889	6.985556	7.052222	7.118889	7.185556	7.252222	7.318889
48	6.720000	6.786667	6.853333	6.920000	6.986667	7.053333	7.120000	7.186667	7.253333	7.320000
49	6.721111	6.787778	6.854444	6.921111	6.987778	7.054444	7.121111	7.187778	7.254444	7.321111
50	6.722222	6.788889	6.855556	6.922222	6.988889	7.055556	7.122222	7.188889	7.255556	7.322222
51	6.723333	6.790000	6.856667	6.923333	6.990000	7.056667	7.123333	7.190000	7.256667	7.323333
52	6.724444	6.791111	6.857778	6.924444	6.991111	7.057778	7.124444	7.191111	7.257778	7.324444
53	6.725556	6.792222	6.858889	6.925556	6.992222	7.058889	7.125556	7.192222	7.258889	7.325556
54	6.726667	6.793333	6.860000	6.926667	6.993333	7.060000	7.126667	7.193333	7.260000	7.326667
55	6.727778	6.794444	6.861111	6.927778	6.994444	7.061111	7.127778	7.194444	7.261111	7.327778
56	6.728889	6.795556	6.862222	6.928889	6.995556	7.062222	7.128889	7.195556	7.262222	7.328889
57	6.730000	6.796667	6.863333	6.930000	6.996667	7.063333	7.130000	7.196667	7.263333	7.330000
58	6.731111	6.797778	6.864444	6.931111	6.997778	7.064444	7.131111	7.197778	7.264444	7.331111
59	6.732222	6.798889	6.865556	6.932222	6.998889	7.065556	7.132222	7.198889	7.265556	7.332222

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	110	111	112	113	114	115	116	117	118	119
0	7.333333	7.400000	7.466667	7.533333	7.600000	7.666667	7.733333	7.800000	7.866667	7.933333
1	7.334444	7.401111	7.467778	7.534444	7.601111	7.667778	7.734444	7.801111	7.867778	7.934444
2	7.335556	7.402222	7.468889	7.535556	7.602222	7.668889	7.735556	7.802222	7.868889	7.935556
3	7.336667	7.403333	7.470000	7.536667	7.603333	7.670000	7.736667	7.803333	7.870000	7.936667
4	7.337778	7.404444	7.471111	7.537778	7.604444	7.671111	7.737778	7.804444	7.871111	7.937778
5	7.338889	7.405556	7.472222	7.538889	7.605556	7.672222	7.738889	7.805556	7.872222	7.938889
6	7.340000	7.406667	7.473333	7.540000	7.606667	7.673333	7.740000	7.806667	7.873333	7.940000
7	7.341111	7.407778	7.474444	7.541111	7.607778	7.674444	7.741111	7.807778	7.874444	7.941111
8	7.342222	7.408889	7.475556	7.542222	7.608889	7.675556	7.742222	7.808889	7.875556	7.942222
9	7.343333	7.410000	7.476667	7.543333	7.610000	7.676667	7.743333	7.810000	7.876667	7.943333
10	7.344444	7.411111	7.477778	7.544444	7.611111	7.677778	7.744444	7.811111	7.877778	7.944444
11	7.345556	7.412222	7.478889	7.545556	7.612222	7.678889	7.745556	7.812222	7.878889	7.945556
12	7.346667	7.413333	7.480000	7.546667	7.613333	7.680000	7.746667	7.813333	7.880000	7.946667
13	7.347778	7.414444	7.481111	7.547778	7.614444	7.681111	7.747778	7.814444	7.881111	7.947778
14	7.348889	7.415556	7.482222	7.548889	7.615556	7.682222	7.748889	7.815556	7.882222	7.948889
15	7.350000	7.416667	7.483333	7.550000	7.616667	7.683333	7.750000	7.816667	7.883333	7.950000
16	7.351111	7.417778	7.484444	7.551111	7.617778	7.684444	7.751111	7.817778	7.884444	7.951111
17	7.352222	7.418889	7.485556	7.552222	7.618889	7.685556	7.752222	7.818889	7.885556	7.952222
18	7.353333	7.420000	7.486667	7.553333	7.620000	7.686667	7.753333	7.820000	7.886667	7.953333
19	7.354444	7.421111	7.487778	7.554444	7.621111	7.687778	7.754444	7.821111	7.887778	7.954444
20	7.355556	7.422222	7.488889	7.555556	7.622222	7.688889	7.755556	7.822222	7.888889	7.955556
21	7.356667	7.423333	7.490000	7.556667	7.623333	7.690000	7.756667	7.823333	7.890000	7.956667
22	7.357778	7.424444	7.491111	7.557778	7.624444	7.691111	7.757778	7.824444	7.891111	7.957778
23	7.358889	7.425556	7.492222	7.558889	7.625556	7.692222	7.758889	7.825556	7.892222	7.958889
24	7.360000	7.426667	7.493333	7.560000	7.626667	7.693333	7.760000	7.826667	7.893333	7.960000
25	7.361111	7.427778	7.494444	7.561111	7.627778	7.694444	7.761111	7.827778	7.894444	7.961111
26	7.362222	7.428889	7.495556	7.562222	7.628889	7.695556	7.762222	7.828889	7.895556	7.962222
27	7.363333	7.430000	7.496667	7.563333	7.630000	7.696667	7.763333	7.830000	7.896667	7.963333
28	7.364444	7.431111	7.497778	7.564444	7.631111	7.697778	7.764444	7.831111	7.897778	7.964444
29	7.365556	7.432222	7.498889	7.565556	7.632222	7.698889	7.765556	7.832222	7.898889	7.965556
30	7.366667	7.433333	7.500000	7.566667	7.633333	7.700000	7.766667	7.833333	7.900000	7.966667
31	7.367778	7.434444	7.501111	7.567778	7.634444	7.701111	7.767778	7.834444	7.901111	7.967778
32	7.368889	7.435556	7.502222	7.568889	7.635556	7.702222	7.768889	7.835556	7.902222	7.968889
33	7.370000	7.436667	7.503333	7.570000	7.636667	7.703333	7.770000	7.836667	7.903333	7.970000
34	7.371111	7.437778	7.504444	7.571111	7.637778	7.704444	7.771111	7.837778	7.904444	7.971111
35	7.372222	7.438889	7.505556	7.572222	7.638889	7.705556	7.772222	7.838889	7.905556	7.972222
36	7.373333	7.440000	7.506667	7.573333	7.640000	7.706667	7.773333	7.840000	7.906667	7.973333
37	7.374444	7.441111	7.507778	7.574444	7.641111	7.707778	7.774444	7.841111	7.907778	7.974444
38	7.375556	7.442222	7.508889	7.575556	7.642222	7.708889	7.775556	7.842222	7.908889	7.975556
39	7.376667	7.443333	7.510000	7.576667	7.643333	7.710000	7.776667	7.843333	7.910000	7.976667
40	7.377778	7.444444	7.511111	7.577778	7.644444	7.711111	7.777778	7.844444	7.911111	7.977778
41	7.378889	7.445556	7.512222	7.578889	7.645556	7.712222	7.778889	7.845556	7.912222	7.978889
42	7.380000	7.446667	7.513333	7.580000	7.646667	7.713333	7.780000	7.846667	7.913333	7.980000
43	7.381111	7.447778	7.514444	7.581111	7.647778	7.714444	7.781111	7.847778	7.914444	7.981111
44	7.382222	7.448889	7.515556	7.582222	7.648889	7.715556	7.782222	7.848889	7.915556	7.982222
45	7.383333	7.450000	7.516667	7.583333	7.650000	7.716667	7.783333	7.850000	7.916667	7.983333
46	7.384444	7.451111	7.517778	7.584444	7.651111	7.717778	7.784444	7.851111	7.917778	7.984444
47	7.385556	7.452222	7.518889	7.585556	7.652222	7.718889	7.785556	7.852222	7.918889	7.985556
48	7.386667	7.453333	7.520000	7.586667	7.653333	7.720000	7.786667	7.853333	7.920000	7.986667
49	7.387778	7.454444	7.521111	7.587778	7.654444	7.721111	7.787778	7.854444	7.921111	7.987778
50	7.388889	7.455556	7.522222	7.588889	7.655556	7.722222	7.788889	7.855556	7.922222	7.988889
51	7.390000	7.456667	7.523333	7.590000	7.656667	7.723333	7.790000	7.856667	7.923333	7.990000
52	7.391111	7.457778	7.524444	7.591111	7.657778	7.724444	7.791111	7.857778	7.924444	7.991111
53	7.392222	7.458889	7.525556	7.592222	7.658889	7.725556	7.792222	7.858889	7.925556	7.992222
54	7.393333	7.460000	7.526667	7.593333	7.660000	7.726667	7.793333	7.860000	7.926667	7.993333
55	7.394444	7.461111	7.527778	7.594444	7.661111	7.727778	7.794444	7.861111	7.927778	7.994444
56	7.395556	7.462222	7.528889	7.595556	7.662222	7.728889	7.795556	7.862222	7.928889	7.995556
57	7.396667	7.463333	7.530000	7.596667	7.663333	7.730000	7.796667	7.863333	7.930000	7.996667
58	7.397778	7.464444	7.531111	7.597778	7.664444	7.731111	7.797778	7.864444	7.931111	7.997778
59	7.398889	7.465556	7.532222	7.598889	7.665556	7.732222	7.798889	7.865556	7.932222	7.998889

1 – Degrés et minutes en heures décimales (angles en temps)

		degrés								
minutes	120	121	122	123	124	125	126	127	128	129
0	8.000000	8.066667	8.133333	8.200000	8.266667	8.333333	8.400000	8.466667	8.533333	8.600000
1	8.001111	8.067778	8.134444	8.201111	8.267778	8.334444	8.401111	8.467778	8.534444	8.601111
2	8.002222	8.068889	8.135556	8.202222	8.268889	8.335556	8.402222	8.468889	8.535556	8.602222
3	8.003333	8.070000	8.136667	8.203333	8.270000	8.336667	8.403333	8.470000	8.536667	8.603333
4	8.004444	8.071111	8.137778	8.204444	8.271111	8.337778	8.404444	8.471111	8.537778	8.604444
5	8.005556	8.072222	8.138889	8.205556	8.272222	8.338889	8.405556	8.472222	8.538889	8.605556
6	8.006667	8.073333	8.140000	8.206667	8.273333	8.340000	8.406667	8.473333	8.540000	8.606667
7	8.007778	8.074444	8.141111	8.207778	8.274444	8.341111	8.407778	8.474444	8.541111	8.607778
8	8.008889	8.075556	8.142222	8.208889	8.275556	8.342222	8.408889	8.475556	8.542222	8.608889
9	8.010000	8.076667	8.143333	8.210000	8.276667	8.343333	8.410000	8.476667	8.543333	8.610000
10	8.011111	8.077778	8.144444	8.211111	8.277778	8.344444	8.411111	8.477778	8.544444	8.611111
11	8.012222	8.078889	8.145556	8.212222	8.278889	8.345556	8.412222	8.478889	8.545556	8.612222
12	8.013333	8.080000	8.146667	8.213333	8.280000	8.346667	8.413333	8.480000	8.546667	8.613333
13	8.014444	8.081111	8.147778	8.214444	8.281111	8.347778	8.414444	8.481111	8.547778	8.614444
14	8.015556	8.082222	8.148889	8.215556	8.282222	8.348889	8.415556	8.482222	8.548889	8.615556
15	8.016667	8.083333	8.150000	8.216667	8.283333	8.350000	8.416667	8.483333	8.550000	8.616667
16	8.017778	8.084444	8.151111	8.217778	8.284444	8.351111	8.417778	8.484444	8.551111	8.617778
17	8.018889	8.085556	8.152222	8.218889	8.285556	8.352222	8.418889	8.485556	8.552222	8.618889
18	8.020000	8.086667	8.153333	8.220000	8.286667	8.353333	8.420000	8.486667	8.553333	8.620000
19	8.021111	8.087778	8.154444	8.221111	8.287778	8.354444	8.421111	8.487778	8.554444	8.621111
20	8.022222	8.088889	8.155556	8.222222	8.288889	8.355556	8.422222	8.488889	8.555556	8.622222
21	8.023333	8.090000	8.156667	8.223333	8.290000	8.356667	8.423333	8.490000	8.556667	8.623333
22	8.024444	8.091111	8.157778	8.224444	8.291111	8.357778	8.424444	8.491111	8.557778	8.624444
23	8.025556	8.092222	8.158889	8.225556	8.292222	8.358889	8.425556	8.492222	8.558889	8.625556
24	8.026667	8.093333	8.160000	8.226667	8.293333	8.360000	8.426667	8.493333	8.560000	8.626667
25	8.027778	8.094444	8.161111	8.227778	8.294444	8.361111	8.427778	8.494444	8.561111	8.627778
26	8.028889	8.095556	8.162222	8.228889	8.295556	8.362222	8.428889	8.495556	8.562222	8.628889
27	8.030000	8.096667	8.163333	8.230000	8.296667	8.363333	8.430000	8.496667	8.563333	8.630000
28	8.031111	8.097778	8.164444	8.231111	8.297778	8.364444	8.431111	8.497778	8.564444	8.631111
29	8.032222	8.098889	8.165556	8.232222	8.298889	8.365556	8.432222	8.498889	8.565556	8.632222
30	8.033333	8.100000	8.166667	8.233333	8.300000	8.366667	8.433333	8.500000	8.566667	8.633333
31	8.034444	8.101111	8.167778	8.234444	8.301111	8.367778	8.434444	8.501111	8.567778	8.634444
32	8.035556	8.102222	8.168889	8.235556	8.302222	8.368889	8.435556	8.502222	8.568889	8.635556
33	8.036667	8.103333	8.170000	8.236667	8.303333	8.370000	8.436667	8.503333	8.570000	8.636667
34	8.037778	8.104444	8.171111	8.237778	8.304444	8.371111	8.437778	8.504444	8.571111	8.637778
35	8.038889	8.105556	8.172222	8.238889	8.305556	8.372222	8.438889	8.505556	8.572222	8.638889
36	8.040000	8.106667	8.173333	8.240000	8.306667	8.373333	8.440000	8.506667	8.573333	8.640000
37	8.041111	8.107778	8.174444	8.241111	8.307778	8.374444	8.441111	8.507778	8.574444	8.641111
38	8.042222	8.108889	8.175556	8.242222	8.308889	8.375556	8.442222	8.508889	8.575556	8.642222
39	8.043333	8.110000	8.176667	8.243333	8.310000	8.376667	8.443333	8.510000	8.576667	8.643333
40	8.044444	8.111111	8.177778	8.244444	8.311111	8.377778	8.444444	8.511111	8.577778	8.644444
41	8.045556	8.112222	8.178889	8.245556	8.312222	8.378889	8.445556	8.512222	8.578889	8.645556
42	8.046667	8.113333	8.180000	8.246667	8.313333	8.380000	8.446667	8.513333	8.580000	8.646667
43	8.047778	8.114444	8.181111	8.247778	8.314444	8.381111	8.447778	8.514444	8.581111	8.647778
44	8.048889	8.115556	8.182222	8.248889	8.315556	8.382222	8.448889	8.515556	8.582222	8.648889
45	8.050000	8.116667	8.183333	8.250000	8.316667	8.383333	8.450000	8.516667	8.583333	8.650000
46	8.051111	8.117778	8.184444	8.251111	8.317778	8.384444	8.451111	8.517778	8.584444	8.651111
47	8.052222	8.118889	8.185556	8.252222	8.318889	8.385556	8.452222	8.518889	8.585556	8.652222
48	8.053333	8.120000	8.186667	8.253333	8.320000	8.386667	8.453333	8.520000	8.586667	8.653333
49	8.054444	8.121111	8.187778	8.254444	8.321111	8.387778	8.454444	8.521111	8.587778	8.654444
50	8.055556	8.122222	8.188889	8.255556	8.322222	8.388889	8.455556	8.522222	8.588889	8.655556
51	8.056667	8.123333	8.190000	8.256667	8.323333	8.390000	8.456667	8.523333	8.590000	8.656667
52	8.057778	8.124444	8.191111	8.257778	8.324444	8.391111	8.457778	8.524444	8.591111	8.657778
53	8.058889	8.125556	8.192222	8.258889	8.325556	8.392222	8.458889	8.525556	8.592222	8.658889
54	8.060000	8.126667	8.193333	8.260000	8.326667	8.393333	8.460000	8.526667	8.593333	8.660000
55	8.061111	8.127778	8.194444	8.261111	8.327778	8.394444	8.461111	8.527778	8.594444	8.661111
56	8.062222	8.128889	8.195556	8.262222	8.328889	8.395556	8.462222	8.528889	8.595556	8.662222
57	8.063333	8.130000	8.196667	8.263333	8.330000	8.396667	8.463333	8.530000	8.596667	8.663333
58	8.064444	8.131111	8.197778	8.264444	8.331111	8.397778	8.464444	8.531111	8.597778	8.664444
59	8.065556	8.132222	8.198889	8.265556	8.332222	8.398889	8.465556	8.532222	8.598889	8.665556

1 – Degrés et minutes en heures décimales (angles en temps)

		degrés								
minutes	130	131	132	133	134	135	136	137	138	139
0	8.666667	8.733333	8.800000	8.866667	8.933333	9.000000	9.066667	9.133333	9.200000	9.266667
1	8.667778	8.734444	8.801111	8.867778	8.934444	9.001111	9.067778	9.134444	9.201111	9.267778
2	8.668889	8.735556	8.802222	8.868889	8.935556	9.002222	9.068889	9.135556	9.202222	9.268889
3	8.670000	8.736667	8.803333	8.870000	8.936667	9.003333	9.070000	9.136667	9.203333	9.270000
4	8.671111	8.737778	8.804444	8.871111	8.937778	9.004444	9.071111	9.137778	9.204444	9.271111
5	8.672222	8.738889	8.805556	8.872222	8.938889	9.005556	9.072222	9.138889	9.205556	9.272222
6	8.673333	8.740000	8.806667	8.873333	8.940000	9.006667	9.073333	9.140000	9.206667	9.273333
7	8.674444	8.741111	8.807778	8.874444	8.941111	9.007778	9.074444	9.141111	9.207778	9.274444
8	8.675556	8.742222	8.808889	8.875556	8.942222	9.008889	9.075556	9.142222	9.208889	9.275556
9	8.676667	8.743333	8.810000	8.876667	8.943333	9.010000	9.076667	9.143333	9.210000	9.276667
10	8.677778	8.744444	8.811111	8.877778	8.944444	9.011111	9.077778	9.144444	9.211111	9.277778
11	8.678889	8.745556	8.812222	8.878889	8.945556	9.012222	9.078889	9.145556	9.212222	9.278889
12	8.680000	8.746667	8.813333	8.880000	8.946667	9.013333	9.080000	9.146667	9.213333	9.280000
13	8.681111	8.747778	8.814444	8.881111	8.947778	9.014444	9.081111	9.147778	9.214444	9.281111
14	8.682222	8.748889	8.815556	8.882222	8.948889	9.015556	9.082222	9.148889	9.215556	9.282222
15	8.683333	8.750000	8.816667	8.883333	8.950000	9.016667	9.083333	9.150000	9.216667	9.283333
16	8.684444	8.751111	8.817778	8.884444	8.951111	9.017778	9.084444	9.151111	9.217778	9.284444
17	8.685556	8.752222	8.818889	8.885556	8.952222	9.018889	9.085556	9.152222	9.218889	9.285556
18	8.686667	8.753333	8.820000	8.886667	8.953333	9.020000	9.086667	9.153333	9.220000	9.286667
19	8.687778	8.754444	8.821111	8.887778	8.954444	9.021111	9.087778	9.154444	9.221111	9.287778
20	8.688889	8.755556	8.822222	8.888889	8.955556	9.022222	9.088889	9.155556	9.222222	9.288889
21	8.690000	8.756667	8.823333	8.890000	8.956667	9.023333	9.090000	9.156667	9.223333	9.290000
22	8.691111	8.757778	8.824444	8.891111	8.957778	9.024444	9.091111	9.157778	9.224444	9.291111
23	8.692222	8.758889	8.825556	8.892222	8.958889	9.025556	9.092222	9.158889	9.225556	9.292222
24	8.693333	8.760000	8.826667	8.893333	8.960000	9.026667	9.093333	9.160000	9.226667	9.293333
25	8.694444	8.761111	8.827778	8.894444	8.961111	9.027778	9.094444	9.161111	9.227778	9.294444
26	8.695556	8.762222	8.828889	8.895556	8.962222	9.028889	9.095556	9.162222	9.228889	9.295556
27	8.696667	8.763333	8.830000	8.896667	8.963333	9.030000	9.096667	9.163333	9.230000	9.296667
28	8.697778	8.764444	8.831111	8.897778	8.964444	9.031111	9.097778	9.164444	9.231111	9.297778
29	8.698889	8.765556	8.832222	8.898889	8.965556	9.032222	9.098889	9.165556	9.232222	9.298889
30	8.700000	8.766667	8.833333	8.900000	8.966667	9.033333	9.100000	9.166667	9.233333	9.300000
31	8.701111	8.767778	8.834444	8.901111	8.967778	9.034444	9.101111	9.167778	9.234444	9.301111
32	8.702222	8.768889	8.835556	8.902222	8.968889	9.035556	9.102222	9.168889	9.235556	9.302222
33	8.703333	8.770000	8.836667	8.903333	8.970000	9.036667	9.103333	9.170000	9.236667	9.303333
34	8.704444	8.771111	8.837778	8.904444	8.971111	9.037778	9.104444	9.171111	9.237778	9.304444
35	8.705556	8.772222	8.838889	8.905556	8.972222	9.038889	9.105556	9.172222	9.238889	9.305556
36	8.706667	8.773333	8.840000	8.906667	8.973333	9.040000	9.106667	9.173333	9.240000	9.306667
37	8.707778	8.774444	8.841111	8.907778	8.974444	9.041111	9.107778	9.174444	9.241111	9.307778
38	8.708889	8.775556	8.842222	8.908889	8.975556	9.042222	9.108889	9.175556	9.242222	9.308889
39	8.710000	8.776667	8.843333	8.910000	8.976667	9.043333	9.110000	9.176667	9.243333	9.310000
40	8.711111	8.777778	8.844444	8.911111	8.977778	9.044444	9.111111	9.177778	9.244444	9.311111
41	8.712222	8.778889	8.845556	8.912222	8.978889	9.045556	9.112222	9.178889	9.245556	9.312222
42	8.713333	8.780000	8.846667	8.913333	8.980000	9.046667	9.113333	9.180000	9.246667	9.313333
43	8.714444	8.781111	8.847778	8.914444	8.981111	9.047778	9.114444	9.181111	9.247778	9.314444
44	8.715556	8.782222	8.848889	8.915556	8.982222	9.048889	9.115556	9.182222	9.248889	9.315556
45	8.716667	8.783333	8.850000	8.916667	8.983333	9.050000	9.116667	9.183333	9.250000	9.316667
46	8.717778	8.784444	8.851111	8.917778	8.984444	9.051111	9.117778	9.184444	9.251111	9.317778
47	8.718889	8.785556	8.852222	8.918889	8.985556	9.052222	9.118889	9.185556	9.252222	9.318889
48	8.720000	8.786667	8.853333	8.920000	8.986667	9.053333	9.120000	9.186667	9.253333	9.320000
49	8.721111	8.787778	8.854444	8.921111	8.987778	9.054444	9.121111	9.187778	9.254444	9.321111
50	8.722222	8.788889	8.855556	8.922222	8.988889	9.055556	9.122222	9.188889	9.255556	9.322222
51	8.723333	8.790000	8.856667	8.923333	8.990000	9.056667	9.123333	9.190000	9.256667	9.323333
52	8.724444	8.791111	8.857778	8.924444	8.991111	9.057778	9.124444	9.191111	9.257778	9.324444
53	8.725556	8.792222	8.858889	8.925556	8.992222	9.058889	9.125556	9.192222	9.258889	9.325556
54	8.726667	8.793333	8.860000	8.926667	8.993333	9.060000	9.126667	9.193333	9.260000	9.326667
55	8.727778	8.794444	8.861111	8.927778	8.994444	9.061111	9.127778	9.194444	9.261111	9.327778
56	8.728889	8.795556	8.862222	8.928889	8.995556	9.062222	9.128889	9.195556	9.262222	9.328889
57	8.730000	8.796667	8.863333	8.930000	8.996667	9.063333	9.130000	9.196667	9.263333	9.330000
58	8.731111	8.797778	8.864444	8.931111	8.997778	9.064444	9.131111	9.197778	9.264444	9.331111
59	8.732222	8.798889	8.865556	8.932222	8.998889	9.065556	9.132222	9.198889	9.265556	9.332222

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	140	141	142	143	144	145	146	147	148	149
0	9.333333	9.400000	9.466667	9.533333	9.600000	9.666667	9.733333	9.800000	9.866667	9.933333
1	9.334444	9.401111	9.467778	9.534444	9.601111	9.667778	9.734444	9.801111	9.867778	9.934444
2	9.335556	9.402222	9.468889	9.535556	9.602222	9.668889	9.735556	9.802222	9.868889	9.935556
3	9.336667	9.403333	9.470000	9.536667	9.603333	9.670000	9.736667	9.803333	9.870000	9.936667
4	9.337778	9.404444	9.471111	9.537778	9.604444	9.671111	9.737778	9.804444	9.871111	9.937778
5	9.338889	9.405556	9.472222	9.538889	9.605556	9.672222	9.738889	9.805556	9.872222	9.938889
6	9.340000	9.406667	9.473333	9.540000	9.606667	9.673333	9.740000	9.806667	9.873333	9.940000
7	9.341111	9.407778	9.474444	9.541111	9.607778	9.674444	9.741111	9.807778	9.874444	9.941111
8	9.342222	9.408889	9.475556	9.542222	9.608889	9.675556	9.742222	9.808889	9.875556	9.942222
9	9.343333	9.410000	9.476667	9.543333	9.610000	9.676667	9.743333	9.810000	9.876667	9.943333
10	9.344444	9.411111	9.477778	9.544444	9.611111	9.677778	9.744444	9.811111	9.877778	9.944444
11	9.345556	9.412222	9.478889	9.545556	9.612222	9.678889	9.745556	9.812222	9.878889	9.945556
12	9.346667	9.413333	9.480000	9.546667	9.613333	9.680000	9.746667	9.813333	9.880000	9.946667
13	9.347778	9.414444	9.481111	9.547778	9.614444	9.681111	9.747778	9.814444	9.881111	9.947778
14	9.348889	9.415556	9.482222	9.548889	9.615556	9.682222	9.748889	9.815556	9.882222	9.948889
15	9.350000	9.416667	9.483333	9.550000	9.616667	9.683333	9.750000	9.816667	9.883333	9.950000
16	9.351111	9.417778	9.484444	9.551111	9.617778	9.684444	9.751111	9.817778	9.884444	9.951111
17	9.352222	9.418889	9.485556	9.552222	9.618889	9.685556	9.752222	9.818889	9.885556	9.952222
18	9.353333	9.420000	9.486667	9.553333	9.620000	9.686667	9.753333	9.820000	9.886667	9.953333
19	9.354444	9.421111	9.487778	9.554444	9.621111	9.687778	9.754444	9.821111	9.887778	9.954444
20	9.355556	9.422222	9.488889	9.555556	9.622222	9.688889	9.755556	9.822222	9.888889	9.955556
21	9.356667	9.423333	9.490000	9.556667	9.623333	9.690000	9.756667	9.823333	9.890000	9.956667
22	9.357778	9.424444	9.491111	9.557778	9.624444	9.691111	9.757778	9.824444	9.891111	9.957778
23	9.358889	9.425556	9.492222	9.558889	9.625556	9.692222	9.758889	9.825556	9.892222	9.958889
24	9.360000	9.426667	9.493333	9.560000	9.626667	9.693333	9.760000	9.826667	9.893333	9.960000
25	9.361111	9.427778	9.494444	9.561111	9.627778	9.694444	9.761111	9.827778	9.894444	9.961111
26	9.362222	9.428889	9.495556	9.562222	9.628889	9.695556	9.762222	9.828889	9.895556	9.962222
27	9.363333	9.430000	9.496667	9.563333	9.630000	9.696667	9.763333	9.830000	9.896667	9.963333
28	9.364444	9.431111	9.497778	9.564444	9.631111	9.697778	9.764444	9.831111	9.897778	9.964444
29	9.365556	9.432222	9.498889	9.565556	9.632222	9.698889	9.765556	9.832222	9.898889	9.965556
30	9.366667	9.433333	9.500000	9.566667	9.633333	9.700000	9.766667	9.833333	9.900000	9.966667
31	9.367778	9.434444	9.501111	9.567778	9.634444	9.701111	9.767778	9.834444	9.901111	9.967778
32	9.368889	9.435556	9.502222	9.568889	9.635556	9.702222	9.768889	9.835556	9.902222	9.968889
33	9.370000	9.436667	9.503333	9.570000	9.636667	9.703333	9.770000	9.836667	9.903333	9.970000
34	9.371111	9.437778	9.504444	9.571111	9.637778	9.704444	9.771111	9.837778	9.904444	9.971111
35	9.372222	9.438889	9.505556	9.572222	9.638889	9.705556	9.772222	9.838889	9.905556	9.972222
36	9.373333	9.440000	9.506667	9.573333	9.640000	9.706667	9.773333	9.840000	9.906667	9.973333
37	9.374444	9.441111	9.507778	9.574444	9.641111	9.707778	9.774444	9.841111	9.907778	9.974444
38	9.375556	9.442222	9.508889	9.575556	9.642222	9.708889	9.775556	9.842222	9.908889	9.975556
39	9.376667	9.443333	9.510000	9.576667	9.643333	9.710000	9.776667	9.843333	9.910000	9.976667
40	9.377778	9.444444	9.511111	9.577778	9.644444	9.711111	9.777778	9.844444	9.911111	9.977778
41	9.378889	9.445556	9.512222	9.578889	9.645556	9.712222	9.778889	9.845556	9.912222	9.978889
42	9.380000	9.446667	9.513333	9.580000	9.646667	9.713333	9.780000	9.846667	9.913333	9.980000
43	9.381111	9.447778	9.514444	9.581111	9.647778	9.714444	9.781111	9.847778	9.914444	9.981111
44	9.382222	9.448889	9.515556	9.582222	9.648889	9.715556	9.782222	9.848889	9.915556	9.982222
45	9.383333	9.450000	9.516667	9.583333	9.650000	9.716667	9.783333	9.850000	9.916667	9.983333
46	9.384444	9.451111	9.517778	9.584444	9.651111	9.717778	9.784444	9.851111	9.917778	9.984444
47	9.385556	9.452222	9.518889	9.585556	9.652222	9.718889	9.785556	9.852222	9.918889	9.985556
48	9.386667	9.453333	9.520000	9.586667	9.653333	9.720000	9.786667	9.853333	9.920000	9.986667
49	9.387778	9.454444	9.521111	9.587778	9.654444	9.721111	9.787778	9.854444	9.921111	9.987778
50	9.388889	9.455556	9.522222	9.588889	9.655556	9.722222	9.788889	9.855556	9.922222	9.988889
51	9.390000	9.456667	9.523333	9.590000	9.656667	9.723333	9.790000	9.856667	9.923333	9.990000
52	9.391111	9.457778	9.524444	9.591111	9.657778	9.724444	9.791111	9.857778	9.924444	9.991111
53	9.392222	9.458889	9.525556	9.592222	9.658889	9.725556	9.792222	9.858889	9.925556	9.992222
54	9.393333	9.460000	9.526667	9.593333	9.660000	9.726667	9.793333	9.860000	9.926667	9.993333
55	9.394444	9.461111	9.527778	9.594444	9.661111	9.727778	9.794444	9.861111	9.927778	9.994444
56	9.395556	9.462222	9.528889	9.595556	9.662222	9.728889	9.795556	9.862222	9.928889	9.995556
57	9.396667	9.463333	9.530000	9.596667	9.663333	9.730000	9.796667	9.863333	9.930000	9.996667
58	9.397778	9.464444	9.531111	9.597778	9.664444	9.731111	9.797778	9.864444	9.931111	9.997778
59	9.398889	9.465556	9.532222	9.598889	9.665556	9.732222	9.798889	9.865556	9.932222	9.998889

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	150	151	152	153	154	155	156	157	158	159
0	10.000000	10.066667	10.133333	10.200000	10.266667	10.333333	10.400000	10.466667	10.533333	10.600000
1	10.001111	10.067778	10.134444	10.201111	10.267778	10.334444	10.401111	10.467778	10.534444	10.601111
2	10.002222	10.068889	10.135556	10.202222	10.268889	10.335556	10.402222	10.468889	10.535556	10.602222
3	10.003333	10.070000	10.136667	10.203333	10.270000	10.336667	10.403333	10.470000	10.536667	10.603333
4	10.004444	10.071111	10.137778	10.204444	10.271111	10.337778	10.404444	10.471111	10.537778	10.604444
5	10.005556	10.072222	10.138889	10.205556	10.272222	10.338889	10.405556	10.472222	10.538889	10.605556
6	10.006667	10.073333	10.140000	10.206667	10.273333	10.340000	10.406667	10.473333	10.540000	10.606667
7	10.007778	10.074444	10.141111	10.207778	10.274444	10.341111	10.407778	10.474444	10.541111	10.607778
8	10.008889	10.075556	10.142222	10.208889	10.275556	10.342222	10.408889	10.475556	10.542222	10.608889
9	10.010000	10.076667	10.143333	10.210000	10.276667	10.343333	10.410000	10.476667	10.543333	10.610000
10	10.011111	10.077778	10.144444	10.211111	10.277778	10.344444	10.411111	10.477778	10.544444	10.611111
11	10.012222	10.078889	10.145556	10.212222	10.278889	10.345556	10.412222	10.478889	10.545556	10.612222
12	10.013333	10.080000	10.146667	10.213333	10.280000	10.346667	10.413333	10.480000	10.546667	10.613333
13	10.014444	10.081111	10.147778	10.214444	10.281111	10.347778	10.414444	10.481111	10.547778	10.614444
14	10.015556	10.082222	10.148889	10.215556	10.282222	10.348889	10.415556	10.482222	10.548889	10.615556
15	10.016667	10.083333	10.150000	10.216667	10.283333	10.350000	10.416667	10.483333	10.550000	10.616667
16	10.017778	10.084444	10.151111	10.217778	10.284444	10.351111	10.417778	10.484444	10.551111	10.617778
17	10.018889	10.085556	10.152222	10.218889	10.285556	10.352222	10.418889	10.485556	10.552222	10.618889
18	10.020000	10.086667	10.153333	10.220000	10.286667	10.353333	10.420000	10.486667	10.553333	10.620000
19	10.021111	10.087778	10.154444	10.221111	10.287778	10.354444	10.421111	10.487778	10.554444	10.621111
20	10.022222	10.088889	10.155556	10.222222	10.288889	10.355556	10.422222	10.488889	10.555556	10.622222
21	10.023333	10.090000	10.156667	10.223333	10.290000	10.356667	10.423333	10.490000	10.556667	10.623333
22	10.024444	10.091111	10.157778	10.224444	10.291111	10.357778	10.424444	10.491111	10.557778	10.624444
23	10.025556	10.092222	10.158889	10.225556	10.292222	10.358889	10.425556	10.492222	10.558889	10.625556
24	10.026667	10.093333	10.160000	10.226667	10.293333	10.360000	10.426667	10.493333	10.560000	10.626667
25	10.027778	10.094444	10.161111	10.227778	10.294444	10.361111	10.427778	10.494444	10.561111	10.627778
26	10.028889	10.095556	10.162222	10.228889	10.295556	10.362222	10.428889	10.495556	10.562222	10.628889
27	10.030000	10.096667	10.163333	10.230000	10.296667	10.363333	10.430000	10.496667	10.563333	10.630000
28	10.031111	10.097778	10.164444	10.231111	10.297778	10.364444	10.431111	10.497778	10.564444	10.631111
29	10.032222	10.098889	10.165556	10.232222	10.298889	10.365556	10.432222	10.498889	10.565556	10.632222
30	10.033333	10.100000	10.166667	10.233333	10.300000	10.366667	10.433333	10.500000	10.566667	10.633333
31	10.034444	10.101111	10.167778	10.234444	10.301111	10.367778	10.434444	10.501111	10.567778	10.634444
32	10.035556	10.102222	10.168889	10.235556	10.302222	10.368889	10.435556	10.502222	10.568889	10.635556
33	10.036667	10.103333	10.170000	10.236667	10.303333	10.370000	10.436667	10.503333	10.570000	10.636667
34	10.037778	10.104444	10.171111	10.237778	10.304444	10.371111	10.437778	10.504444	10.571111	10.637778
35	10.038889	10.105556	10.172222	10.238889	10.305556	10.372222	10.438889	10.505556	10.572222	10.638889
36	10.040000	10.106667	10.173333	10.240000	10.306667	10.373333	10.440000	10.506667	10.573333	10.640000
37	10.041111	10.107778	10.174444	10.241111	10.307778	10.374444	10.441111	10.507778	10.574444	10.641111
38	10.042222	10.108889	10.175556	10.242222	10.308889	10.375556	10.442222	10.508889	10.575556	10.642222
39	10.043333	10.110000	10.176667	10.243333	10.310000	10.376667	10.443333	10.510000	10.576667	10.643333
40	10.044444	10.111111	10.177778	10.244444	10.311111	10.377778	10.444444	10.511111	10.577778	10.644444
41	10.045556	10.112222	10.178889	10.245556	10.312222	10.378889	10.445556	10.512222	10.578889	10.645556
42	10.046667	10.113333	10.180000	10.246667	10.313333	10.380000	10.446667	10.513333	10.580000	10.646667
43	10.047778	10.114444	10.181111	10.247778	10.314444	10.381111	10.447778	10.514444	10.581111	10.647778
44	10.048889	10.115556	10.182222	10.248889	10.315556	10.382222	10.448889	10.515556	10.582222	10.648889
45	10.050000	10.116667	10.183333	10.250000	10.316667	10.383333	10.450000	10.516667	10.583333	10.650000
46	10.051111	10.117778	10.184444	10.251111	10.317778	10.384444	10.451111	10.517778	10.584444	10.651111
47	10.052222	10.118889	10.185556	10.252222	10.318889	10.385556	10.452222	10.518889	10.585556	10.652222
48	10.053333	10.120000	10.186667	10.253333	10.320000	10.386667	10.453333	10.520000	10.586667	10.653333
49	10.054444	10.121111	10.187778	10.254444	10.321111	10.387778	10.454444	10.521111	10.587778	10.654444
50	10.055556	10.122222	10.188889	10.255556	10.322222	10.388889	10.455556	10.522222	10.588889	10.655556
51	10.056667	10.123333	10.190000	10.256667	10.323333	10.390000	10.456667	10.523333	10.590000	10.656667
52	10.057778	10.124444	10.191111	10.257778	10.324444	10.391111	10.457778	10.524444	10.591111	10.657778
53	10.058889	10.125556	10.192222	10.258889	10.325556	10.392222	10.458889	10.525556	10.592222	10.658889
54	10.060000	10.126667	10.193333	10.260000	10.326667	10.393333	10.460000	10.526667	10.593333	10.660000
55	10.061111	10.127778	10.194444	10.261111	10.327778	10.394444	10.461111	10.527778	10.594444	10.661111
56	10.062222	10.128889	10.195556	10.262222	10.328889	10.395556	10.462222	10.528889	10.595556	10.662222
57	10.063333	10.130000	10.196667	10.263333	10.330000	10.396667	10.463333	10.530000	10.596667	10.663333
58	10.064444	10.131111	10.197778	10.264444	10.331111	10.397778	10.464444	10.531111	10.597778	10.664444
59	10.065556	10.132222	10.198889	10.265556	10.332222	10.398889	10.465556	10.532222	10.598889	10.665556

1 – Degrés et minutes en heures décimales (angles en temps)

minutes	degrés									
	160	161	162	163	164	165	166	167	168	169
0	10.666667	10.733333	10.800000	10.866667	10.933333	11.000000	11.066667	11.133333	11.200000	11.266667
1	10.667778	10.734444	10.801111	10.867778	10.934444	11.001111	11.067778	11.134444	11.201111	11.267778
2	10.668889	10.735556	10.802222	10.868889	10.935556	11.002222	11.068889	11.135556	11.202222	11.268889
3	10.670000	10.736667	10.803333	10.870000	10.936667	11.003333	11.070000	11.136667	11.203333	11.270000
4	10.671111	10.737778	10.804444	10.871111	10.937778	11.004444	11.071111	11.137778	11.204444	11.271111
5	10.672222	10.738889	10.805556	10.872222	10.938889	11.005556	11.072222	11.138889	11.205556	11.272222
6	10.673333	10.740000	10.806667	10.873333	10.940000	11.006667	11.073333	11.140000	11.206667	11.273333
7	10.674444	10.741111	10.807778	10.874444	10.941111	11.007778	11.074444	11.141111	11.207778	11.274444
8	10.675556	10.742222	10.808889	10.875556	10.942222	11.008889	11.075556	11.142222	11.208889	11.275556
9	10.676667	10.743333	10.810000	10.876667	10.943333	11.010000	11.076667	11.143333	11.210000	11.276667
10	10.677778	10.744444	10.811111	10.877778	10.944444	11.011111	11.077778	11.144444	11.211111	11.277778
11	10.678889	10.745556	10.812222	10.878889	10.945556	11.012222	11.078889	11.145556	11.212222	11.278889
12	10.680000	10.746667	10.813333	10.880000	10.946667	11.013333	11.080000	11.146667	11.213333	11.280000
13	10.681111	10.747778	10.814444	10.881111	10.947778	11.014444	11.081111	11.147778	11.214444	11.281111
14	10.682222	10.748889	10.815556	10.882222	10.948889	11.015556	11.082222	11.148889	11.215556	11.282222
15	10.683333	10.750000	10.816667	10.883333	10.950000	11.016667	11.083333	11.150000	11.216667	11.283333
16	10.684444	10.751111	10.817778	10.884444	10.951111	11.017778	11.084444	11.151111	11.217778	11.284444
17	10.685556	10.752222	10.818889	10.885556	10.952222	11.018889	11.085556	11.152222	11.218889	11.285556
18	10.686667	10.753333	10.820000	10.886667	10.953333	11.020000	11.086667	11.153333	11.220000	11.286667
19	10.687778	10.754444	10.821111	10.887778	10.954444	11.021111	11.087778	11.154444	11.221111	11.287778
20	10.688889	10.755556	10.822222	10.888889	10.955556	11.022222	11.088889	11.155556	11.222222	11.288889
21	10.690000	10.756667	10.823333	10.890000	10.956667	11.023333	11.090000	11.156667	11.223333	11.290000
22	10.691111	10.757778	10.824444	10.891111	10.957778	11.024444	11.091111	11.157778	11.224444	11.291111
23	10.692222	10.758889	10.825556	10.892222	10.958889	11.025556	11.092222	11.158889	11.225556	11.292222
24	10.693333	10.760000	10.826667	10.893333	10.960000	11.026667	11.093333	11.160000	11.226667	11.293333
25	10.694444	10.761111	10.827778	10.894444	10.961111	11.027778	11.094444	11.161111	11.227778	11.294444
26	10.695556	10.762222	10.828889	10.895556	10.962222	11.028889	11.095556	11.162222	11.228889	11.295556
27	10.696667	10.763333	10.830000	10.896667	10.963333	11.030000	11.096667	11.163333	11.230000	11.296667
28	10.697778	10.764444	10.831111	10.897778	10.964444	11.031111	11.097778	11.164444	11.231111	11.297778
29	10.698889	10.765556	10.832222	10.898889	10.965556	11.032222	11.098889	11.165556	11.232222	11.298889
30	10.700000	10.766667	10.833333	10.900000	10.966667	11.033333	11.100000	11.166667	11.233333	11.300000
31	10.701111	10.767778	10.834444	10.901111	10.967778	11.034444	11.101111	11.167778	11.234444	11.301111
32	10.702222	10.768889	10.835556	10.902222	10.968889	11.035556	11.102222	11.168889	11.235556	11.302222
33	10.703333	10.770000	10.836667	10.903333	10.970000	11.036667	11.103333	11.170000	11.236667	11.303333
34	10.704444	10.771111	10.837778	10.904444	10.971111	11.037778	11.104444	11.171111	11.237778	11.304444
35	10.705556	10.772222	10.838889	10.905556	10.972222	11.038889	11.105556	11.172222	11.238889	11.305556
36	10.706667	10.773333	10.840000	10.906667	10.973333	11.040000	11.106667	11.173333	11.240000	11.306667
37	10.707778	10.774444	10.841111	10.907778	10.974444	11.041111	11.107778	11.174444	11.241111	11.307778
38	10.708889	10.775556	10.842222	10.908889	10.975556	11.042222	11.108889	11.175556	11.242222	11.308889
39	10.710000	10.776667	10.843333	10.910000	10.976667	11.043333	11.110000	11.176667	11.243333	11.310000
40	10.711111	10.777778	10.844444	10.911111	10.977778	11.044444	11.111111	11.177778	11.244444	11.311111
41	10.712222	10.778889	10.845556	10.912222	10.978889	11.045556	11.112222	11.178889	11.245556	11.312222
42	10.713333	10.780000	10.846667	10.913333	10.980000	11.046667	11.113333	11.180000	11.246667	11.313333
43	10.714444	10.781111	10.847778	10.914444	10.981111	11.047778	11.114444	11.181111	11.247778	11.314444
44	10.715556	10.782222	10.848889	10.915556	10.982222	11.048889	11.115556	11.182222	11.248889	11.315556
45	10.716667	10.783333	10.850000	10.916667	10.983333	11.050000	11.116667	11.183333	11.250000	11.316667
46	10.717778	10.784444	10.851111	10.917778	10.984444	11.051111	11.117778	11.184444	11.251111	11.317778
47	10.718889	10.785556	10.852222	10.918889	10.985556	11.052222	11.118889	11.185556	11.252222	11.318889
48	10.720000	10.786667	10.853333	10.920000	10.986667	11.053333	11.120000	11.186667	11.253333	11.320000
49	10.721111	10.787778	10.854444	10.921111	10.987778	11.054444	11.121111	11.187778	11.254444	11.321111
50	10.722222	10.788889	10.855556	10.922222	10.988889	11.055556	11.122222	11.188889	11.255556	11.322222
51	10.723333	10.790000	10.856667	10.923333	10.990000	11.056667	11.123333	11.190000	11.256667	11.323333
52	10.724444	10.791111	10.857778	10.924444	10.991111	11.057778	11.124444	11.191111	11.257778	11.324444
53	10.725556	10.792222	10.858889	10.925556	10.992222	11.058889	11.125556	11.192222	11.258889	11.325556
54	10.726667	10.793333	10.860000	10.926667	10.993333	11.060000	11.126667	11.193333	11.260000	11.326667
55	10.727778	10.794444	10.861111	10.927778	10.994444	11.061111	11.127778	11.194444	11.261111	11.327778
56	10.728889	10.795556	10.862222	10.928889	10.995556	11.062222	11.128889	11.195556	11.262222	11.328889
57	10.730000	10.796667	10.863333	10.930000	10.996667	11.063333	11.130000	11.196667	11.263333	11.330000
58	10.731111	10.797778	10.864444	10.931111	10.997778	11.064444	11.131111	11.197778	11.264444	11.331111
59	10.732222	10.798889	10.865556	10.932222	10.998889	11.065556	11.132222	11.198889	11.265556	11.332222

1 – Degrés et minutes en heures décimales (angles en temps)

		degrés								
minutes	170	171	172	173	174	175	176	177	178	179
0	11.333333	11.400000	11.466667	11.533333	11.600000	11.666667	11.733333	11.800000	11.866667	11.933333
1	11.334444	11.401111	11.467778	11.534444	11.601111	11.667778	11.734444	11.801111	11.867778	11.934444
2	11.335556	11.402222	11.468889	11.535556	11.602222	11.668889	11.735556	11.802222	11.868889	11.935556
3	11.336667	11.403333	11.470000	11.536667	11.603333	11.670000	11.736667	11.803333	11.870000	11.936667
4	11.337778	11.404444	11.471111	11.537778	11.604444	11.671111	11.737778	11.804444	11.871111	11.937778
5	11.338889	11.405556	11.472222	11.538889	11.605556	11.672222	11.738889	11.805556	11.872222	11.938889
6	11.340000	11.406667	11.473333	11.540000	11.606667	11.673333	11.740000	11.806667	11.873333	11.940000
7	11.341111	11.407778	11.474444	11.541111	11.607778	11.674444	11.741111	11.807778	11.874444	11.941111
8	11.342222	11.408889	11.475556	11.542222	11.608889	11.675556	11.742222	11.808889	11.875556	11.942222
9	11.343333	11.410000	11.476667	11.543333	11.610000	11.676667	11.743333	11.810000	11.876667	11.943333
10	11.344444	11.411111	11.477778	11.544444	11.611111	11.677778	11.744444	11.811111	11.877778	11.944444
11	11.345556	11.412222	11.478889	11.545556	11.612222	11.678889	11.745556	11.812222	11.878889	11.945556
12	11.346667	11.413333	11.480000	11.546667	11.613333	11.680000	11.746667	11.813333	11.880000	11.946667
13	11.347778	11.414444	11.481111	11.547778	11.614444	11.681111	11.747778	11.814444	11.881111	11.947778
14	11.348889	11.415556	11.482222	11.548889	11.615556	11.682222	11.748889	11.815556	11.882222	11.948889
15	11.350000	11.416667	11.483333	11.550000	11.616667	11.683333	11.750000	11.816667	11.883333	11.950000
16	11.351111	11.417778	11.484444	11.551111	11.617778	11.684444	11.751111	11.817778	11.884444	11.951111
17	11.352222	11.418889	11.485556	11.552222	11.618889	11.685556	11.752222	11.818889	11.885556	11.952222
18	11.353333	11.420000	11.486667	11.553333	11.620000	11.686667	11.753333	11.820000	11.886667	11.953333
19	11.354444	11.421111	11.487778	11.554444	11.621111	11.687778	11.754444	11.821111	11.887778	11.954444
20	11.355556	11.422222	11.488889	11.555556	11.622222	11.688889	11.755556	11.822222	11.888889	11.955556
21	11.356667	11.423333	11.490000	11.556667	11.623333	11.690000	11.756667	11.823333	11.890000	11.956667
22	11.357778	11.424444	11.491111	11.557778	11.624444	11.691111	11.757778	11.824444	11.891111	11.957778
23	11.358889	11.425556	11.492222	11.558889	11.625556	11.692222	11.758889	11.825556	11.892222	11.958889
24	11.360000	11.426667	11.493333	11.560000	11.626667	11.693333	11.760000	11.826667	11.893333	11.960000
25	11.361111	11.427778	11.494444	11.561111	11.627778	11.694444	11.761111	11.827778	11.894444	11.961111
26	11.362222	11.428889	11.495556	11.562222	11.628889	11.695556	11.762222	11.828889	11.895556	11.962222
27	11.363333	11.430000	11.496667	11.563333	11.630000	11.696667	11.763333	11.830000	11.896667	11.963333
28	11.364444	11.431111	11.497778	11.564444	11.631111	11.697778	11.764444	11.831111	11.897778	11.964444
29	11.365556	11.432222	11.498889	11.565556	11.632222	11.698889	11.765556	11.832222	11.898889	11.965556
30	11.366667	11.433333	11.500000	11.566667	11.633333	11.700000	11.766667	11.833333	11.900000	11.966667
31	11.367778	11.434444	11.501111	11.567778	11.634444	11.701111	11.767778	11.834444	11.901111	11.967778
32	11.368889	11.435556	11.502222	11.568889	11.635556	11.702222	11.768889	11.835556	11.902222	11.968889
33	11.370000	11.436667	11.503333	11.570000	11.636667	11.703333	11.770000	11.836667	11.903333	11.970000
34	11.371111	11.437778	11.504444	11.571111	11.637778	11.704444	11.771111	11.837778	11.904444	11.971111
35	11.372222	11.438889	11.505556	11.572222	11.638889	11.705556	11.772222	11.838889	11.905556	11.972222
36	11.373333	11.440000	11.506667	11.573333	11.640000	11.706667	11.773333	11.840000	11.906667	11.973333
37	11.374444	11.441111	11.507778	11.574444	11.641111	11.707778	11.774444	11.841111	11.907778	11.974444
38	11.375556	11.442222	11.508889	11.575556	11.642222	11.708889	11.775556	11.842222	11.908889	11.975556
39	11.376667	11.443333	11.510000	11.576667	11.643333	11.710000	11.776667	11.843333	11.910000	11.976667
40	11.377778	11.444444	11.511111	11.577778	11.644444	11.711111	11.777778	11.844444	11.911111	11.977778
41	11.378889	11.445556	11.512222	11.578889	11.645556	11.712222	11.778889	11.845556	11.912222	11.978889
42	11.380000	11.446667	11.513333	11.580000	11.646667	11.713333	11.780000	11.846667	11.913333	11.980000
43	11.381111	11.447778	11.514444	11.581111	11.647778	11.714444	11.781111	11.847778	11.914444	11.981111
44	11.382222	11.448889	11.515556	11.582222	11.648889	11.715556	11.782222	11.848889	11.915556	11.982222
45	11.383333	11.450000	11.516667	11.583333	11.650000	11.716667	11.783333	11.850000	11.916667	11.983333
46	11.384444	11.451111	11.517778	11.584444	11.651111	11.717778	11.784444	11.851111	11.917778	11.984444
47	11.385556	11.452222	11.518889	11.585556	11.652222	11.718889	11.785556	11.852222	11.918889	11.985556
48	11.386667	11.453333	11.520000	11.586667	11.653333	11.720000	11.786667	11.853333	11.920000	11.986667
49	11.387778	11.454444	11.521111	11.587778	11.654444	11.721111	11.787778	11.854444	11.921111	11.987778
50	11.388889	11.455556	11.522222	11.588889	11.655556	11.722222	11.788889	11.855556	11.922222	11.988889
51	11.390000	11.456667	11.523333	11.590000	11.656667	11.723333	11.790000	11.856667	11.923333	11.990000
52	11.391111	11.457778	11.524444	11.591111	11.657778	11.724444	11.791111	11.857778	11.924444	11.991111
53	11.392222	11.458889	11.525556	11.592222	11.658889	11.725556	11.792222	11.858889	11.925556	11.992222
54	11.393333	11.460000	11.526667	11.593333	11.660000	11.726667	11.793333	11.860000	11.926667	11.993333
55	11.394444	11.461111	11.527778	11.594444	11.661111	11.727778	11.794444	11.861111	11.927778	11.994444
56	11.395556	11.462222	11.528889	11.595556	11.662222	11.728889	11.795556	11.862222	11.928889	11.995556
57	11.396667	11.463333	11.530000	11.596667	11.663333	11.730000	11.796667	11.863333	11.930000	11.996667
58	11.397778	11.464444	11.531111	11.597778	11.664444	11.731111	11.797778	11.864444	11.931111	11.997778
59	11.398889	11.465556	11.532222	11.598889	11.665556	11.732222	11.798889	11.865556	11.932222	11.998889

2 – Minutes et secondes en heures décimales (temps en temps)

2 – Minutes et secondes en heures décimales (temps en temps)

secondes	minutes									
	0	1	2	3	4	5	6	7	8	9
0	0.000000	0.016667	0.033333	0.050000	0.066667	0.083333	0.100000	0.116667	0.133333	0.150000
1	0.000278	0.016944	0.033611	0.050278	0.066944	0.083611	0.100278	0.116944	0.133611	0.150278
2	0.000556	0.017222	0.033889	0.050556	0.067222	0.083889	0.100556	0.117222	0.133889	0.150556
3	0.000833	0.017500	0.034167	0.050833	0.067500	0.084167	0.100833	0.117500	0.134167	0.150833
4	0.001111	0.017778	0.034444	0.051111	0.067778	0.084444	0.101111	0.117778	0.134444	0.151111
5	0.001389	0.018056	0.034722	0.051389	0.068056	0.084722	0.101389	0.118056	0.134722	0.151389
6	0.001667	0.018333	0.035000	0.051667	0.068333	0.085000	0.101667	0.118333	0.135000	0.151667
7	0.001944	0.018611	0.035278	0.051944	0.068611	0.085278	0.101944	0.118611	0.135278	0.151944
8	0.002222	0.018889	0.035556	0.052222	0.068889	0.085556	0.102222	0.118889	0.135556	0.152222
9	0.002500	0.019167	0.035833	0.052500	0.069167	0.085833	0.102500	0.119167	0.135833	0.152500
10	0.002778	0.019444	0.036111	0.052778	0.069444	0.086111	0.102778	0.119444	0.136111	0.152778
11	0.003056	0.019722	0.036389	0.053056	0.069722	0.086389	0.103056	0.119722	0.136389	0.153056
12	0.003333	0.020000	0.036667	0.053333	0.070000	0.086667	0.103333	0.120000	0.136667	0.153333
13	0.003611	0.020278	0.036944	0.053611	0.070278	0.086944	0.103611	0.120278	0.136944	0.153611
14	0.003889	0.020556	0.037222	0.053889	0.070556	0.087222	0.103889	0.120556	0.137222	0.153889
15	0.004167	0.020833	0.037500	0.054167	0.070833	0.087500	0.104167	0.120833	0.137500	0.154167
16	0.004444	0.021111	0.037778	0.054444	0.071111	0.087778	0.104444	0.121111	0.137778	0.154444
17	0.004722	0.021389	0.038056	0.054722	0.071389	0.088056	0.104722	0.121389	0.138056	0.154722
18	0.005000	0.021667	0.038333	0.055000	0.071667	0.088333	0.105000	0.121667	0.138333	0.155000
19	0.005278	0.021944	0.038611	0.055278	0.071944	0.088611	0.105278	0.121944	0.138611	0.155278
20	0.005556	0.022222	0.038889	0.055556	0.072222	0.088889	0.105556	0.122222	0.138889	0.155556
21	0.005833	0.022500	0.039167	0.055833	0.072500	0.089167	0.105833	0.122500	0.139167	0.155833
22	0.006111	0.022778	0.039444	0.056111	0.072778	0.089444	0.106111	0.122778	0.139444	0.156111
23	0.006389	0.023056	0.039722	0.056389	0.073056	0.089722	0.106389	0.123056	0.139722	0.156389
24	0.006667	0.023333	0.040000	0.056667	0.073333	0.090000	0.106667	0.123333	0.140000	0.156667
25	0.006944	0.023611	0.040278	0.056944	0.073611	0.090278	0.106944	0.123611	0.140278	0.156944
26	0.007222	0.023889	0.040556	0.057222	0.073889	0.090556	0.107222	0.123889	0.140556	0.157222
27	0.007500	0.024167	0.040833	0.057500	0.074167	0.090833	0.107500	0.124167	0.140833	0.157500
28	0.007778	0.024444	0.041111	0.057778	0.074444	0.091111	0.107778	0.124444	0.141111	0.157778
29	0.008056	0.024722	0.041389	0.058056	0.074722	0.091389	0.108056	0.124722	0.141389	0.158056
30	0.008333	0.025000	0.041667	0.058333	0.075000	0.091667	0.108333	0.125000	0.141667	0.158333
31	0.008611	0.025278	0.041944	0.058611	0.075278	0.091944	0.108611	0.125278	0.141944	0.158611
32	0.008889	0.025556	0.042222	0.058889	0.075556	0.092222	0.108889	0.125556	0.142222	0.158889
33	0.009167	0.025833	0.042500	0.059167	0.075833	0.092500	0.109167	0.125833	0.142500	0.159167
34	0.009444	0.026111	0.042778	0.059444	0.076111	0.092778	0.109444	0.126111	0.142778	0.159444
35	0.009722	0.026389	0.043056	0.059722	0.076389	0.093056	0.109722	0.126389	0.143056	0.159722
36	0.010000	0.026667	0.043333	0.060000	0.076667	0.093333	0.110000	0.126667	0.143333	0.160000
37	0.010278	0.026944	0.043611	0.060278	0.076944	0.093611	0.110278	0.126944	0.143611	0.160278
38	0.010556	0.027222	0.043889	0.060556	0.077222	0.093889	0.110556	0.127222	0.143889	0.160556
39	0.010833	0.027500	0.044167	0.060833	0.077500	0.094167	0.110833	0.127500	0.144167	0.160833
40	0.011111	0.027778	0.044444	0.061111	0.077778	0.094444	0.111111	0.127778	0.144444	0.161111
41	0.011389	0.028056	0.044722	0.061389	0.078056	0.094722	0.111389	0.128056	0.144722	0.161389
42	0.011667	0.028333	0.045000	0.061667	0.078333	0.095000	0.111667	0.128333	0.145000	0.161667
43	0.011944	0.028611	0.045278	0.061944	0.078611	0.095278	0.111944	0.128611	0.145278	0.161944
44	0.012222	0.028889	0.045556	0.062222	0.078889	0.095556	0.112222	0.128889	0.145556	0.162222
45	0.012500	0.029167	0.045833	0.062500	0.079167	0.095833	0.112500	0.129167	0.145833	0.162500
46	0.012778	0.029444	0.046111	0.062778	0.079444	0.096111	0.112778	0.129444	0.146111	0.162778
47	0.013056	0.029722	0.046389	0.063056	0.079722	0.096389	0.113056	0.129722	0.146389	0.163056
48	0.013333	0.030000	0.046667	0.063333	0.080000	0.096667	0.113333	0.130000	0.146667	0.163333
49	0.013611	0.030278	0.046944	0.063611	0.080278	0.096944	0.113611	0.130278	0.146944	0.163611
50	0.013889	0.030556	0.047222	0.063889	0.080556	0.097222	0.113889	0.130556	0.147222	0.163889
51	0.014167	0.030833	0.047500	0.064167	0.080833	0.097500	0.114167	0.130833	0.147500	0.164167
52	0.014444	0.031111	0.047778	0.064444	0.081111	0.097778	0.114444	0.131111	0.147778	0.164444
53	0.014722	0.031389	0.048056	0.064722	0.081389	0.098056	0.114722	0.131389	0.148056	0.164722
54	0.015000	0.031667	0.048333	0.065000	0.081667	0.098333	0.115000	0.131667	0.148333	0.165000
55	0.015278	0.031944	0.048611	0.065278	0.081944	0.098611	0.115278	0.131944	0.148611	0.165278
56	0.015556	0.032222	0.048889	0.065556	0.082222	0.098889	0.115556	0.132222	0.148889	0.165556
57	0.015833	0.032500	0.049167	0.065833	0.082500	0.099167	0.115833	0.132500	0.149167	0.165833
58	0.016111	0.032778	0.049444	0.066111	0.082778	0.099444	0.116111	0.132778	0.149444	0.166111
59	0.016389	0.033056	0.049722	0.066389	0.083056	0.099722	0.116389	0.133056	0.149722	0.166389

2 – Minutes et secondes en heures décimales (temps en temps)

		minutes								
secondes	10	11	12	13	14	15	16	17	18	19
0	0.166667	0.183333	0.200000	0.216667	0.233333	0.250000	0.266667	0.283333	0.300000	0.316667
1	0.166944	0.183611	0.200278	0.216944	0.233611	0.250278	0.266944	0.283611	0.300278	0.316944
2	0.167222	0.183889	0.200556	0.217222	0.233889	0.250556	0.267222	0.283889	0.300556	0.317222
3	0.167500	0.184167	0.200833	0.217500	0.234167	0.250833	0.267500	0.284167	0.300833	0.317500
4	0.167778	0.184444	0.201111	0.217778	0.234444	0.251111	0.267778	0.284444	0.301111	0.317778
5	0.168056	0.184722	0.201389	0.218056	0.234722	0.251389	0.268056	0.284722	0.301389	0.318056
6	0.168333	0.185000	0.201667	0.218333	0.235000	0.251667	0.268333	0.285000	0.301667	0.318333
7	0.168611	0.185278	0.201944	0.218611	0.235278	0.251944	0.268611	0.285278	0.301944	0.318611
8	0.168889	0.185556	0.202222	0.218889	0.235556	0.252222	0.268889	0.285556	0.302222	0.318889
9	0.169167	0.185833	0.202500	0.219167	0.235833	0.252500	0.269167	0.285833	0.302500	0.319167
10	0.169444	0.186111	0.202778	0.219444	0.236111	0.252778	0.269444	0.286111	0.302778	0.319444
11	0.169722	0.186389	0.203056	0.219722	0.236389	0.253056	0.269722	0.286389	0.303056	0.319722
12	0.170000	0.186667	0.203333	0.220000	0.236667	0.253333	0.270000	0.286667	0.303333	0.320000
13	0.170278	0.186944	0.203611	0.220278	0.236944	0.253611	0.270278	0.286944	0.303611	0.320278
14	0.170556	0.187222	0.203889	0.220556	0.237222	0.253889	0.270556	0.287222	0.303889	0.320556
15	0.170833	0.187500	0.204167	0.220833	0.237500	0.254167	0.270833	0.287500	0.304167	0.320833
16	0.171111	0.187778	0.204444	0.221111	0.237778	0.254444	0.271111	0.287778	0.304444	0.321111
17	0.171389	0.188056	0.204722	0.221389	0.238056	0.254722	0.271389	0.288056	0.304722	0.321389
18	0.171667	0.188333	0.205000	0.221667	0.238333	0.255000	0.271667	0.288333	0.305000	0.321667
19	0.171944	0.188611	0.205278	0.221944	0.238611	0.255278	0.271944	0.288611	0.305278	0.321944
20	0.172222	0.188889	0.205556	0.222222	0.238889	0.255556	0.272222	0.288889	0.305556	0.322222
21	0.172500	0.189167	0.205833	0.222500	0.239167	0.255833	0.272500	0.289167	0.305833	0.322500
22	0.172778	0.189444	0.206111	0.222778	0.239444	0.256111	0.272778	0.289444	0.306111	0.322778
23	0.173056	0.189722	0.206389	0.223056	0.239722	0.256389	0.273056	0.289722	0.306389	0.323056
24	0.173333	0.190000	0.206667	0.223333	0.240000	0.256667	0.273333	0.290000	0.306667	0.323333
25	0.173611	0.190278	0.206944	0.223611	0.240278	0.256944	0.273611	0.290278	0.306944	0.323611
26	0.173889	0.190556	0.207222	0.223889	0.240556	0.257222	0.273889	0.290556	0.307222	0.323889
27	0.174167	0.190833	0.207500	0.224167	0.240833	0.257500	0.274167	0.290833	0.307500	0.324167
28	0.174444	0.191111	0.207778	0.224444	0.241111	0.257778	0.274444	0.291111	0.307778	0.324444
29	0.174722	0.191389	0.208056	0.224722	0.241389	0.258056	0.274722	0.291389	0.308056	0.324722
30	0.175000	0.191667	0.208333	0.225000	0.241667	0.258333	0.275000	0.291667	0.308333	0.325000
31	0.175278	0.191944	0.208611	0.225278	0.241944	0.258611	0.275278	0.291944	0.308611	0.325278
32	0.175556	0.192222	0.208889	0.225556	0.242222	0.258889	0.275556	0.292222	0.308889	0.325556
33	0.175833	0.192500	0.209167	0.225833	0.242500	0.259167	0.275833	0.292500	0.309167	0.325833
34	0.176111	0.192778	0.209444	0.226111	0.242778	0.259444	0.276111	0.292778	0.309444	0.326111
35	0.176389	0.193056	0.209722	0.226389	0.243056	0.259722	0.276389	0.293056	0.309722	0.326389
36	0.176667	0.193333	0.210000	0.226667	0.243333	0.260000	0.276667	0.293333	0.310000	0.326667
37	0.176944	0.193611	0.210278	0.226944	0.243611	0.260278	0.276944	0.293611	0.310278	0.326944
38	0.177222	0.193889	0.210556	0.227222	0.243889	0.260556	0.277222	0.293889	0.310556	0.327222
39	0.177500	0.194167	0.210833	0.227500	0.244167	0.260833	0.277500	0.294167	0.310833	0.327500
40	0.177778	0.194444	0.211111	0.227778	0.244444	0.261111	0.277778	0.294444	0.311111	0.327778
41	0.178056	0.194722	0.211389	0.228056	0.244722	0.261389	0.278056	0.294722	0.311389	0.328056
42	0.178333	0.195000	0.211667	0.228333	0.245000	0.261667	0.278333	0.295000	0.311667	0.328333
43	0.178611	0.195278	0.211944	0.228611	0.245278	0.261944	0.278611	0.295278	0.311944	0.328611
44	0.178889	0.195556	0.212222	0.228889	0.245556	0.262222	0.278889	0.295556	0.312222	0.328889
45	0.179167	0.195833	0.212500	0.229167	0.245833	0.262500	0.279167	0.295833	0.312500	0.329167
46	0.179444	0.196111	0.212778	0.229444	0.246111	0.262778	0.279444	0.296111	0.312778	0.329444
47	0.179722	0.196389	0.213056	0.229722	0.246389	0.263056	0.279722	0.296389	0.313056	0.329722
48	0.180000	0.196667	0.213333	0.230000	0.246667	0.263333	0.280000	0.296667	0.313333	0.330000
49	0.180278	0.196944	0.213611	0.230278	0.246944	0.263611	0.280278	0.296944	0.313611	0.330278
50	0.180556	0.197222	0.213889	0.230556	0.247222	0.263889	0.280556	0.297222	0.313889	0.330556
51	0.180833	0.197500	0.214167	0.230833	0.247500	0.264167	0.280833	0.297500	0.314167	0.330833
52	0.181111	0.197778	0.214444	0.231111	0.247778	0.264444	0.281111	0.297778	0.314444	0.331111
53	0.181389	0.198056	0.214722	0.231389	0.248056	0.264722	0.281389	0.298056	0.314722	0.331389
54	0.181667	0.198333	0.215000	0.231667	0.248333	0.265000	0.281667	0.298333	0.315000	0.331667
55	0.181944	0.198611	0.215278	0.231944	0.248611	0.265278	0.281944	0.298611	0.315278	0.331944
56	0.182222	0.198889	0.215556	0.232222	0.248889	0.265556	0.282222	0.298889	0.315556	0.332222
57	0.182500	0.199167	0.215833	0.232500	0.249167	0.265833	0.282500	0.299167	0.315833	0.332500
58	0.182778	0.199444	0.216111	0.232778	0.249444	0.266111	0.282778	0.299444	0.316111	0.332778
59	0.183056	0.199722	0.216389	0.233056	0.249722	0.266389	0.283056	0.299722	0.316389	0.333056

2 – Minutes et secondes en heures décimales (temps en temps)

		minutes								
secondes	20	21	22	23	24	25	26	27	28	29
0	0.333333	0.350000	0.366667	0.383333	0.400000	0.416667	0.433333	0.450000	0.466667	0.483333
1	0.333611	0.350278	0.366944	0.383611	0.400278	0.416944	0.433611	0.450278	0.466944	0.483611
2	0.333889	0.350556	0.367222	0.383889	0.400556	0.417222	0.433889	0.450556	0.467222	0.483889
3	0.334167	0.350833	0.367500	0.384167	0.400833	0.417500	0.434167	0.450833	0.467500	0.484167
4	0.334444	0.351111	0.367778	0.384444	0.401111	0.417778	0.434444	0.451111	0.467778	0.484444
5	0.334722	0.351389	0.368056	0.384722	0.401389	0.418056	0.434722	0.451389	0.468056	0.484722
6	0.335000	0.351667	0.368333	0.385000	0.401667	0.418333	0.435000	0.451667	0.468333	0.485000
7	0.335278	0.351944	0.368611	0.385278	0.401944	0.418611	0.435278	0.451944	0.468611	0.485278
8	0.335556	0.352222	0.368889	0.385556	0.402222	0.418889	0.435556	0.452222	0.468889	0.485556
9	0.335833	0.352500	0.369167	0.385833	0.402500	0.419167	0.435833	0.452500	0.469167	0.485833
10	0.336111	0.352778	0.369444	0.386111	0.402778	0.419444	0.436111	0.452778	0.469444	0.486111
11	0.336389	0.353056	0.369722	0.386389	0.403056	0.419722	0.436389	0.453056	0.469722	0.486389
12	0.336667	0.353333	0.370000	0.386667	0.403333	0.420000	0.436667	0.453333	0.470000	0.486667
13	0.336944	0.353611	0.370278	0.386944	0.403611	0.420278	0.436944	0.453611	0.470278	0.486944
14	0.337222	0.353889	0.370556	0.387222	0.403889	0.420556	0.437222	0.453889	0.470556	0.487222
15	0.337500	0.354167	0.370833	0.387500	0.404167	0.420833	0.437500	0.454167	0.470833	0.487500
16	0.337778	0.354444	0.371111	0.387778	0.404444	0.421111	0.437778	0.454444	0.471111	0.487778
17	0.338056	0.354722	0.371389	0.388056	0.404722	0.421389	0.438056	0.454722	0.471389	0.488056
18	0.338333	0.355000	0.371667	0.388333	0.405000	0.421667	0.438333	0.455000	0.471667	0.488333
19	0.338611	0.355278	0.371944	0.388611	0.405278	0.421944	0.438611	0.455278	0.471944	0.488611
20	0.338889	0.355556	0.372222	0.388889	0.405556	0.422222	0.438889	0.455556	0.472222	0.488889
21	0.339167	0.355833	0.372500	0.389167	0.405833	0.422500	0.439167	0.455833	0.472500	0.489167
22	0.339444	0.356111	0.372778	0.389444	0.406111	0.422778	0.439444	0.456111	0.472778	0.489444
23	0.339722	0.356389	0.373056	0.389722	0.406389	0.423056	0.439722	0.456389	0.473056	0.489722
24	0.340000	0.356667	0.373333	0.390000	0.406667	0.423333	0.440000	0.456667	0.473333	0.490000
25	0.340278	0.356944	0.373611	0.390278	0.406944	0.423611	0.440278	0.456944	0.473611	0.490278
26	0.340556	0.357222	0.373889	0.390556	0.407222	0.423889	0.440556	0.457222	0.473889	0.490556
27	0.340833	0.357500	0.374167	0.390833	0.407500	0.424167	0.440833	0.457500	0.474167	0.490833
28	0.341111	0.357778	0.374444	0.391111	0.407778	0.424444	0.441111	0.457778	0.474444	0.491111
29	0.341389	0.358056	0.374722	0.391389	0.408056	0.424722	0.441389	0.458056	0.474722	0.491389
30	0.341667	0.358333	0.375000	0.391667	0.408333	0.425000	0.441667	0.458333	0.475000	0.491667
31	0.341944	0.358611	0.375278	0.391944	0.408611	0.425278	0.441944	0.458611	0.475278	0.491944
32	0.342222	0.358889	0.375556	0.392222	0.408889	0.425556	0.442222	0.458889	0.475556	0.492222
33	0.342500	0.359167	0.375833	0.392500	0.409167	0.425833	0.442500	0.459167	0.475833	0.492500
34	0.342778	0.359444	0.376111	0.392778	0.409444	0.426111	0.442778	0.459444	0.476111	0.492778
35	0.343056	0.359722	0.376389	0.393056	0.409722	0.426389	0.443056	0.459722	0.476389	0.493056
36	0.343333	0.360000	0.376667	0.393333	0.410000	0.426667	0.443333	0.460000	0.476667	0.493333
37	0.343611	0.360278	0.376944	0.393611	0.410278	0.426944	0.443611	0.460278	0.476944	0.493611
38	0.343889	0.360556	0.377222	0.393889	0.410556	0.427222	0.443889	0.460556	0.477222	0.493889
39	0.344167	0.360833	0.377500	0.394167	0.410833	0.427500	0.444167	0.460833	0.477500	0.494167
40	0.344444	0.361111	0.377778	0.394444	0.411111	0.427778	0.444444	0.461111	0.477778	0.494444
41	0.344722	0.361389	0.378056	0.394722	0.411389	0.428056	0.444722	0.461389	0.478056	0.494722
42	0.345000	0.361667	0.378333	0.395000	0.411667	0.428333	0.445000	0.461667	0.478333	0.495000
43	0.345278	0.361944	0.378611	0.395278	0.411944	0.428611	0.445278	0.461944	0.478611	0.495278
44	0.345556	0.362222	0.378889	0.395556	0.412222	0.428889	0.445556	0.462222	0.478889	0.495556
45	0.345833	0.362500	0.379167	0.395833	0.412500	0.429167	0.445833	0.462500	0.479167	0.495833
46	0.346111	0.362778	0.379444	0.396111	0.412778	0.429444	0.446111	0.462778	0.479444	0.496111
47	0.346389	0.363056	0.379722	0.396389	0.413056	0.429722	0.446389	0.463056	0.479722	0.496389
48	0.346667	0.363333	0.380000	0.396667	0.413333	0.430000	0.446667	0.463333	0.480000	0.496667
49	0.346944	0.363611	0.380278	0.396944	0.413611	0.430278	0.446944	0.463611	0.480278	0.496944
50	0.347222	0.363889	0.380556	0.397222	0.413889	0.430556	0.447222	0.463889	0.480556	0.497222
51	0.347500	0.364167	0.380833	0.397500	0.414167	0.430833	0.447500	0.464167	0.480833	0.497500
52	0.347778	0.364444	0.381111	0.397778	0.414444	0.431111	0.447778	0.464444	0.481111	0.497778
53	0.348056	0.364722	0.381389	0.398056	0.414722	0.431389	0.448056	0.464722	0.481389	0.498056
54	0.348333	0.365000	0.381667	0.398333	0.415000	0.431667	0.448333	0.465000	0.481667	0.498333
55	0.348611	0.365278	0.381944	0.398611	0.415278	0.431944	0.448611	0.465278	0.481944	0.498611
56	0.348889	0.365556	0.382222	0.398889	0.415556	0.432222	0.448889	0.465556	0.482222	0.498889
57	0.349167	0.365833	0.382500	0.399167	0.415833	0.432500	0.449167	0.465833	0.482500	0.499167
58	0.349444	0.366111	0.382778	0.399444	0.416111	0.432778	0.449444	0.466111	0.482778	0.499444
59	0.349722	0.366389	0.383056	0.399722	0.416389	0.433056	0.449722	0.466389	0.483056	0.499722

2 – Minutes et secondes en heures décimales (temps en temps)

		minutes								
secondes	30	31	32	33	34	35	36	37	38	39
0	0.500000	0.516667	0.533333	0.550000	0.566667	0.583333	0.600000	0.616667	0.633333	0.650000
1	0.500278	0.516944	0.533611	0.550278	0.566944	0.583611	0.600278	0.616944	0.633611	0.650278
2	0.500556	0.517222	0.533889	0.550556	0.567222	0.583889	0.600556	0.617222	0.633889	0.650556
3	0.500833	0.517500	0.534167	0.550833	0.567500	0.584167	0.600833	0.617500	0.634167	0.650833
4	0.501111	0.517778	0.534444	0.551111	0.567778	0.584444	0.601111	0.617778	0.634444	0.651111
5	0.501389	0.518056	0.534722	0.551389	0.568056	0.584722	0.601389	0.618056	0.634722	0.651389
6	0.501667	0.518333	0.535000	0.551667	0.568333	0.585000	0.601667	0.618333	0.635000	0.651667
7	0.501944	0.518611	0.535278	0.551944	0.568611	0.585278	0.601944	0.618611	0.635278	0.651944
8	0.502222	0.518889	0.535556	0.552222	0.568889	0.585556	0.602222	0.618889	0.635556	0.652222
9	0.502500	0.519167	0.535833	0.552500	0.569167	0.585833	0.602500	0.619167	0.635833	0.652500
10	0.502778	0.519444	0.536111	0.552778	0.569444	0.586111	0.602778	0.619444	0.636111	0.652778
11	0.503056	0.519722	0.536389	0.553056	0.569722	0.586389	0.603056	0.619722	0.636389	0.653056
12	0.503333	0.520000	0.536667	0.553333	0.570000	0.586667	0.603333	0.620000	0.636667	0.653333
13	0.503611	0.520278	0.536944	0.553611	0.570278	0.586944	0.603611	0.620278	0.636944	0.653611
14	0.503889	0.520556	0.537222	0.553889	0.570556	0.587222	0.603889	0.620556	0.637222	0.653889
15	0.504167	0.520833	0.537500	0.554167	0.570833	0.587500	0.604167	0.620833	0.637500	0.654167
16	0.504444	0.521111	0.537778	0.554444	0.571111	0.587778	0.604444	0.621111	0.637778	0.654444
17	0.504722	0.521389	0.538056	0.554722	0.571389	0.588056	0.604722	0.621389	0.638056	0.654722
18	0.505000	0.521667	0.538333	0.555000	0.571667	0.588333	0.605000	0.621667	0.638333	0.655000
19	0.505278	0.521944	0.538611	0.555278	0.571944	0.588611	0.605278	0.621944	0.638611	0.655278
20	0.505556	0.522222	0.538889	0.555556	0.572222	0.588889	0.605556	0.622222	0.638889	0.655556
21	0.505833	0.522500	0.539167	0.555833	0.572500	0.589167	0.605833	0.622500	0.639167	0.655833
22	0.506111	0.522778	0.539444	0.556111	0.572778	0.589444	0.606111	0.622778	0.639444	0.656111
23	0.506389	0.523056	0.539722	0.556389	0.573056	0.589722	0.606389	0.623056	0.639722	0.656389
24	0.506667	0.523333	0.540000	0.556667	0.573333	0.590000	0.606667	0.623333	0.640000	0.656667
25	0.506944	0.523611	0.540278	0.556944	0.573611	0.590278	0.606944	0.623611	0.640278	0.656944
26	0.507222	0.523889	0.540556	0.557222	0.573889	0.590556	0.607222	0.623889	0.640556	0.657222
27	0.507500	0.524167	0.540833	0.557500	0.574167	0.590833	0.607500	0.624167	0.640833	0.657500
28	0.507778	0.524444	0.541111	0.557778	0.574444	0.591111	0.607778	0.624444	0.641111	0.657778
29	0.508056	0.524722	0.541389	0.558056	0.574722	0.591389	0.608056	0.624722	0.641389	0.658056
30	0.508333	0.525000	0.541667	0.558333	0.575000	0.591667	0.608333	0.625000	0.641667	0.658333
31	0.508611	0.525278	0.541944	0.558611	0.575278	0.591944	0.608611	0.625278	0.641944	0.658611
32	0.508889	0.525556	0.542222	0.558889	0.575556	0.592222	0.608889	0.625556	0.642222	0.658889
33	0.509167	0.525833	0.542500	0.559167	0.575833	0.592500	0.609167	0.625833	0.642500	0.659167
34	0.509444	0.526111	0.542778	0.559444	0.576111	0.592778	0.609444	0.626111	0.642778	0.659444
35	0.509722	0.526389	0.543056	0.559722	0.576389	0.593056	0.609722	0.626389	0.643056	0.659722
36	0.510000	0.526667	0.543333	0.560000	0.576667	0.593333	0.610000	0.626667	0.643333	0.660000
37	0.510278	0.526944	0.543611	0.560278	0.576944	0.593611	0.610278	0.626944	0.643611	0.660278
38	0.510556	0.527222	0.543889	0.560556	0.577222	0.593889	0.610556	0.627222	0.643889	0.660556
39	0.510833	0.527500	0.544167	0.560833	0.577500	0.594167	0.610833	0.627500	0.644167	0.660833
40	0.511111	0.527778	0.544444	0.561111	0.577778	0.594444	0.611111	0.627778	0.644444	0.661111
41	0.511389	0.528056	0.544722	0.561389	0.578056	0.594722	0.611389	0.628056	0.644722	0.661389
42	0.511667	0.528333	0.545000	0.561667	0.578333	0.595000	0.611667	0.628333	0.645000	0.661667
43	0.511944	0.528611	0.545278	0.561944	0.578611	0.595278	0.611944	0.628611	0.645278	0.661944
44	0.512222	0.528889	0.545556	0.562222	0.578889	0.595556	0.612222	0.628889	0.645556	0.662222
45	0.512500	0.529167	0.545833	0.562500	0.579167	0.595833	0.612500	0.629167	0.645833	0.662500
46	0.512778	0.529444	0.546111	0.562778	0.579444	0.596111	0.612778	0.629444	0.646111	0.662778
47	0.513056	0.529722	0.546389	0.563056	0.579722	0.596389	0.613056	0.629722	0.646389	0.663056
48	0.513333	0.530000	0.546667	0.563333	0.580000	0.596667	0.613333	0.630000	0.646667	0.663333
49	0.513611	0.530278	0.546944	0.563611	0.580278	0.596944	0.613611	0.630278	0.646944	0.663611
50	0.513889	0.530556	0.547222	0.563889	0.580556	0.597222	0.613889	0.630556	0.647222	0.663889
51	0.514167	0.530833	0.547500	0.564167	0.580833	0.597500	0.614167	0.630833	0.647500	0.664167
52	0.514444	0.531111	0.547778	0.564444	0.581111	0.597778	0.614444	0.631111	0.647778	0.664444
53	0.514722	0.531389	0.548056	0.564722	0.581389	0.598056	0.614722	0.631389	0.648056	0.664722
54	0.515000	0.531667	0.548333	0.565000	0.581667	0.598333	0.615000	0.631667	0.648333	0.665000
55	0.515278	0.531944	0.548611	0.565278	0.581944	0.598611	0.615278	0.631944	0.648611	0.665278
56	0.515556	0.532222	0.548889	0.565556	0.582222	0.598889	0.615556	0.632222	0.648889	0.665556
57	0.515833	0.532500	0.549167	0.565833	0.582500	0.599167	0.615833	0.632500	0.649167	0.665833
58	0.516111	0.532778	0.549444	0.566111	0.582778	0.599444	0.616111	0.632778	0.649444	0.666111
59	0.516389	0.533056	0.549722	0.566389	0.583056	0.599722	0.616389	0.633056	0.649722	0.666389

2 – Minutes et secondes en heures décimales (temps en temps)

		minutes								
secondes	40	41	42	43	44	45	46	47	48	49
0	0.666667	0.683333	0.700000	0.716667	0.733333	0.750000	0.766667	0.783333	0.800000	0.816667
1	0.666944	0.683611	0.700278	0.716944	0.733611	0.750278	0.766944	0.783611	0.800278	0.816944
2	0.667222	0.683889	0.700556	0.717222	0.733889	0.750556	0.767222	0.783889	0.800556	0.817222
3	0.667500	0.684167	0.700833	0.717500	0.734167	0.750833	0.767500	0.784167	0.800833	0.817500
4	0.667778	0.684444	0.701111	0.717778	0.734444	0.751111	0.767778	0.784444	0.801111	0.817778
5	0.668056	0.684722	0.701389	0.718056	0.734722	0.751389	0.768056	0.784722	0.801389	0.818056
6	0.668333	0.685000	0.701667	0.718333	0.735000	0.751667	0.768333	0.785000	0.801667	0.818333
7	0.668611	0.685278	0.701944	0.718611	0.735278	0.751944	0.768611	0.785278	0.801944	0.818611
8	0.668889	0.685556	0.702222	0.718889	0.735556	0.752222	0.768889	0.785556	0.802222	0.818889
9	0.669167	0.685833	0.702500	0.719167	0.735833	0.752500	0.769167	0.785833	0.802500	0.819167
10	0.669444	0.686111	0.702778	0.719444	0.736111	0.752778	0.769444	0.786111	0.802778	0.819444
11	0.669722	0.686389	0.703056	0.719722	0.736389	0.753056	0.769722	0.786389	0.803056	0.819722
12	0.670000	0.686667	0.703333	0.720000	0.736667	0.753333	0.770000	0.786667	0.803333	0.820000
13	0.670278	0.686944	0.703611	0.720278	0.736944	0.753611	0.770278	0.786944	0.803611	0.820278
14	0.670556	0.687222	0.703889	0.720556	0.737222	0.753889	0.770556	0.787222	0.803889	0.820556
15	0.670833	0.687500	0.704167	0.720833	0.737500	0.754167	0.770833	0.787500	0.804167	0.820833
16	0.671111	0.687778	0.704444	0.721111	0.737778	0.754444	0.771111	0.787778	0.804444	0.821111
17	0.671389	0.688056	0.704722	0.721389	0.738056	0.754722	0.771389	0.788056	0.804722	0.821389
18	0.671667	0.688333	0.705000	0.721667	0.738333	0.755000	0.771667	0.788333	0.805000	0.821667
19	0.671944	0.688611	0.705278	0.721944	0.738611	0.755278	0.771944	0.788611	0.805278	0.821944
20	0.672222	0.688889	0.705556	0.722222	0.738889	0.755556	0.772222	0.788889	0.805556	0.822222
21	0.672500	0.689167	0.705833	0.722500	0.739167	0.755833	0.772500	0.789167	0.805833	0.822500
22	0.672778	0.689444	0.706111	0.722778	0.739444	0.756111	0.772778	0.789444	0.806111	0.822778
23	0.673056	0.689722	0.706389	0.723056	0.739722	0.756389	0.773056	0.789722	0.806389	0.823056
24	0.673333	0.690000	0.706667	0.723333	0.740000	0.756667	0.773333	0.790000	0.806667	0.823333
25	0.673611	0.690278	0.706944	0.723611	0.740278	0.756944	0.773611	0.790278	0.806944	0.823611
26	0.673889	0.690556	0.707222	0.723889	0.740556	0.757222	0.773889	0.790556	0.807222	0.823889
27	0.674167	0.690833	0.707500	0.724167	0.740833	0.757500	0.774167	0.790833	0.807500	0.824167
28	0.674444	0.691111	0.707778	0.724444	0.741111	0.757778	0.774444	0.791111	0.807778	0.824444
29	0.674722	0.691389	0.708056	0.724722	0.741389	0.758056	0.774722	0.791389	0.808056	0.824722
30	0.675000	0.691667	0.708333	0.725000	0.741667	0.758333	0.775000	0.791667	0.808333	0.825000
31	0.675278	0.691944	0.708611	0.725278	0.741944	0.758611	0.775278	0.791944	0.808611	0.825278
32	0.675556	0.692222	0.708889	0.725556	0.742222	0.758889	0.775556	0.792222	0.808889	0.825556
33	0.675833	0.692500	0.709167	0.725833	0.742500	0.759167	0.775833	0.792500	0.809167	0.825833
34	0.676111	0.692778	0.709444	0.726111	0.742778	0.759444	0.776111	0.792778	0.809444	0.826111
35	0.676389	0.693056	0.709722	0.726389	0.743056	0.759722	0.776389	0.793056	0.809722	0.826389
36	0.676667	0.693333	0.710000	0.726667	0.743333	0.760000	0.776667	0.793333	0.810000	0.826667
37	0.676944	0.693611	0.710278	0.726944	0.743611	0.760278	0.776944	0.793611	0.810278	0.826944
38	0.677222	0.693889	0.710556	0.727222	0.743889	0.760556	0.777222	0.793889	0.810556	0.827222
39	0.677500	0.694167	0.710833	0.727500	0.744167	0.760833	0.777500	0.794167	0.810833	0.827500
40	0.677778	0.694444	0.711111	0.727778	0.744444	0.761111	0.777778	0.794444	0.811111	0.827778
41	0.678056	0.694722	0.711389	0.728056	0.744722	0.761389	0.778056	0.794722	0.811389	0.828056
42	0.678333	0.695000	0.711667	0.728333	0.745000	0.761667	0.778333	0.795000	0.811667	0.828333
43	0.678611	0.695278	0.711944	0.728611	0.745278	0.761944	0.778611	0.795278	0.811944	0.828611
44	0.678889	0.695556	0.712222	0.728889	0.745556	0.762222	0.778889	0.795556	0.812222	0.828889
45	0.679167	0.695833	0.712500	0.729167	0.745833	0.762500	0.779167	0.795833	0.812500	0.829167
46	0.679444	0.696111	0.712778	0.729444	0.746111	0.762778	0.779444	0.796111	0.812778	0.829444
47	0.679722	0.696389	0.713056	0.729722	0.746389	0.763056	0.779722	0.796389	0.813056	0.829722
48	0.680000	0.696667	0.713333	0.730000	0.746667	0.763333	0.780000	0.796667	0.813333	0.830000
49	0.680278	0.696944	0.713611	0.730278	0.746944	0.763611	0.780278	0.796944	0.813611	0.830278
50	0.680556	0.697222	0.713889	0.730556	0.747222	0.763889	0.780556	0.797222	0.813889	0.830556
51	0.680833	0.697500	0.714167	0.730833	0.747500	0.764167	0.780833	0.797500	0.814167	0.830833
52	0.681111	0.697778	0.714444	0.731111	0.747778	0.764444	0.781111	0.797778	0.814444	0.831111
53	0.681389	0.698056	0.714722	0.731389	0.748056	0.764722	0.781389	0.798056	0.814722	0.831389
54	0.681667	0.698333	0.715000	0.731667	0.748333	0.765000	0.781667	0.798333	0.815000	0.831667
55	0.681944	0.698611	0.715278	0.731944	0.748611	0.765278	0.781944	0.798611	0.815278	0.831944
56	0.682222	0.698889	0.715556	0.732222	0.748889	0.765556	0.782222	0.798889	0.815556	0.832222
57	0.682500	0.699167	0.715833	0.732500	0.749167	0.765833	0.782500	0.799167	0.815833	0.832500
58	0.682778	0.699444	0.716111	0.732778	0.749444	0.766111	0.782778	0.799444	0.816111	0.832778
59	0.683056	0.699722	0.716389	0.733056	0.749722	0.766389	0.783056	0.799722	0.816389	0.833056

2 – Minutes et secondes en heures décimales (temps en temps)

		minutes								
secondes	50	51	52	53	54	55	56	57	58	59
0	0.833333	0.850000	0.866667	0.883333	0.900000	0.916667	0.933333	0.950000	0.966667	0.983333
1	0.833611	0.850278	0.866944	0.883611	0.900278	0.916944	0.933611	0.950278	0.966944	0.983611
2	0.833889	0.850556	0.867222	0.883889	0.900556	0.917222	0.933889	0.950556	0.967222	0.983889
3	0.834167	0.850833	0.867500	0.884167	0.900833	0.917500	0.934167	0.950833	0.967500	0.984167
4	0.834444	0.851111	0.867778	0.884444	0.901111	0.917778	0.934444	0.951111	0.967778	0.984444
5	0.834722	0.851389	0.868056	0.884722	0.901389	0.918056	0.934722	0.951389	0.968056	0.984722
6	0.835000	0.851667	0.868333	0.885000	0.901667	0.918333	0.935000	0.951667	0.968333	0.985000
7	0.835278	0.851944	0.868611	0.885278	0.901944	0.918611	0.935278	0.951944	0.968611	0.985278
8	0.835556	0.852222	0.868889	0.885556	0.902222	0.918889	0.935556	0.952222	0.968889	0.985556
9	0.835833	0.852500	0.869167	0.885833	0.902500	0.919167	0.935833	0.952500	0.969167	0.985833
10	0.836111	0.852778	0.869444	0.886111	0.902778	0.919444	0.936111	0.952778	0.969444	0.986111
11	0.836389	0.853056	0.869722	0.886389	0.903056	0.919722	0.936389	0.953056	0.969722	0.986389
12	0.836667	0.853333	0.870000	0.886667	0.903333	0.920000	0.936667	0.953333	0.970000	0.986667
13	0.836944	0.853611	0.870278	0.886944	0.903611	0.920278	0.936944	0.953611	0.970278	0.986944
14	0.837222	0.853889	0.870556	0.887222	0.903889	0.920556	0.937222	0.953889	0.970556	0.987222
15	0.837500	0.854167	0.870833	0.887500	0.904167	0.920833	0.937500	0.954167	0.970833	0.987500
16	0.837778	0.854444	0.871111	0.887778	0.904444	0.921111	0.937778	0.954444	0.971111	0.987778
17	0.838056	0.854722	0.871389	0.888056	0.904722	0.921389	0.938056	0.954722	0.971389	0.988056
18	0.838333	0.855000	0.871667	0.888333	0.905000	0.921667	0.938333	0.955000	0.971667	0.988333
19	0.838611	0.855278	0.871944	0.888611	0.905278	0.921944	0.938611	0.955278	0.971944	0.988611
20	0.838889	0.855556	0.872222	0.888889	0.905556	0.922222	0.938889	0.955556	0.972222	0.988889
21	0.839167	0.855833	0.872500	0.889167	0.905833	0.922500	0.939167	0.955833	0.972500	0.989167
22	0.839444	0.856111	0.872778	0.889444	0.906111	0.922778	0.939444	0.956111	0.972778	0.989444
23	0.839722	0.856389	0.873056	0.889722	0.906389	0.923056	0.939722	0.956389	0.973056	0.989722
24	0.840000	0.856667	0.873333	0.890000	0.906667	0.923333	0.940000	0.956667	0.973333	0.990000
25	0.840278	0.856944	0.873611	0.890278	0.906944	0.923611	0.940278	0.956944	0.973611	0.990278
26	0.840556	0.857222	0.873889	0.890556	0.907222	0.923889	0.940556	0.957222	0.973889	0.990556
27	0.840833	0.857500	0.874167	0.890833	0.907500	0.924167	0.940833	0.957500	0.974167	0.990833
28	0.841111	0.857778	0.874444	0.891111	0.907778	0.924444	0.941111	0.957778	0.974444	0.991111
29	0.841389	0.858056	0.874722	0.891389	0.908056	0.924722	0.941389	0.958056	0.974722	0.991389
30	0.841667	0.858333	0.875000	0.891667	0.908333	0.925000	0.941667	0.958333	0.975000	0.991667
31	0.841944	0.858611	0.875278	0.891944	0.908611	0.925278	0.941944	0.958611	0.975278	0.991944
32	0.842222	0.858889	0.875556	0.892222	0.908889	0.925556	0.942222	0.958889	0.975556	0.992222
33	0.842500	0.859167	0.875833	0.892500	0.909167	0.925833	0.942500	0.959167	0.975833	0.992500
34	0.842778	0.859444	0.876111	0.892778	0.909444	0.926111	0.942778	0.959444	0.976111	0.992778
35	0.843056	0.859722	0.876389	0.893056	0.909722	0.926389	0.943056	0.959722	0.976389	0.993056
36	0.843333	0.860000	0.876667	0.893333	0.910000	0.926667	0.943333	0.960000	0.976667	0.993333
37	0.843611	0.860278	0.876944	0.893611	0.910278	0.926944	0.943611	0.960278	0.976944	0.993611
38	0.843889	0.860556	0.877222	0.893889	0.910556	0.927222	0.943889	0.960556	0.977222	0.993889
39	0.844167	0.860833	0.877500	0.894167	0.910833	0.927500	0.944167	0.960833	0.977500	0.994167
40	0.844444	0.861111	0.877778	0.894444	0.911111	0.927778	0.944444	0.961111	0.977778	0.994444
41	0.844722	0.861389	0.878056	0.894722	0.911389	0.928056	0.944722	0.961389	0.978056	0.994722
42	0.845000	0.861667	0.878333	0.895000	0.911667	0.928333	0.945000	0.961667	0.978333	0.995000
43	0.845278	0.861944	0.878611	0.895278	0.911944	0.928611	0.945278	0.961944	0.978611	0.995278
44	0.845556	0.862222	0.878889	0.895556	0.912222	0.928889	0.945556	0.962222	0.978889	0.995556
45	0.845833	0.862500	0.879167	0.895833	0.912500	0.929167	0.945833	0.962500	0.979167	0.995833
46	0.846111	0.862778	0.879444	0.896111	0.912778	0.929444	0.946111	0.962778	0.979444	0.996111
47	0.846389	0.863056	0.879722	0.896389	0.913056	0.929722	0.946389	0.963056	0.979722	0.996389
48	0.846667	0.863333	0.880000	0.896667	0.913333	0.930000	0.946667	0.963333	0.980000	0.996667
49	0.846944	0.863611	0.880278	0.896944	0.913611	0.930278	0.946944	0.963611	0.980278	0.996944
50	0.847222	0.863889	0.880556	0.897222	0.913889	0.930556	0.947222	0.963889	0.980556	0.997222
51	0.847500	0.864167	0.880833	0.897500	0.914167	0.930833	0.947500	0.964167	0.980833	0.997500
52	0.847778	0.864444	0.881111	0.897778	0.914444	0.931111	0.947778	0.964444	0.981111	0.997778
53	0.848056	0.864722	0.881389	0.898056	0.914722	0.931389	0.948056	0.964722	0.981389	0.998056
54	0.848333	0.865000	0.881667	0.898333	0.915000	0.931667	0.948333	0.965000	0.981667	0.998333
55	0.848611	0.865278	0.881944	0.898611	0.915278	0.931944	0.948611	0.965278	0.981944	0.998611
56	0.848889	0.865556	0.882222	0.898889	0.915556	0.932222	0.948889	0.965556	0.982222	0.998889
57	0.849167	0.865833	0.882500	0.899167	0.915833	0.932500	0.949167	0.965833	0.982500	0.999167
58	0.849444	0.866111	0.882778	0.899444	0.916111	0.932778	0.949444	0.966111	0.982778	0.999444
59	0.849722	0.866389	0.883056	0.899722	0.916389	0.933056	0.949722	0.966389	0.983056	0.999722

3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)

3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)

minutes										
minutes	0	1	2	3	4	5	6	7	8	9
0.00	0.000000	0.016667	0.033333	0.050000	0.066667	0.083333	0.100000	0.116667	0.133333	0.150000
0.02	0.000333	0.017000	0.033667	0.050333	0.067000	0.083667	0.100333	0.117000	0.133667	0.150333
0.04	0.000667	0.017333	0.034000	0.050667	0.067333	0.084000	0.100667	0.117333	0.134000	0.150667
0.06	0.001000	0.017667	0.034333	0.051000	0.067667	0.084333	0.101000	0.117667	0.134333	0.151000
0.08	0.001333	0.018000	0.034667	0.051333	0.068000	0.084667	0.101333	0.118000	0.134667	0.151333
0.10	0.001667	0.018333	0.035000	0.051667	0.068333	0.085000	0.101667	0.118333	0.135000	0.151667
0.12	0.002000	0.018667	0.035333	0.052000	0.068667	0.085333	0.102000	0.118667	0.135333	0.152000
0.14	0.002333	0.019000	0.035667	0.052333	0.069000	0.085667	0.102333	0.119000	0.135667	0.152333
0.16	0.002667	0.019333	0.036000	0.052667	0.069333	0.086000	0.102667	0.119333	0.136000	0.152667
0.18	0.003000	0.019667	0.036333	0.053000	0.069667	0.086333	0.103000	0.119667	0.136333	0.153000
0.20	0.003333	0.020000	0.036667	0.053333	0.070000	0.086667	0.103333	0.120000	0.136667	0.153333
0.22	0.003667	0.020333	0.037000	0.053667	0.070333	0.087000	0.103667	0.120333	0.137000	0.153667
0.24	0.004000	0.020667	0.037333	0.054000	0.070667	0.087333	0.104000	0.120667	0.137333	0.154000
0.26	0.004333	0.021000	0.037667	0.054333	0.071000	0.087667	0.104333	0.121000	0.137667	0.154333
0.28	0.004667	0.021333	0.038000	0.054667	0.071333	0.088000	0.104667	0.121333	0.138000	0.154667
0.30	0.005000	0.021667	0.038333	0.055000	0.071667	0.088333	0.105000	0.121667	0.138333	0.155000
0.32	0.005333	0.022000	0.038667	0.055333	0.072000	0.088667	0.105333	0.122000	0.138667	0.155333
0.34	0.005667	0.022333	0.039000	0.055667	0.072333	0.089000	0.105667	0.122333	0.139000	0.155667
0.36	0.006000	0.022667	0.039333	0.056000	0.072667	0.089333	0.106000	0.122667	0.139333	0.156000
0.38	0.006333	0.023000	0.039667	0.056333	0.073000	0.089667	0.106333	0.123000	0.139667	0.156333
0.40	0.006667	0.023333	0.040000	0.056667	0.073333	0.090000	0.106667	0.123333	0.140000	0.156667
0.42	0.007000	0.023667	0.040333	0.057000	0.073667	0.090333	0.107000	0.123667	0.140333	0.157000
0.44	0.007333	0.024000	0.040667	0.057333	0.074000	0.090667	0.107333	0.124000	0.140667	0.157333
0.46	0.007667	0.024333	0.041000	0.057667	0.074333	0.091000	0.107667	0.124333	0.141000	0.157667
0.48	0.008000	0.024667	0.041333	0.058000	0.074667	0.091333	0.108000	0.124667	0.141333	0.158000
0.50	0.008333	0.025000	0.041667	0.058333	0.075000	0.091667	0.108333	0.125000	0.141667	0.158333
0.52	0.008667	0.025333	0.042000	0.058667	0.075333	0.092000	0.108667	0.125333	0.142000	0.158667
0.54	0.009000	0.025667	0.042333	0.059000	0.075667	0.092333	0.109000	0.125667	0.142333	0.159000
0.56	0.009333	0.026000	0.042667	0.059333	0.076000	0.092667	0.109333	0.126000	0.142667	0.159333
0.58	0.009667	0.026333	0.043000	0.059667	0.076333	0.093000	0.109667	0.126333	0.143000	0.159667
0.60	0.010000	0.026667	0.043333	0.060000	0.076667	0.093333	0.110000	0.126667	0.143333	0.160000
0.62	0.010333	0.027000	0.043667	0.060333	0.077000	0.093667	0.110333	0.127000	0.143667	0.160333
0.64	0.010667	0.027333	0.044000	0.060667	0.077333	0.094000	0.110667	0.127333	0.144000	0.160667
0.66	0.011000	0.027667	0.044333	0.061000	0.077667	0.094333	0.111000	0.127667	0.144333	0.161000
0.68	0.011333	0.028000	0.044667	0.061333	0.078000	0.094667	0.111333	0.128000	0.144667	0.161333
0.70	0.011667	0.028333	0.045000	0.061667	0.078333	0.095000	0.111667	0.128333	0.145000	0.161667
0.72	0.012000	0.028667	0.045333	0.062000	0.078667	0.095333	0.112000	0.128667	0.145333	0.162000
0.74	0.012333	0.029000	0.045667	0.062333	0.079000	0.095667	0.112333	0.129000	0.145667	0.162333
0.76	0.012667	0.029333	0.046000	0.062667	0.079333	0.096000	0.112667	0.129333	0.146000	0.162667
0.78	0.013000	0.029667	0.046333	0.063000	0.079667	0.096333	0.113000	0.129667	0.146333	0.163000
0.80	0.013333	0.030000	0.046667	0.063333	0.080000	0.096667	0.113333	0.130000	0.146667	0.163333
0.82	0.013667	0.030333	0.047000	0.063667	0.080333	0.097000	0.113667	0.130333	0.147000	0.163667
0.84	0.014000	0.030667	0.047333	0.064000	0.080667	0.097333	0.114000	0.130667	0.147333	0.164000
0.86	0.014333	0.031000	0.047667	0.064333	0.081000	0.097667	0.114333	0.131000	0.147667	0.164333
0.88	0.014667	0.031333	0.048000	0.064667	0.081333	0.098000	0.114667	0.131333	0.148000	0.164667
0.90	0.015000	0.031667	0.048333	0.065000	0.081667	0.098333	0.115000	0.131667	0.148333	0.165000
0.92	0.015333	0.032000	0.048667	0.065333	0.082000	0.098667	0.115333	0.132000	0.148667	0.165333
0.94	0.015667	0.032333	0.049000	0.065667	0.082333	0.099000	0.115667	0.132333	0.149000	0.165667
0.96	0.016000	0.032667	0.049333	0.066000	0.082667	0.099333	0.116000	0.132667	0.149333	0.166000
0.98	0.016333	0.033000	0.049667	0.066333	0.083000	0.099667	0.116333	0.133000	0.149667	0.166333

3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)

minutes										
minutes	10	11	12	13	14	15	16	17	18	19
0.00	0.166667	0.183333	0.200000	0.216667	0.233333	0.250000	0.266667	0.283333	0.300000	0.316667
0.02	0.167000	0.183667	0.200333	0.217000	0.233667	0.250333	0.267000	0.283667	0.300333	0.317000
0.04	0.167333	0.184000	0.200667	0.217333	0.234000	0.250667	0.267333	0.284000	0.300667	0.317333
0.06	0.167667	0.184333	0.201000	0.217667	0.234333	0.251000	0.267667	0.284333	0.301000	0.317667
0.08	0.168000	0.184667	0.201333	0.218000	0.234667	0.251333	0.268000	0.284667	0.301333	0.318000
0.10	0.168333	0.185000	0.201667	0.218333	0.235000	0.251667	0.268333	0.285000	0.301667	0.318333
0.12	0.168667	0.185333	0.202000	0.218667	0.235333	0.252000	0.268667	0.285333	0.302000	0.318667
0.14	0.169000	0.185667	0.202333	0.219000	0.235667	0.252333	0.269000	0.285667	0.302333	0.319000
0.16	0.169333	0.186000	0.202667	0.219333	0.236000	0.252667	0.269333	0.286000	0.302667	0.319333
0.18	0.169667	0.186333	0.203000	0.219667	0.236333	0.253000	0.269667	0.286333	0.303000	0.319667
0.20	0.170000	0.186667	0.203333	0.220000	0.236667	0.253333	0.270000	0.286667	0.303333	0.320000
0.22	0.170333	0.187000	0.203667	0.220333	0.237000	0.253667	0.270333	0.287000	0.303667	0.320333
0.24	0.170667	0.187333	0.204000	0.220667	0.237333	0.254000	0.270667	0.287333	0.304000	0.320667
0.26	0.171000	0.187667	0.204333	0.221000	0.237667	0.254333	0.271000	0.287667	0.304333	0.321000
0.28	0.171333	0.188000	0.204667	0.221333	0.238000	0.254667	0.271333	0.288000	0.304667	0.321333
0.30	0.171667	0.188333	0.205000	0.221667	0.238333	0.255000	0.271667	0.288333	0.305000	0.321667
0.32	0.172000	0.188667	0.205333	0.222000	0.238667	0.255333	0.272000	0.288667	0.305333	0.322000
0.34	0.172333	0.189000	0.205667	0.222333	0.239000	0.255667	0.272333	0.289000	0.305667	0.322333
0.36	0.172667	0.189333	0.206000	0.222667	0.239333	0.256000	0.272667	0.289333	0.306000	0.322667
0.38	0.173000	0.189667	0.206333	0.223000	0.239667	0.256333	0.273000	0.289667	0.306333	0.323000
0.40	0.173333	0.190000	0.206667	0.223333	0.240000	0.256667	0.273333	0.290000	0.306667	0.323333
0.42	0.173667	0.190333	0.207000	0.223667	0.240333	0.257000	0.273667	0.290333	0.307000	0.323667
0.44	0.174000	0.190667	0.207333	0.224000	0.240667	0.257333	0.274000	0.290667	0.307333	0.324000
0.46	0.174333	0.191000	0.207667	0.224333	0.241000	0.257667	0.274333	0.291000	0.307667	0.324333
0.48	0.174667	0.191333	0.208000	0.224667	0.241333	0.258000	0.274667	0.291333	0.308000	0.324667
0.50	0.175000	0.191667	0.208333	0.225000	0.241667	0.258333	0.275000	0.291667	0.308333	0.325000
0.52	0.175333	0.192000	0.208667	0.225333	0.242000	0.258667	0.275333	0.292000	0.308667	0.325333
0.54	0.175667	0.192333	0.209000	0.225667	0.242333	0.259000	0.275667	0.292333	0.309000	0.325667
0.56	0.176000	0.192667	0.209333	0.226000	0.242667	0.259333	0.276000	0.292667	0.309333	0.326000
0.58	0.176333	0.193000	0.209667	0.226333	0.243000	0.259667	0.276333	0.293000	0.309667	0.326333
0.60	0.176667	0.193333	0.210000	0.226667	0.243333	0.260000	0.276667	0.293333	0.310000	0.326667
0.62	0.177000	0.193667	0.210333	0.227000	0.243667	0.260333	0.277000	0.293667	0.310333	0.327000
0.64	0.177333	0.194000	0.210667	0.227333	0.244000	0.260667	0.277333	0.294000	0.310667	0.327333
0.66	0.177667	0.194333	0.211000	0.227667	0.244333	0.261000	0.277667	0.294333	0.311000	0.327667
0.68	0.178000	0.194667	0.211333	0.228000	0.244667	0.261333	0.278000	0.294667	0.311333	0.328000
0.70	0.178333	0.195000	0.211667	0.228333	0.245000	0.261667	0.278333	0.295000	0.311667	0.328333
0.72	0.178667	0.195333	0.212000	0.228667	0.245333	0.262000	0.278667	0.295333	0.312000	0.328667
0.74	0.179000	0.195667	0.212333	0.229000	0.245667	0.262333	0.279000	0.295667	0.312333	0.329000
0.76	0.179333	0.196000	0.212667	0.229333	0.246000	0.262667	0.279333	0.296000	0.312667	0.329333
0.78	0.179667	0.196333	0.213000	0.229667	0.246333	0.263000	0.279667	0.296333	0.313000	0.329667
0.80	0.180000	0.196667	0.213333	0.230000	0.246667	0.263333	0.280000	0.296667	0.313333	0.330000
0.82	0.180333	0.197000	0.213667	0.230333	0.247000	0.263667	0.280333	0.297000	0.313667	0.330333
0.84	0.180667	0.197333	0.214000	0.230667	0.247333	0.264000	0.280667	0.297333	0.314000	0.330667
0.86	0.181000	0.197667	0.214333	0.231000	0.247667	0.264333	0.281000	0.297667	0.314333	0.331000
0.88	0.181333	0.198000	0.214667	0.231333	0.248000	0.264667	0.281333	0.298000	0.314667	0.331333
0.90	0.181667	0.198333	0.215000	0.231667	0.248333	0.265000	0.281667	0.298333	0.315000	0.331667
0.92	0.182000	0.198667	0.215333	0.232000	0.248667	0.265333	0.282000	0.298667	0.315333	0.332000
0.94	0.182333	0.199000	0.215667	0.232333	0.249000	0.265667	0.282333	0.299000	0.315667	0.332333
0.96	0.182667	0.199333	0.216000	0.232667	0.249333	0.266000	0.282667	0.299333	0.316000	0.332667
0.98	0.183000	0.199667	0.216333	0.233000	0.249667	0.266333	0.283000	0.299667	0.316333	0.333000

3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)

minutes										
minutes	20	21	22	23	24	25	26	27	28	29
0.00	0.333333	0.350000	0.366667	0.383333	0.400000	0.416667	0.433333	0.450000	0.466667	0.483333
0.02	0.333667	0.350333	0.367000	0.383667	0.400333	0.417000	0.433667	0.450333	0.467000	0.483667
0.04	0.334000	0.350667	0.367333	0.384000	0.400667	0.417333	0.434000	0.450667	0.467333	0.484000
0.06	0.334333	0.351000	0.367667	0.384333	0.401000	0.417667	0.434333	0.451000	0.467667	0.484333
0.08	0.334667	0.351333	0.368000	0.384667	0.401333	0.418000	0.434667	0.451333	0.468000	0.484667
0.10	0.335000	0.351667	0.368333	0.385000	0.401667	0.418333	0.435000	0.451667	0.468333	0.485000
0.12	0.335333	0.352000	0.368667	0.385333	0.402000	0.418667	0.435333	0.452000	0.468667	0.485333
0.14	0.335667	0.352333	0.369000	0.385667	0.402333	0.419000	0.435667	0.452333	0.469000	0.485667
0.16	0.336000	0.352667	0.369333	0.386000	0.402667	0.419333	0.436000	0.452667	0.469333	0.486000
0.18	0.336333	0.353000	0.369667	0.386333	0.403000	0.419667	0.436333	0.453000	0.469667	0.486333
0.20	0.336667	0.353333	0.370000	0.386667	0.403333	0.420000	0.436667	0.453333	0.470000	0.486667
0.22	0.337000	0.353667	0.370333	0.387000	0.403667	0.420333	0.437000	0.453667	0.470333	0.487000
0.24	0.337333	0.354000	0.370667	0.387333	0.404000	0.420667	0.437333	0.454000	0.470667	0.487333
0.26	0.337667	0.354333	0.371000	0.387667	0.404333	0.421000	0.437667	0.454333	0.471000	0.487667
0.28	0.338000	0.354667	0.371333	0.388000	0.404667	0.421333	0.438000	0.454667	0.471333	0.488000
0.30	0.338333	0.355000	0.371667	0.388333	0.405000	0.421667	0.438333	0.455000	0.471667	0.488333
0.32	0.338667	0.355333	0.372000	0.388667	0.405333	0.422000	0.438667	0.455333	0.472000	0.488667
0.34	0.339000	0.355667	0.372333	0.389000	0.405667	0.422333	0.439000	0.455667	0.472333	0.489000
0.36	0.339333	0.356000	0.372667	0.389333	0.406000	0.422667	0.439333	0.456000	0.472667	0.489333
0.38	0.339667	0.356333	0.373000	0.389667	0.406333	0.423000	0.439667	0.456333	0.473000	0.489667
0.40	0.340000	0.356667	0.373333	0.390000	0.406667	0.423333	0.440000	0.456667	0.473333	0.490000
0.42	0.340333	0.357000	0.373667	0.390333	0.407000	0.423667	0.440333	0.457000	0.473667	0.490333
0.44	0.340667	0.357333	0.374000	0.390667	0.407333	0.424000	0.440667	0.457333	0.474000	0.490667
0.46	0.341000	0.357667	0.374333	0.391000	0.407667	0.424333	0.441000	0.457667	0.474333	0.491000
0.48	0.341333	0.358000	0.374667	0.391333	0.408000	0.424667	0.441333	0.458000	0.474667	0.491333
0.50	0.341667	0.358333	0.375000	0.391667	0.408333	0.425000	0.441667	0.458333	0.475000	0.491667
0.52	0.342000	0.358667	0.375333	0.392000	0.408667	0.425333	0.442000	0.458667	0.475333	0.492000
0.54	0.342333	0.359000	0.375667	0.392333	0.409000	0.425667	0.442333	0.459000	0.475667	0.492333
0.56	0.342667	0.359333	0.376000	0.392667	0.409333	0.426000	0.442667	0.459333	0.476000	0.492667
0.58	0.343000	0.359667	0.376333	0.393000	0.409667	0.426333	0.443000	0.459667	0.476333	0.493000
0.60	0.343333	0.360000	0.376667	0.393333	0.410000	0.426667	0.443333	0.460000	0.476667	0.493333
0.62	0.343667	0.360333	0.377000	0.393667	0.410333	0.427000	0.443667	0.460333	0.477000	0.493667
0.64	0.344000	0.360667	0.377333	0.394000	0.410667	0.427333	0.444000	0.460667	0.477333	0.494000
0.66	0.344333	0.361000	0.377667	0.394333	0.411000	0.427667	0.444333	0.461000	0.477667	0.494333
0.68	0.344667	0.361333	0.378000	0.394667	0.411333	0.428000	0.444667	0.461333	0.478000	0.494667
0.70	0.345000	0.361667	0.378333	0.395000	0.411667	0.428333	0.445000	0.461667	0.478333	0.495000
0.72	0.345333	0.362000	0.378667	0.395333	0.412000	0.428667	0.445333	0.462000	0.478667	0.495333
0.74	0.345667	0.362333	0.379000	0.395667	0.412333	0.429000	0.445667	0.462333	0.479000	0.495667
0.76	0.346000	0.362667	0.379333	0.396000	0.412667	0.429333	0.446000	0.462667	0.479333	0.496000
0.78	0.346333	0.363000	0.379667	0.396333	0.413000	0.429667	0.446333	0.463000	0.479667	0.496333
0.80	0.346667	0.363333	0.380000	0.396667	0.413333	0.430000	0.446667	0.463333	0.480000	0.496667
0.82	0.347000	0.363667	0.380333	0.397000	0.413667	0.430333	0.447000	0.463667	0.480333	0.497000
0.84	0.347333	0.364000	0.380667	0.397333	0.414000	0.430667	0.447333	0.464000	0.480667	0.497333
0.86	0.347667	0.364333	0.381000	0.397667	0.414333	0.431000	0.447667	0.464333	0.481000	0.497667
0.88	0.348000	0.364667	0.381333	0.398000	0.414667	0.431333	0.448000	0.464667	0.481333	0.498000
0.90	0.348333	0.365000	0.381667	0.398333	0.415000	0.431667	0.448333	0.465000	0.481667	0.498333
0.92	0.348667	0.365333	0.382000	0.398667	0.415333	0.432000	0.448667	0.465333	0.482000	0.498667
0.94	0.349000	0.365667	0.382333	0.399000	0.415667	0.432333	0.449000	0.465667	0.482333	0.499000
0.96	0.349333	0.366000	0.382667	0.399333	0.416000	0.432667	0.449333	0.466000	0.482667	0.499333
0.98	0.349667	0.366333	0.383000	0.399667	0.416333	0.433000	0.449667	0.466333	0.483000	0.499667

3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)

minutes										
minutes	30	31	32	33	34	35	36	37	38	39
0.00	0.500000	0.516667	0.533333	0.550000	0.566667	0.583333	0.600000	0.616667	0.633333	0.650000
0.02	0.500333	0.517000	0.533667	0.550333	0.567000	0.583667	0.600333	0.617000	0.633667	0.650333
0.04	0.500667	0.517333	0.534000	0.550667	0.567333	0.584000	0.600667	0.617333	0.634000	0.650667
0.06	0.501000	0.517667	0.534333	0.551000	0.567667	0.584333	0.601000	0.617667	0.634333	0.651000
0.08	0.501333	0.518000	0.534667	0.551333	0.568000	0.584667	0.601333	0.618000	0.634667	0.651333
0.10	0.501667	0.518333	0.535000	0.551667	0.568333	0.585000	0.601667	0.618333	0.635000	0.651667
0.12	0.502000	0.518667	0.535333	0.552000	0.568667	0.585333	0.602000	0.618667	0.635333	0.652000
0.14	0.502333	0.519000	0.535667	0.552333	0.569000	0.585667	0.602333	0.619000	0.635667	0.652333
0.16	0.502667	0.519333	0.536000	0.552667	0.569333	0.586000	0.602667	0.619333	0.636000	0.652667
0.18	0.503000	0.519667	0.536333	0.553000	0.569667	0.586333	0.603000	0.619667	0.636333	0.653000
0.20	0.503333	0.520000	0.536667	0.553333	0.570000	0.586667	0.603333	0.620000	0.636667	0.653333
0.22	0.503667	0.520333	0.537000	0.553667	0.570333	0.587000	0.603667	0.620333	0.637000	0.653667
0.24	0.504000	0.520667	0.537333	0.554000	0.570667	0.587333	0.604000	0.620667	0.637333	0.654000
0.26	0.504333	0.521000	0.537667	0.554333	0.571000	0.587667	0.604333	0.621000	0.637667	0.654333
0.28	0.504667	0.521333	0.538000	0.554667	0.571333	0.588000	0.604667	0.621333	0.638000	0.654667
0.30	0.505000	0.521667	0.538333	0.555000	0.571667	0.588333	0.605000	0.621667	0.638333	0.655000
0.32	0.505333	0.522000	0.538667	0.555333	0.572000	0.588667	0.605333	0.622000	0.638667	0.655333
0.34	0.505667	0.522333	0.539000	0.555667	0.572333	0.589000	0.605667	0.622333	0.639000	0.655667
0.36	0.506000	0.522667	0.539333	0.556000	0.572667	0.589333	0.606000	0.622667	0.639333	0.656000
0.38	0.506333	0.523000	0.539667	0.556333	0.573000	0.589667	0.606333	0.623000	0.639667	0.656333
0.40	0.506667	0.523333	0.540000	0.556667	0.573333	0.590000	0.606667	0.623333	0.640000	0.656667
0.42	0.507000	0.523667	0.540333	0.557000	0.573667	0.590333	0.607000	0.623667	0.640333	0.657000
0.44	0.507333	0.524000	0.540667	0.557333	0.574000	0.590667	0.607333	0.624000	0.640667	0.657333
0.46	0.507667	0.524333	0.541000	0.557667	0.574333	0.591000	0.607667	0.624333	0.641000	0.657667
0.48	0.508000	0.524667	0.541333	0.558000	0.574667	0.591333	0.608000	0.624667	0.641333	0.658000
0.50	0.508333	0.525000	0.541667	0.558333	0.575000	0.591667	0.608333	0.625000	0.641667	0.658333
0.52	0.508667	0.525333	0.542000	0.558667	0.575333	0.592000	0.608667	0.625333	0.642000	0.658667
0.54	0.509000	0.525667	0.542333	0.559000	0.575667	0.592333	0.609000	0.625667	0.642333	0.659000
0.56	0.509333	0.526000	0.542667	0.559333	0.576000	0.592667	0.609333	0.626000	0.642667	0.659333
0.58	0.509667	0.526333	0.543000	0.559667	0.576333	0.593000	0.609667	0.626333	0.643000	0.659667
0.60	0.510000	0.526667	0.543333	0.560000	0.576667	0.593333	0.610000	0.626667	0.643333	0.660000
0.62	0.510333	0.527000	0.543667	0.560333	0.577000	0.593667	0.610333	0.627000	0.643667	0.660333
0.64	0.510667	0.527333	0.544000	0.560667	0.577333	0.594000	0.610667	0.627333	0.644000	0.660667
0.66	0.511000	0.527667	0.544333	0.561000	0.577667	0.594333	0.611000	0.627667	0.644333	0.661000
0.68	0.511333	0.528000	0.544667	0.561333	0.578000	0.594667	0.611333	0.628000	0.644667	0.661333
0.70	0.511667	0.528333	0.545000	0.561667	0.578333	0.595000	0.611667	0.628333	0.645000	0.661667
0.72	0.512000	0.528667	0.545333	0.562000	0.578667	0.595333	0.612000	0.628667	0.645333	0.662000
0.74	0.512333	0.529000	0.545667	0.562333	0.579000	0.595667	0.612333	0.629000	0.645667	0.662333
0.76	0.512667	0.529333	0.546000	0.562667	0.579333	0.596000	0.612667	0.629333	0.646000	0.662667
0.78	0.513000	0.529667	0.546333	0.563000	0.579667	0.596333	0.613000	0.629667	0.646333	0.663000
0.80	0.513333	0.530000	0.546667	0.563333	0.580000	0.596667	0.613333	0.630000	0.646667	0.663333
0.82	0.513667	0.530333	0.547000	0.563667	0.580333	0.597000	0.613667	0.630333	0.647000	0.663667
0.84	0.514000	0.530667	0.547333	0.564000	0.580667	0.597333	0.614000	0.630667	0.647333	0.664000
0.86	0.514333	0.531000	0.547667	0.564333	0.581000	0.597667	0.614333	0.631000	0.647667	0.664333
0.88	0.514667	0.531333	0.548000	0.564667	0.581333	0.598000	0.614667	0.631333	0.648000	0.664667
0.90	0.515000	0.531667	0.548333	0.565000	0.581667	0.598333	0.615000	0.631667	0.648333	0.665000
0.92	0.515333	0.532000	0.548667	0.565333	0.582000	0.598667	0.615333	0.632000	0.648667	0.665333
0.94	0.515667	0.532333	0.549000	0.565667	0.582333	0.599000	0.615667	0.632333	0.649000	0.665667
0.96	0.516000	0.532667	0.549333	0.566000	0.582667	0.599333	0.616000	0.632667	0.649333	0.666000
0.98	0.516333	0.533000	0.549667	0.566333	0.583000	0.599667	0.616333	0.633000	0.649667	0.666333

3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)

minutes										
minutes	40	41	42	43	44	45	46	47	48	49
0.00	0.666667	0.683333	0.700000	0.716667	0.733333	0.750000	0.766667	0.783333	0.800000	0.816667
0.02	0.667000	0.683667	0.700333	0.717000	0.733667	0.750333	0.767000	0.783667	0.800333	0.817000
0.04	0.667333	0.684000	0.700667	0.717333	0.734000	0.750667	0.767333	0.784000	0.800667	0.817333
0.06	0.667667	0.684333	0.701000	0.717667	0.734333	0.751000	0.767667	0.784333	0.801000	0.817667
0.08	0.668000	0.684667	0.701333	0.718000	0.734667	0.751333	0.768000	0.784667	0.801333	0.818000
0.10	0.668333	0.685000	0.701667	0.718333	0.735000	0.751667	0.768333	0.785000	0.801667	0.818333
0.12	0.668667	0.685333	0.702000	0.718667	0.735333	0.752000	0.768667	0.785333	0.802000	0.818667
0.14	0.669000	0.685667	0.702333	0.719000	0.735667	0.752333	0.769000	0.785667	0.802333	0.819000
0.16	0.669333	0.686000	0.702667	0.719333	0.736000	0.752667	0.769333	0.786000	0.802667	0.819333
0.18	0.669667	0.686333	0.703000	0.719667	0.736333	0.753000	0.769667	0.786333	0.803000	0.819667
0.20	0.670000	0.686667	0.703333	0.720000	0.736667	0.753333	0.770000	0.786667	0.803333	0.820000
0.22	0.670333	0.687000	0.703667	0.720333	0.737000	0.753667	0.770333	0.787000	0.803667	0.820333
0.24	0.670667	0.687333	0.704000	0.720667	0.737333	0.754000	0.770667	0.787333	0.804000	0.820667
0.26	0.671000	0.687667	0.704333	0.721000	0.737667	0.754333	0.771000	0.787667	0.804333	0.821000
0.28	0.671333	0.688000	0.704667	0.721333	0.738000	0.754667	0.771333	0.788000	0.804667	0.821333
0.30	0.671667	0.688333	0.705000	0.721667	0.738333	0.755000	0.771667	0.788333	0.805000	0.821667
0.32	0.672000	0.688667	0.705333	0.722000	0.738667	0.755333	0.772000	0.788667	0.805333	0.822000
0.34	0.672333	0.689000	0.705667	0.722333	0.739000	0.755667	0.772333	0.789000	0.805667	0.822333
0.36	0.672667	0.689333	0.706000	0.722667	0.739333	0.756000	0.772667	0.789333	0.806000	0.822667
0.38	0.673000	0.689667	0.706333	0.723000	0.739667	0.756333	0.773000	0.789667	0.806333	0.823000
0.40	0.673333	0.690000	0.706667	0.723333	0.740000	0.756667	0.773333	0.790000	0.806667	0.823333
0.42	0.673667	0.690333	0.707000	0.723667	0.740333	0.757000	0.773667	0.790333	0.807000	0.823667
0.44	0.674000	0.690667	0.707333	0.724000	0.740667	0.757333	0.774000	0.790667	0.807333	0.824000
0.46	0.674333	0.691000	0.707667	0.724333	0.741000	0.757667	0.774333	0.791000	0.807667	0.824333
0.48	0.674667	0.691333	0.708000	0.724667	0.741333	0.758000	0.774667	0.791333	0.808000	0.824667
0.50	0.675000	0.691667	0.708333	0.725000	0.741667	0.758333	0.775000	0.791667	0.808333	0.825000
0.52	0.675333	0.692000	0.708667	0.725333	0.742000	0.758667	0.775333	0.792000	0.808667	0.825333
0.54	0.675667	0.692333	0.709000	0.725667	0.742333	0.759000	0.775667	0.792333	0.809000	0.825667
0.56	0.676000	0.692667	0.709333	0.726000	0.742667	0.759333	0.776000	0.792667	0.809333	0.826000
0.58	0.676333	0.693000	0.709667	0.726333	0.743000	0.759667	0.776333	0.793000	0.809667	0.826333
0.60	0.676667	0.693333	0.710000	0.726667	0.743333	0.760000	0.776667	0.793333	0.810000	0.826667
0.62	0.677000	0.693667	0.710333	0.727000	0.743667	0.760333	0.777000	0.793667	0.810333	0.827000
0.64	0.677333	0.694000	0.710667	0.727333	0.744000	0.760667	0.777333	0.794000	0.810667	0.827333
0.66	0.677667	0.694333	0.711000	0.727667	0.744333	0.761000	0.777667	0.794333	0.811000	0.827667
0.68	0.678000	0.694667	0.711333	0.728000	0.744667	0.761333	0.778000	0.794667	0.811333	0.828000
0.70	0.678333	0.695000	0.711667	0.728333	0.745000	0.761667	0.778333	0.795000	0.811667	0.828333
0.72	0.678667	0.695333	0.712000	0.728667	0.745333	0.762000	0.778667	0.795333	0.812000	0.828667
0.74	0.679000	0.695667	0.712333	0.729000	0.745667	0.762333	0.779000	0.795667	0.812333	0.829000
0.76	0.679333	0.696000	0.712667	0.729333	0.746000	0.762667	0.779333	0.796000	0.812667	0.829333
0.78	0.679667	0.696333	0.713000	0.729667	0.746333	0.763000	0.779667	0.796333	0.813000	0.829667
0.80	0.680000	0.696667	0.713333	0.730000	0.746667	0.763333	0.780000	0.796667	0.813333	0.830000
0.82	0.680333	0.697000	0.713667	0.730333	0.747000	0.763667	0.780333	0.797000	0.813667	0.830333
0.84	0.680667	0.697333	0.714000	0.730667	0.747333	0.764000	0.780667	0.797333	0.814000	0.830667
0.86	0.681000	0.697667	0.714333	0.731000	0.747667	0.764333	0.781000	0.797667	0.814333	0.831000
0.88	0.681333	0.698000	0.714667	0.731333	0.748000	0.764667	0.781333	0.798000	0.814667	0.831333
0.90	0.681667	0.698333	0.715000	0.731667	0.748333	0.765000	0.781667	0.798333	0.815000	0.831667
0.92	0.682000	0.698667	0.715333	0.732000	0.748667	0.765333	0.782000	0.798667	0.815333	0.832000
0.94	0.682333	0.699000	0.715667	0.732333	0.749000	0.765667	0.782333	0.799000	0.815667	0.832333
0.96	0.682667	0.699333	0.716000	0.732667	0.749333	0.766000	0.782667	0.799333	0.816000	0.832667
0.98	0.683000	0.699667	0.716333	0.733000	0.749667	0.766333	0.783000	0.799667	0.816333	0.833000

3 – Minutes et dixièmes de minutes en degrés décimaux (angles en angles)

minutes										
minutes	50	51	52	53	54	55	56	57	58	59
0.00	0.833333	0.850000	0.866667	0.883333	0.900000	0.916667	0.933333	0.950000	0.966667	0.983333
0.02	0.833667	0.850333	0.867000	0.883667	0.900333	0.917000	0.933667	0.950333	0.967000	0.983667
0.04	0.834000	0.850667	0.867333	0.884000	0.900667	0.917333	0.934000	0.950667	0.967333	0.984000
0.06	0.834333	0.851000	0.867667	0.884333	0.901000	0.917667	0.934333	0.951000	0.967667	0.984333
0.08	0.834667	0.851333	0.868000	0.884667	0.901333	0.918000	0.934667	0.951333	0.968000	0.984667
0.10	0.835000	0.851667	0.868333	0.885000	0.901667	0.918333	0.935000	0.951667	0.968333	0.985000
0.12	0.835333	0.852000	0.868667	0.885333	0.902000	0.918667	0.935333	0.952000	0.968667	0.985333
0.14	0.835667	0.852333	0.869000	0.885667	0.902333	0.919000	0.935667	0.952333	0.969000	0.985667
0.16	0.836000	0.852667	0.869333	0.886000	0.902667	0.919333	0.936000	0.952667	0.969333	0.986000
0.18	0.836333	0.853000	0.869667	0.886333	0.903000	0.919667	0.936333	0.953000	0.969667	0.986333
0.20	0.836667	0.853333	0.870000	0.886667	0.903333	0.920000	0.936667	0.953333	0.970000	0.986667
0.22	0.837000	0.853667	0.870333	0.887000	0.903667	0.920333	0.937000	0.953667	0.970333	0.987000
0.24	0.837333	0.854000	0.870667	0.887333	0.904000	0.920667	0.937333	0.954000	0.970667	0.987333
0.26	0.837667	0.854333	0.871000	0.887667	0.904333	0.921000	0.937667	0.954333	0.971000	0.987667
0.28	0.838000	0.854667	0.871333	0.888000	0.904667	0.921333	0.938000	0.954667	0.971333	0.988000
0.30	0.838333	0.855000	0.871667	0.888333	0.905000	0.921667	0.938333	0.955000	0.971667	0.988333
0.32	0.838667	0.855333	0.872000	0.888667	0.905333	0.922000	0.938667	0.955333	0.972000	0.988667
0.34	0.839000	0.855667	0.872333	0.889000	0.905667	0.922333	0.939000	0.955667	0.972333	0.989000
0.36	0.839333	0.856000	0.872667	0.889333	0.906000	0.922667	0.939333	0.956000	0.972667	0.989333
0.38	0.839667	0.856333	0.873000	0.889667	0.906333	0.923000	0.939667	0.956333	0.973000	0.989667
0.40	0.840000	0.856667	0.873333	0.890000	0.906667	0.923333	0.940000	0.956667	0.973333	0.990000
0.42	0.840333	0.857000	0.873667	0.890333	0.907000	0.923667	0.940333	0.957000	0.973667	0.990333
0.44	0.840667	0.857333	0.874000	0.890667	0.907333	0.924000	0.940667	0.957333	0.974000	0.990667
0.46	0.841000	0.857667	0.874333	0.891000	0.907667	0.924333	0.941000	0.957667	0.974333	0.991000
0.48	0.841333	0.858000	0.874667	0.891333	0.908000	0.924667	0.941333	0.958000	0.974667	0.991333
0.50	0.841667	0.858333	0.875000	0.891667	0.908333	0.925000	0.941667	0.958333	0.975000	0.991667
0.52	0.842000	0.858667	0.875333	0.892000	0.908667	0.925333	0.942000	0.958667	0.975333	0.992000
0.54	0.842333	0.859000	0.875667	0.892333	0.909000	0.925667	0.942333	0.959000	0.975667	0.992333
0.56	0.842667	0.859333	0.876000	0.892667	0.909333	0.926000	0.942667	0.959333	0.976000	0.992667
0.58	0.843000	0.859667	0.876333	0.893000	0.909667	0.926333	0.943000	0.959667	0.976333	0.993000
0.60	0.843333	0.860000	0.876667	0.893333	0.910000	0.926667	0.943333	0.960000	0.976667	0.993333
0.62	0.843667	0.860333	0.877000	0.893667	0.910333	0.927000	0.943667	0.960333	0.977000	0.993667
0.64	0.844000	0.860667	0.877333	0.894000	0.910667	0.927333	0.944000	0.960667	0.977333	0.994000
0.66	0.844333	0.861000	0.877667	0.894333	0.911000	0.927667	0.944333	0.961000	0.977667	0.994333
0.68	0.844667	0.861333	0.878000	0.894667	0.911333	0.928000	0.944667	0.961333	0.978000	0.994667
0.70	0.845000	0.861667	0.878333	0.895000	0.911667	0.928333	0.945000	0.961667	0.978333	0.995000
0.72	0.845333	0.862000	0.878667	0.895333	0.912000	0.928667	0.945333	0.962000	0.978667	0.995333
0.74	0.845667	0.862333	0.879000	0.895667	0.912333	0.929000	0.945667	0.962333	0.979000	0.995667
0.76	0.846000	0.862667	0.879333	0.896000	0.912667	0.929333	0.946000	0.962667	0.979333	0.996000
0.78	0.846333	0.863000	0.879667	0.896333	0.913000	0.929667	0.946333	0.963000	0.979667	0.996333
0.80	0.846667	0.863333	0.880000	0.896667	0.913333	0.930000	0.946667	0.963333	0.980000	0.996667
0.82	0.847000	0.863667	0.880333	0.897000	0.913667	0.930333	0.947000	0.963667	0.980333	0.997000
0.84	0.847333	0.864000	0.880667	0.897333	0.914000	0.930667	0.947333	0.964000	0.980667	0.997333
0.86	0.847667	0.864333	0.881000	0.897667	0.914333	0.931000	0.947667	0.964333	0.981000	0.997667
0.88	0.848000	0.864667	0.881333	0.898000	0.914667	0.931333	0.948000	0.964667	0.981333	0.998000
0.90	0.848333	0.865000	0.881667	0.898333	0.915000	0.931667	0.948333	0.965000	0.981667	0.998333
0.92	0.848667	0.865333	0.882000	0.898667	0.915333	0.932000	0.948667	0.965333	0.982000	0.998667
0.94	0.849000	0.865667	0.882333	0.899000	0.915667	0.932333	0.949000	0.965667	0.982333	0.999000
0.96	0.849333	0.866000	0.882667	0.899333	0.916000	0.932667	0.949333	0.966000	0.982667	0.999333
0.98	0.849667	0.866333	0.883000	0.899667	0.916333	0.933000	0.949667	0.966333	0.983000	0.999667

4 – Minutes et secondes en angles horaires (temps en angles)

15° par heure

4 – Minutes et secondes en angles horaires (temps en angles)

secondes	minutes									
	10	11	12	13	14	15	16	17	18	19
0	2°30.00'	2°45.00'	3°00.00'	3°15.00'	3°30.00'	3°45.00'	4°00.00'	4°15.00'	4°30.00'	4°45.00'
1	2°30.25'	2°45.25'	3°00.25'	3°15.25'	3°30.25'	3°45.25'	4°00.25'	4°15.25'	4°30.25'	4°45.25'
2	2°30.50'	2°45.50'	3°00.50'	3°15.50'	3°30.50'	3°45.50'	4°00.50'	4°15.50'	4°30.50'	4°45.50'
3	2°30.75'	2°45.75'	3°00.75'	3°15.75'	3°30.75'	3°45.75'	4°00.75'	4°15.75'	4°30.75'	4°45.75'
4	2°31.00'	2°46.00'	3°01.00'	3°16.00'	3°31.00'	3°46.00'	4°01.00'	4°16.00'	4°31.00'	4°46.00'
5	2°31.25'	2°46.25'	3°01.25'	3°16.25'	3°31.25'	3°46.25'	4°01.25'	4°16.25'	4°31.25'	4°46.25'
6	2°31.50'	2°46.50'	3°01.50'	3°16.50'	3°31.50'	3°46.50'	4°01.50'	4°16.50'	4°31.50'	4°46.50'
7	2°31.75'	2°46.75'	3°01.75'	3°16.75'	3°31.75'	3°46.75'	4°01.75'	4°16.75'	4°31.75'	4°46.75'
8	2°32.00'	2°47.00'	3°02.00'	3°17.00'	3°32.00'	3°47.00'	4°02.00'	4°17.00'	4°32.00'	4°47.00'
9	2°32.25'	2°47.25'	3°02.25'	3°17.25'	3°32.25'	3°47.25'	4°02.25'	4°17.25'	4°32.25'	4°47.25'
10	2°32.50'	2°47.50'	3°02.50'	3°17.50'	3°32.50'	3°47.50'	4°02.50'	4°17.50'	4°32.50'	4°47.50'
11	2°32.75'	2°47.75'	3°02.75'	3°17.75'	3°32.75'	3°47.75'	4°02.75'	4°17.75'	4°32.75'	4°47.75'
12	2°33.00'	2°48.00'	3°03.00'	3°18.00'	3°33.00'	3°48.00'	4°03.00'	4°18.00'	4°33.00'	4°48.00'
13	2°33.25'	2°48.25'	3°03.25'	3°18.25'	3°33.25'	3°48.25'	4°03.25'	4°18.25'	4°33.25'	4°48.25'
14	2°33.50'	2°48.50'	3°03.50'	3°18.50'	3°33.50'	3°48.50'	4°03.50'	4°18.50'	4°33.50'	4°48.50'
15	2°33.75'	2°48.75'	3°03.75'	3°18.75'	3°33.75'	3°48.75'	4°03.75'	4°18.75'	4°33.75'	4°48.75'
16	2°34.00'	2°49.00'	3°04.00'	3°19.00'	3°34.00'	3°49.00'	4°04.00'	4°19.00'	4°34.00'	4°49.00'
17	2°34.25'	2°49.25'	3°04.25'	3°19.25'	3°34.25'	3°49.25'	4°04.25'	4°19.25'	4°34.25'	4°49.25'
18	2°34.50'	2°49.50'	3°04.50'	3°19.50'	3°34.50'	3°49.50'	4°04.50'	4°19.50'	4°34.50'	4°49.50'
19	2°34.75'	2°49.75'	3°04.75'	3°19.75'	3°34.75'	3°49.75'	4°04.75'	4°19.75'	4°34.75'	4°49.75'
20	2°35.00'	2°50.00'	3°05.00'	3°20.00'	3°35.00'	3°50.00'	4°05.00'	4°20.00'	4°35.00'	4°50.00'
21	2°35.25'	2°50.25'	3°05.25'	3°20.25'	3°35.25'	3°50.25'	4°05.25'	4°20.25'	4°35.25'	4°50.25'
22	2°35.50'	2°50.50'	3°05.50'	3°20.50'	3°35.50'	3°50.50'	4°05.50'	4°20.50'	4°35.50'	4°50.50'
23	2°35.75'	2°50.75'	3°05.75'	3°20.75'	3°35.75'	3°50.75'	4°05.75'	4°20.75'	4°35.75'	4°50.75'
24	2°36.00'	2°51.00'	3°06.00'	3°21.00'	3°36.00'	3°51.00'	4°06.00'	4°21.00'	4°36.00'	4°51.00'
25	2°36.25'	2°51.25'	3°06.25'	3°21.25'	3°36.25'	3°51.25'	4°06.25'	4°21.25'	4°36.25'	4°51.25'
26	2°36.50'	2°51.50'	3°06.50'	3°21.50'	3°36.50'	3°51.50'	4°06.50'	4°21.50'	4°36.50'	4°51.50'
27	2°36.75'	2°51.75'	3°06.75'	3°21.75'	3°36.75'	3°51.75'	4°06.75'	4°21.75'	4°36.75'	4°51.75'
28	2°37.00'	2°52.00'	3°07.00'	3°22.00'	3°37.00'	3°52.00'	4°07.00'	4°22.00'	4°37.00'	4°52.00'
29	2°37.25'	2°52.25'	3°07.25'	3°22.25'	3°37.25'	3°52.25'	4°07.25'	4°22.25'	4°37.25'	4°52.25'
30	2°37.50'	2°52.50'	3°07.50'	3°22.50'	3°37.50'	3°52.50'	4°07.50'	4°22.50'	4°37.50'	4°52.50'
31	2°37.75'	2°52.75'	3°07.75'	3°22.75'	3°37.75'	3°52.75'	4°07.75'	4°22.75'	4°37.75'	4°52.75'
32	2°38.00'	2°53.00'	3°08.00'	3°23.00'	3°38.00'	3°53.00'	4°08.00'	4°23.00'	4°38.00'	4°53.00'
33	2°38.25'	2°53.25'	3°08.25'	3°23.25'	3°38.25'	3°53.25'	4°08.25'	4°23.25'	4°38.25'	4°53.25'
34	2°38.50'	2°53.50'	3°08.50'	3°23.50'	3°38.50'	3°53.50'	4°08.50'	4°23.50'	4°38.50'	4°53.50'
35	2°38.75'	2°53.75'	3°08.75'	3°23.75'	3°38.75'	3°53.75'	4°08.75'	4°23.75'	4°38.75'	4°53.75'
36	2°39.00'	2°54.00'	3°09.00'	3°24.00'	3°39.00'	3°54.00'	4°09.00'	4°24.00'	4°39.00'	4°54.00'
37	2°39.25'	2°54.25'	3°09.25'	3°24.25'	3°39.25'	3°54.25'	4°09.25'	4°24.25'	4°39.25'	4°54.25'
38	2°39.50'	2°54.50'	3°09.50'	3°24.50'	3°39.50'	3°54.50'	4°09.50'	4°24.50'	4°39.50'	4°54.50'
39	2°39.75'	2°54.75'	3°09.75'	3°24.75'	3°39.75'	3°54.75'	4°09.75'	4°24.75'	4°39.75'	4°54.75'
40	2°40.00'	2°55.00'	3°10.00'	3°25.00'	3°40.00'	3°55.00'	4°10.00'	4°25.00'	4°40.00'	4°55.00'
41	2°40.25'	2°55.25'	3°10.25'	3°25.25'	3°40.25'	3°55.25'	4°10.25'	4°25.25'	4°40.25'	4°55.25'
42	2°40.50'	2°55.50'	3°10.50'	3°25.50'	3°40.50'	3°55.50'	4°10.50'	4°25.50'	4°40.50'	4°55.50'
43	2°40.75'	2°55.75'	3°10.75'	3°25.75'	3°40.75'	3°55.75'	4°10.75'	4°25.75'	4°40.75'	4°55.75'
44	2°41.00'	2°56.00'	3°11.00'	3°26.00'	3°41.00'	3°56.00'	4°11.00'	4°26.00'	4°41.00'	4°56.00'
45	2°41.25'	2°56.25'	3°11.25'	3°26.25'	3°41.25'	3°56.25'	4°11.25'	4°26.25'	4°41.25'	4°56.25'
46	2°41.50'	2°56.50'	3°11.50'	3°26.50'	3°41.50'	3°56.50'	4°11.50'	4°26.50'	4°41.50'	4°56.50'
47	2°41.75'	2°56.75'	3°11.75'	3°26.75'	3°41.75'	3°56.75'	4°11.75'	4°26.75'	4°41.75'	4°56.75'
48	2°42.00'	2°57.00'	3°12.00'	3°27.00'	3°42.00'	3°57.00'	4°12.00'	4°27.00'	4°42.00'	4°57.00'
49	2°42.25'	2°57.25'	3°12.25'	3°27.25'	3°42.25'	3°57.25'	4°12.25'	4°27.25'	4°42.25'	4°57.25'
50	2°42.50'	2°57.50'	3°12.50'	3°27.50'	3°42.50'	3°57.50'	4°12.50'	4°27.50'	4°42.50'	4°57.50'
51	2°42.75'	2°57.75'	3°12.75'	3°27.75'	3°42.75'	3°57.75'	4°12.75'	4°27.75'	4°42.75'	4°57.75'
52	2°43.00'	2°58.00'	3°13.00'	3°28.00'	3°43.00'	3°58.00'	4°13.00'	4°28.00'	4°43.00'	4°58.00'
53	2°43.25'	2°58.25'	3°13.25'	3°28.25'	3°43.25'	3°58.25'	4°13.25'	4°28.25'	4°43.25'	4°58.25'
54	2°43.50'	2°58.50'	3°13.50'	3°28.50'	3°43.50'	3°58.50'	4°13.50'	4°28.50'	4°43.50'	4°58.50'
55	2°43.75'	2°58.75'	3°13.75'	3°28.75'	3°43.75'	3°58.75'	4°13.75'	4°28.75'	4°43.75'	4°58.75'
56	2°44.00'	2°59.00'	3°14.00'	3°29.00'	3°44.00'	3°59.00'	4°14.00'	4°29.00'	4°44.00'	4°59.00'
57	2°44.25'	2°59.25'	3°14.25'	3°29.25'	3°44.25'	3°59.25'	4°14.25'	4°29.25'	4°44.25'	4°59.25'
58	2°44.50'	2°59.50'	3°14.50'	3°29.50'	3°44.50'	3°59.50'	4°14.50'	4°29.50'	4°44.50'	4°59.50'
59	2°44.75'	2°59.75'	3°14.75'	3°29.75'	3°44.75'	3°59.75'	4°14.75'	4°29.75'	4°44.75'	4°59.75'

4 – Minutes et secondes en angles horaires (temps en angles)

secondes	minutes									
	20	21	22	23	24	25	26	27	28	29
0	5°00.00'	5°15.00'	5°30.00'	5°45.00'	6°00.00'	6°15.00'	6°30.00'	6°45.00'	7°00.00'	7°15.00'
1	5°00.25'	5°15.25'	5°30.25'	5°45.25'	6°00.25'	6°15.25'	6°30.25'	6°45.25'	7°00.25'	7°15.25'
2	5°00.50'	5°15.50'	5°30.50'	5°45.50'	6°00.50'	6°15.50'	6°30.50'	6°45.50'	7°00.50'	7°15.50'
3	5°00.75'	5°15.75'	5°30.75'	5°45.75'	6°00.75'	6°15.75'	6°30.75'	6°45.75'	7°00.75'	7°15.75'
4	5°01.00'	5°16.00'	5°31.00'	5°46.00'	6°01.00'	6°16.00'	6°31.00'	6°46.00'	7°01.00'	7°16.00'
5	5°01.25'	5°16.25'	5°31.25'	5°46.25'	6°01.25'	6°16.25'	6°31.25'	6°46.25'	7°01.25'	7°16.25'
6	5°01.50'	5°16.50'	5°31.50'	5°46.50'	6°01.50'	6°16.50'	6°31.50'	6°46.50'	7°01.50'	7°16.50'
7	5°01.75'	5°16.75'	5°31.75'	5°46.75'	6°01.75'	6°16.75'	6°31.75'	6°46.75'	7°01.75'	7°16.75'
8	5°02.00'	5°17.00'	5°32.00'	5°47.00'	6°02.00'	6°17.00'	6°32.00'	6°47.00'	7°02.00'	7°17.00'
9	5°02.25'	5°17.25'	5°32.25'	5°47.25'	6°02.25'	6°17.25'	6°32.25'	6°47.25'	7°02.25'	7°17.25'
10	5°02.50'	5°17.50'	5°32.50'	5°47.50'	6°02.50'	6°17.50'	6°32.50'	6°47.50'	7°02.50'	7°17.50'
11	5°02.75'	5°17.75'	5°32.75'	5°47.75'	6°02.75'	6°17.75'	6°32.75'	6°47.75'	7°02.75'	7°17.75'
12	5°03.00'	5°18.00'	5°33.00'	5°48.00'	6°03.00'	6°18.00'	6°33.00'	6°48.00'	7°03.00'	7°18.00'
13	5°03.25'	5°18.25'	5°33.25'	5°48.25'	6°03.25'	6°18.25'	6°33.25'	6°48.25'	7°03.25'	7°18.25'
14	5°03.50'	5°18.50'	5°33.50'	5°48.50'	6°03.50'	6°18.50'	6°33.50'	6°48.50'	7°03.50'	7°18.50'
15	5°03.75'	5°18.75'	5°33.75'	5°48.75'	6°03.75'	6°18.75'	6°33.75'	6°48.75'	7°03.75'	7°18.75'
16	5°04.00'	5°19.00'	5°34.00'	5°49.00'	6°04.00'	6°19.00'	6°34.00'	6°49.00'	7°04.00'	7°19.00'
17	5°04.25'	5°19.25'	5°34.25'	5°49.25'	6°04.25'	6°19.25'	6°34.25'	6°49.25'	7°04.25'	7°19.25'
18	5°04.50'	5°19.50'	5°34.50'	5°49.50'	6°04.50'	6°19.50'	6°34.50'	6°49.50'	7°04.50'	7°19.50'
19	5°04.75'	5°19.75'	5°34.75'	5°49.75'	6°04.75'	6°19.75'	6°34.75'	6°49.75'	7°04.75'	7°19.75'
20	5°05.00'	5°20.00'	5°35.00'	5°50.00'	6°05.00'	6°20.00'	6°35.00'	6°50.00'	7°05.00'	7°20.00'
21	5°05.25'	5°20.25'	5°35.25'	5°50.25'	6°05.25'	6°20.25'	6°35.25'	6°50.25'	7°05.25'	7°20.25'
22	5°05.50'	5°20.50'	5°35.50'	5°50.50'	6°05.50'	6°20.50'	6°35.50'	6°50.50'	7°05.50'	7°20.50'
23	5°05.75'	5°20.75'	5°35.75'	5°50.75'	6°05.75'	6°20.75'	6°35.75'	6°50.75'	7°05.75'	7°20.75'
24	5°06.00'	5°21.00'	5°36.00'	5°51.00'	6°06.00'	6°21.00'	6°36.00'	6°51.00'	7°06.00'	7°21.00'
25	5°06.25'	5°21.25'	5°36.25'	5°51.25'	6°06.25'	6°21.25'	6°36.25'	6°51.25'	7°06.25'	7°21.25'
26	5°06.50'	5°21.50'	5°36.50'	5°51.50'	6°06.50'	6°21.50'	6°36.50'	6°51.50'	7°06.50'	7°21.50'
27	5°06.75'	5°21.75'	5°36.75'	5°51.75'	6°06.75'	6°21.75'	6°36.75'	6°51.75'	7°06.75'	7°21.75'
28	5°07.00'	5°22.00'	5°37.00'	5°52.00'	6°07.00'	6°22.00'	6°37.00'	6°52.00'	7°07.00'	7°22.00'
29	5°07.25'	5°22.25'	5°37.25'	5°52.25'	6°07.25'	6°22.25'	6°37.25'	6°52.25'	7°07.25'	7°22.25'
30	5°07.50'	5°22.50'	5°37.50'	5°52.50'	6°07.50'	6°22.50'	6°37.50'	6°52.50'	7°07.50'	7°22.50'
31	5°07.75'	5°22.75'	5°37.75'	5°52.75'	6°07.75'	6°22.75'	6°37.75'	6°52.75'	7°07.75'	7°22.75'
32	5°08.00'	5°23.00'	5°38.00'	5°53.00'	6°08.00'	6°23.00'	6°38.00'	6°53.00'	7°08.00'	7°23.00'
33	5°08.25'	5°23.25'	5°38.25'	5°53.25'	6°08.25'	6°23.25'	6°38.25'	6°53.25'	7°08.25'	7°23.25'
34	5°08.50'	5°23.50'	5°38.50'	5°53.50'	6°08.50'	6°23.50'	6°38.50'	6°53.50'	7°08.50'	7°23.50'
35	5°08.75'	5°23.75'	5°38.75'	5°53.75'	6°08.75'	6°23.75'	6°38.75'	6°53.75'	7°08.75'	7°23.75'
36	5°09.00'	5°24.00'	5°39.00'	5°54.00'	6°09.00'	6°24.00'	6°39.00'	6°54.00'	7°09.00'	7°24.00'
37	5°09.25'	5°24.25'	5°39.25'	5°54.25'	6°09.25'	6°24.25'	6°39.25'	6°54.25'	7°09.25'	7°24.25'
38	5°09.50'	5°24.50'	5°39.50'	5°54.50'	6°09.50'	6°24.50'	6°39.50'	6°54.50'	7°09.50'	7°24.50'
39	5°09.75'	5°24.75'	5°39.75'	5°54.75'	6°09.75'	6°24.75'	6°39.75'	6°54.75'	7°09.75'	7°24.75'
40	5°10.00'	5°25.00'	5°40.00'	5°55.00'	6°10.00'	6°25.00'	6°40.00'	6°55.00'	7°10.00'	7°25.00'
41	5°10.25'	5°25.25'	5°40.25'	5°55.25'	6°10.25'	6°25.25'	6°40.25'	6°55.25'	7°10.25'	7°25.25'
42	5°10.50'	5°25.50'	5°40.50'	5°55.50'	6°10.50'	6°25.50'	6°40.50'	6°55.50'	7°10.50'	7°25.50'
43	5°10.75'	5°25.75'	5°40.75'	5°55.75'	6°10.75'	6°25.75'	6°40.75'	6°55.75'	7°10.75'	7°25.75'
44	5°11.00'	5°26.00'	5°41.00'	5°56.00'	6°11.00'	6°26.00'	6°41.00'	6°56.00'	7°11.00'	7°26.00'
45	5°11.25'	5°26.25'	5°41.25'	5°56.25'	6°11.25'	6°26.25'	6°41.25'	6°56.25'	7°11.25'	7°26.25'
46	5°11.50'	5°26.50'	5°41.50'	5°56.50'	6°11.50'	6°26.50'	6°41.50'	6°56.50'	7°11.50'	7°26.50'
47	5°11.75'	5°26.75'	5°41.75'	5°56.75'	6°11.75'	6°26.75'	6°41.75'	6°56.75'	7°11.75'	7°26.75'
48	5°12.00'	5°27.00'	5°42.00'	5°57.00'	6°12.00'	6°27.00'	6°42.00'	6°57.00'	7°12.00'	7°27.00'
49	5°12.25'	5°27.25'	5°42.25'	5°57.25'	6°12.25'	6°27.25'	6°42.25'	6°57.25'	7°12.25'	7°27.25'
50	5°12.50'	5°27.50'	5°42.50'	5°57.50'	6°12.50'	6°27.50'	6°42.50'	6°57.50'	7°12.50'	7°27.50'
51	5°12.75'	5°27.75'	5°42.75'	5°57.75'	6°12.75'	6°27.75'	6°42.75'	6°57.75'	7°12.75'	7°27.75'
52	5°13.00'	5°28.00'	5°43.00'	5°58.00'	6°13.00'	6°28.00'	6°43.00'	6°58.00'	7°13.00'	7°28.00'
53	5°13.25'	5°28.25'	5°43.25'	5°58.25'	6°13.25'	6°28.25'	6°43.25'	6°58.25'	7°13.25'	7°28.25'
54	5°13.50'	5°28.50'	5°43.50'	5°58.50'	6°13.50'	6°28.50'	6°43.50'	6°58.50'	7°13.50'	7°28.50'
55	5°13.75'	5°28.75'	5°43.75'	5°58.75'	6°13.75'	6°28.75'	6°43.75'	6°58.75'	7°13.75'	7°28.75'
56	5°14.00'	5°29.00'	5°44.00'	5°59.00'	6°14.00'	6°29.00'	6°44.00'	6°59.00'	7°14.00'	7°29.00'
57	5°14.25'	5°29.25'	5°44.25'	5°59.25'	6°14.25'	6°29.25'	6°44.25'	6°59.25'	7°14.25'	7°29.25'
58	5°14.50'	5°29.50'	5°44.50'	5°59.50'	6°14.50'	6°29.50'	6°44.50'	6°59.50'	7°14.50'	7°29.50'
59	5°14.75'	5°29.75'	5°44.75'	5°59.75'	6°14.75'	6°29.75'	6°44.75'	6°59.75'	7°14.75'	7°29.75'

4 – Minutes et secondes en angles horaires (temps en angles)

secondes	minutes									
	30	31	32	33	34	35	36	37	38	39
0	7°30.00'	7°45.00'	8°00.00'	8°15.00'	8°30.00'	8°45.00'	9°00.00'	9°15.00'	9°30.00'	9°45.00'
1	7°30.25'	7°45.25'	8°00.25'	8°15.25'	8°30.25'	8°45.25'	9°00.25'	9°15.25'	9°30.25'	9°45.25'
2	7°30.50'	7°45.50'	8°00.50'	8°15.50'	8°30.50'	8°45.50'	9°00.50'	9°15.50'	9°30.50'	9°45.50'
3	7°30.75'	7°45.75'	8°00.75'	8°15.75'	8°30.75'	8°45.75'	9°00.75'	9°15.75'	9°30.75'	9°45.75'
4	7°31.00'	7°46.00'	8°01.00'	8°16.00'	8°31.00'	8°46.00'	9°01.00'	9°16.00'	9°31.00'	9°46.00'
5	7°31.25'	7°46.25'	8°01.25'	8°16.25'	8°31.25'	8°46.25'	9°01.25'	9°16.25'	9°31.25'	9°46.25'
6	7°31.50'	7°46.50'	8°01.50'	8°16.50'	8°31.50'	8°46.50'	9°01.50'	9°16.50'	9°31.50'	9°46.50'
7	7°31.75'	7°46.75'	8°01.75'	8°16.75'	8°31.75'	8°46.75'	9°01.75'	9°16.75'	9°31.75'	9°46.75'
8	7°32.00'	7°47.00'	8°02.00'	8°17.00'	8°32.00'	8°47.00'	9°02.00'	9°17.00'	9°32.00'	9°47.00'
9	7°32.25'	7°47.25'	8°02.25'	8°17.25'	8°32.25'	8°47.25'	9°02.25'	9°17.25'	9°32.25'	9°47.25'
10	7°32.50'	7°47.50'	8°02.50'	8°17.50'	8°32.50'	8°47.50'	9°02.50'	9°17.50'	9°32.50'	9°47.50'
11	7°32.75'	7°47.75'	8°02.75'	8°17.75'	8°32.75'	8°47.75'	9°02.75'	9°17.75'	9°32.75'	9°47.75'
12	7°33.00'	7°48.00'	8°03.00'	8°18.00'	8°33.00'	8°48.00'	9°03.00'	9°18.00'	9°33.00'	9°48.00'
13	7°33.25'	7°48.25'	8°03.25'	8°18.25'	8°33.25'	8°48.25'	9°03.25'	9°18.25'	9°33.25'	9°48.25'
14	7°33.50'	7°48.50'	8°03.50'	8°18.50'	8°33.50'	8°48.50'	9°03.50'	9°18.50'	9°33.50'	9°48.50'
15	7°33.75'	7°48.75'	8°03.75'	8°18.75'	8°33.75'	8°48.75'	9°03.75'	9°18.75'	9°33.75'	9°48.75'
16	7°34.00'	7°49.00'	8°04.00'	8°19.00'	8°34.00'	8°49.00'	9°04.00'	9°19.00'	9°34.00'	9°49.00'
17	7°34.25'	7°49.25'	8°04.25'	8°19.25'	8°34.25'	8°49.25'	9°04.25'	9°19.25'	9°34.25'	9°49.25'
18	7°34.50'	7°49.50'	8°04.50'	8°19.50'	8°34.50'	8°49.50'	9°04.50'	9°19.50'	9°34.50'	9°49.50'
19	7°34.75'	7°49.75'	8°04.75'	8°19.75'	8°34.75'	8°49.75'	9°04.75'	9°19.75'	9°34.75'	9°49.75'
20	7°35.00'	7°50.00'	8°05.00'	8°20.00'	8°35.00'	8°50.00'	9°05.00'	9°20.00'	9°35.00'	9°50.00'
21	7°35.25'	7°50.25'	8°05.25'	8°20.25'	8°35.25'	8°50.25'	9°05.25'	9°20.25'	9°35.25'	9°50.25'
22	7°35.50'	7°50.50'	8°05.50'	8°20.50'	8°35.50'	8°50.50'	9°05.50'	9°20.50'	9°35.50'	9°50.50'
23	7°35.75'	7°50.75'	8°05.75'	8°20.75'	8°35.75'	8°50.75'	9°05.75'	9°20.75'	9°35.75'	9°50.75'
24	7°36.00'	7°51.00'	8°06.00'	8°21.00'	8°36.00'	8°51.00'	9°06.00'	9°21.00'	9°36.00'	9°51.00'
25	7°36.25'	7°51.25'	8°06.25'	8°21.25'	8°36.25'	8°51.25'	9°06.25'	9°21.25'	9°36.25'	9°51.25'
26	7°36.50'	7°51.50'	8°06.50'	8°21.50'	8°36.50'	8°51.50'	9°06.50'	9°21.50'	9°36.50'	9°51.50'
27	7°36.75'	7°51.75'	8°06.75'	8°21.75'	8°36.75'	8°51.75'	9°06.75'	9°21.75'	9°36.75'	9°51.75'
28	7°37.00'	7°52.00'	8°07.00'	8°22.00'	8°37.00'	8°52.00'	9°07.00'	9°22.00'	9°37.00'	9°52.00'
29	7°37.25'	7°52.25'	8°07.25'	8°22.25'	8°37.25'	8°52.25'	9°07.25'	9°22.25'	9°37.25'	9°52.25'
30	7°37.50'	7°52.50'	8°07.50'	8°22.50'	8°37.50'	8°52.50'	9°07.50'	9°22.50'	9°37.50'	9°52.50'
31	7°37.75'	7°52.75'	8°07.75'	8°22.75'	8°37.75'	8°52.75'	9°07.75'	9°22.75'	9°37.75'	9°52.75'
32	7°38.00'	7°53.00'	8°08.00'	8°23.00'	8°38.00'	8°53.00'	9°08.00'	9°23.00'	9°38.00'	9°53.00'
33	7°38.25'	7°53.25'	8°08.25'	8°23.25'	8°38.25'	8°53.25'	9°08.25'	9°23.25'	9°38.25'	9°53.25'
34	7°38.50'	7°53.50'	8°08.50'	8°23.50'	8°38.50'	8°53.50'	9°08.50'	9°23.50'	9°38.50'	9°53.50'
35	7°38.75'	7°53.75'	8°08.75'	8°23.75'	8°38.75'	8°53.75'	9°08.75'	9°23.75'	9°38.75'	9°53.75'
36	7°39.00'	7°54.00'	8°09.00'	8°24.00'	8°39.00'	8°54.00'	9°09.00'	9°24.00'	9°39.00'	9°54.00'
37	7°39.25'	7°54.25'	8°09.25'	8°24.25'	8°39.25'	8°54.25'	9°09.25'	9°24.25'	9°39.25'	9°54.25'
38	7°39.50'	7°54.50'	8°09.50'	8°24.50'	8°39.50'	8°54.50'	9°09.50'	9°24.50'	9°39.50'	9°54.50'
39	7°39.75'	7°54.75'	8°09.75'	8°24.75'	8°39.75'	8°54.75'	9°09.75'	9°24.75'	9°39.75'	9°54.75'
40	7°40.00'	7°55.00'	8°10.00'	8°25.00'	8°40.00'	8°55.00'	9°10.00'	9°25.00'	9°40.00'	9°55.00'
41	7°40.25'	7°55.25'	8°10.25'	8°25.25'	8°40.25'	8°55.25'	9°10.25'	9°25.25'	9°40.25'	9°55.25'
42	7°40.50'	7°55.50'	8°10.50'	8°25.50'	8°40.50'	8°55.50'	9°10.50'	9°25.50'	9°40.50'	9°55.50'
43	7°40.75'	7°55.75'	8°10.75'	8°25.75'	8°40.75'	8°55.75'	9°10.75'	9°25.75'	9°40.75'	9°55.75'
44	7°41.00'	7°56.00'	8°11.00'	8°26.00'	8°41.00'	8°56.00'	9°11.00'	9°26.00'	9°41.00'	9°56.00'
45	7°41.25'	7°56.25'	8°11.25'	8°26.25'	8°41.25'	8°56.25'	9°11.25'	9°26.25'	9°41.25'	9°56.25'
46	7°41.50'	7°56.50'	8°11.50'	8°26.50'	8°41.50'	8°56.50'	9°11.50'	9°26.50'	9°41.50'	9°56.50'
47	7°41.75'	7°56.75'	8°11.75'	8°26.75'	8°41.75'	8°56.75'	9°11.75'	9°26.75'	9°41.75'	9°56.75'
48	7°42.00'	7°57.00'	8°12.00'	8°27.00'	8°42.00'	8°57.00'	9°12.00'	9°27.00'	9°42.00'	9°57.00'
49	7°42.25'	7°57.25'	8°12.25'	8°27.25'	8°42.25'	8°57.25'	9°12.25'	9°27.25'	9°42.25'	9°57.25'
50	7°42.50'	7°57.50'	8°12.50'	8°27.50'	8°42.50'	8°57.50'	9°12.50'	9°27.50'	9°42.50'	9°57.50'
51	7°42.75'	7°57.75'	8°12.75'	8°27.75'	8°42.75'	8°57.75'	9°12.75'	9°27.75'	9°42.75'	9°57.75'
52	7°43.00'	7°58.00'	8°13.00'	8°28.00'	8°43.00'	8°58.00'	9°13.00'	9°28.00'	9°43.00'	9°58.00'
53	7°43.25'	7°58.25'	8°13.25'	8°28.25'	8°43.25'	8°58.25'	9°13.25'	9°28.25'	9°43.25'	9°58.25'
54	7°43.50'	7°58.50'	8°13.50'	8°28.50'	8°43.50'	8°58.50'	9°13.50'	9°28.50'	9°43.50'	9°58.50'
55	7°43.75'	7°58.75'	8°13.75'	8°28.75'	8°43.75'	8°58.75'	9°13.75'	9°28.75'	9°43.75'	9°58.75'
56	7°44.00'	7°59.00'	8°14.00'	8°29.00'	8°44.00'	8°59.00'	9°14.00'	9°29.00'	9°44.00'	9°59.00'
57	7°44.25'	7°59.25'	8°14.25'	8°29.25'	8°44.25'	8°59.25'	9°14.25'	9°29.25'	9°44.25'	9°59.25'
58	7°44.50'	7°59.50'	8°14.50'	8°29.50'	8°44.50'	8°59.50'	9°14.50'	9°29.50'	9°44.50'	9°59.50'
59	7°44.75'	7°59.75'	8°14.75'	8°29.75'	8°44.75'	8°59.75'	9°14.75'	9°29.75'	9°44.75'	9°59.75'

4 – Minutes et secondes en angles horaires (temps en angles)

secondes	minutes									
	40	41	42	43	44	45	46	47	48	49
0	10°00.00'	10°15.00'	10°30.00'	10°45.00'	11°00.00'	11°15.00'	11°30.00'	11°45.00'	12°00.00'	12°15.00'
1	10°00.25'	10°15.25'	10°30.25'	10°45.25'	11°00.25'	11°15.25'	11°30.25'	11°45.25'	12°00.25'	12°15.25'
2	10°00.50'	10°15.50'	10°30.50'	10°45.50'	11°00.50'	11°15.50'	11°30.50'	11°45.50'	12°00.50'	12°15.50'
3	10°00.75'	10°15.75'	10°30.75'	10°45.75'	11°00.75'	11°15.75'	11°30.75'	11°45.75'	12°00.75'	12°15.75'
4	10°01.00'	10°16.00'	10°31.00'	10°46.00'	11°01.00'	11°16.00'	11°31.00'	11°46.00'	12°01.00'	12°16.00'
5	10°01.25'	10°16.25'	10°31.25'	10°46.25'	11°01.25'	11°16.25'	11°31.25'	11°46.25'	12°01.25'	12°16.25'
6	10°01.50'	10°16.50'	10°31.50'	10°46.50'	11°01.50'	11°16.50'	11°31.50'	11°46.50'	12°01.50'	12°16.50'
7	10°01.75'	10°16.75'	10°31.75'	10°46.75'	11°01.75'	11°16.75'	11°31.75'	11°46.75'	12°01.75'	12°16.75'
8	10°02.00'	10°17.00'	10°32.00'	10°47.00'	11°02.00'	11°17.00'	11°32.00'	11°47.00'	12°02.00'	12°17.00'
9	10°02.25'	10°17.25'	10°32.25'	10°47.25'	11°02.25'	11°17.25'	11°32.25'	11°47.25'	12°02.25'	12°17.25'
10	10°02.50'	10°17.50'	10°32.50'	10°47.50'	11°02.50'	11°17.50'	11°32.50'	11°47.50'	12°02.50'	12°17.50'
11	10°02.75'	10°17.75'	10°32.75'	10°47.75'	11°02.75'	11°17.75'	11°32.75'	11°47.75'	12°02.75'	12°17.75'
12	10°03.00'	10°18.00'	10°33.00'	10°48.00'	11°03.00'	11°18.00'	11°33.00'	11°48.00'	12°03.00'	12°18.00'
13	10°03.25'	10°18.25'	10°33.25'	10°48.25'	11°03.25'	11°18.25'	11°33.25'	11°48.25'	12°03.25'	12°18.25'
14	10°03.50'	10°18.50'	10°33.50'	10°48.50'	11°03.50'	11°18.50'	11°33.50'	11°48.50'	12°03.50'	12°18.50'
15	10°03.75'	10°18.75'	10°33.75'	10°48.75'	11°03.75'	11°18.75'	11°33.75'	11°48.75'	12°03.75'	12°18.75'
16	10°04.00'	10°19.00'	10°34.00'	10°49.00'	11°04.00'	11°19.00'	11°34.00'	11°49.00'	12°04.00'	12°19.00'
17	10°04.25'	10°19.25'	10°34.25'	10°49.25'	11°04.25'	11°19.25'	11°34.25'	11°49.25'	12°04.25'	12°19.25'
18	10°04.50'	10°19.50'	10°34.50'	10°49.50'	11°04.50'	11°19.50'	11°34.50'	11°49.50'	12°04.50'	12°19.50'
19	10°04.75'	10°19.75'	10°34.75'	10°49.75'	11°04.75'	11°19.75'	11°34.75'	11°49.75'	12°04.75'	12°19.75'
20	10°05.00'	10°20.00'	10°35.00'	10°50.00'	11°05.00'	11°20.00'	11°35.00'	11°50.00'	12°05.00'	12°20.00'
21	10°05.25'	10°20.25'	10°35.25'	10°50.25'	11°05.25'	11°20.25'	11°35.25'	11°50.25'	12°05.25'	12°20.25'
22	10°05.50'	10°20.50'	10°35.50'	10°50.50'	11°05.50'	11°20.50'	11°35.50'	11°50.50'	12°05.50'	12°20.50'
23	10°05.75'	10°20.75'	10°35.75'	10°50.75'	11°05.75'	11°20.75'	11°35.75'	11°50.75'	12°05.75'	12°20.75'
24	10°06.00'	10°21.00'	10°36.00'	10°51.00'	11°06.00'	11°21.00'	11°36.00'	11°51.00'	12°06.00'	12°21.00'
25	10°06.25'	10°21.25'	10°36.25'	10°51.25'	11°06.25'	11°21.25'	11°36.25'	11°51.25'	12°06.25'	12°21.25'
26	10°06.50'	10°21.50'	10°36.50'	10°51.50'	11°06.50'	11°21.50'	11°36.50'	11°51.50'	12°06.50'	12°21.50'
27	10°06.75'	10°21.75'	10°36.75'	10°51.75'	11°06.75'	11°21.75'	11°36.75'	11°51.75'	12°06.75'	12°21.75'
28	10°07.00'	10°22.00'	10°37.00'	10°52.00'	11°07.00'	11°22.00'	11°37.00'	11°52.00'	12°07.00'	12°22.00'
29	10°07.25'	10°22.25'	10°37.25'	10°52.25'	11°07.25'	11°22.25'	11°37.25'	11°52.25'	12°07.25'	12°22.25'
30	10°07.50'	10°22.50'	10°37.50'	10°52.50'	11°07.50'	11°22.50'	11°37.50'	11°52.50'	12°07.50'	12°22.50'
31	10°07.75'	10°22.75'	10°37.75'	10°52.75'	11°07.75'	11°22.75'	11°37.75'	11°52.75'	12°07.75'	12°22.75'
32	10°08.00'	10°23.00'	10°38.00'	10°53.00'	11°08.00'	11°23.00'	11°38.00'	11°53.00'	12°08.00'	12°23.00'
33	10°08.25'	10°23.25'	10°38.25'	10°53.25'	11°08.25'	11°23.25'	11°38.25'	11°53.25'	12°08.25'	12°23.25'
34	10°08.50'	10°23.50'	10°38.50'	10°53.50'	11°08.50'	11°23.50'	11°38.50'	11°53.50'	12°08.50'	12°23.50'
35	10°08.75'	10°23.75'	10°38.75'	10°53.75'	11°08.75'	11°23.75'	11°38.75'	11°53.75'	12°08.75'	12°23.75'
36	10°09.00'	10°24.00'	10°39.00'	10°54.00'	11°09.00'	11°24.00'	11°39.00'	11°54.00'	12°09.00'	12°24.00'
37	10°09.25'	10°24.25'	10°39.25'	10°54.25'	11°09.25'	11°24.25'	11°39.25'	11°54.25'	12°09.25'	12°24.25'
38	10°09.50'	10°24.50'	10°39.50'	10°54.50'	11°09.50'	11°24.50'	11°39.50'	11°54.50'	12°09.50'	12°24.50'
39	10°09.75'	10°24.75'	10°39.75'	10°54.75'	11°09.75'	11°24.75'	11°39.75'	11°54.75'	12°09.75'	12°24.75'
40	10°10.00'	10°25.00'	10°40.00'	10°55.00'	11°10.00'	11°25.00'	11°40.00'	11°55.00'	12°10.00'	12°25.00'
41	10°10.25'	10°25.25'	10°40.25'	10°55.25'	11°10.25'	11°25.25'	11°40.25'	11°55.25'	12°10.25'	12°25.25'
42	10°10.50'	10°25.50'	10°40.50'	10°55.50'	11°10.50'	11°25.50'	11°40.50'	11°55.50'	12°10.50'	12°25.50'
43	10°10.75'	10°25.75'	10°40.75'	10°55.75'	11°10.75'	11°25.75'	11°40.75'	11°55.75'	12°10.75'	12°25.75'
44	10°11.00'	10°26.00'	10°41.00'	10°56.00'	11°11.00'	11°26.00'	11°41.00'	11°56.00'	12°11.00'	12°26.00'
45	10°11.25'	10°26.25'	10°41.25'	10°56.25'	11°11.25'	11°26.25'	11°41.25'	11°56.25'	12°11.25'	12°26.25'
46	10°11.50'	10°26.50'	10°41.50'	10°56.50'	11°11.50'	11°26.50'	11°41.50'	11°56.50'	12°11.50'	12°26.50'
47	10°11.75'	10°26.75'	10°41.75'	10°56.75'	11°11.75'	11°26.75'	11°41.75'	11°56.75'	12°11.75'	12°26.75'
48	10°12.00'	10°27.00'	10°42.00'	10°57.00'	11°12.00'	11°27.00'	11°42.00'	11°57.00'	12°12.00'	12°27.00'
49	10°12.25'	10°27.25'	10°42.25'	10°57.25'	11°12.25'	11°27.25'	11°42.25'	11°57.25'	12°12.25'	12°27.25'
50	10°12.50'	10°27.50'	10°42.50'	10°57.50'	11°12.50'	11°27.50'	11°42.50'	11°57.50'	12°12.50'	12°27.50'
51	10°12.75'	10°27.75'	10°42.75'	10°57.75'	11°12.75'	11°27.75'	11°42.75'	11°57.75'	12°12.75'	12°27.75'
52	10°13.00'	10°28.00'	10°43.00'	10°58.00'	11°13.00'	11°28.00'	11°43.00'	11°58.00'	12°13.00'	12°28.00'
53	10°13.25'	10°28.25'	10°43.25'	10°58.25'	11°13.25'	11°28.25'	11°43.25'	11°58.25'	12°13.25'	12°28.25'
54	10°13.50'	10°28.50'	10°43.50'	10°58.50'	11°13.50'	11°28.50'	11°43.50'	11°58.50'	12°13.50'	12°28.50'
55	10°13.75'	10°28.75'	10°43.75'	10°58.75'	11°13.75'	11°28.75'	11°43.75'	11°58.75'	12°13.75'	12°28.75'
56	10°14.00'	10°29.00'	10°44.00'	10°59.00'	11°14.00'	11°29.00'	11°44.00'	11°59.00'	12°14.00'	12°29.00'
57	10°14.25'	10°29.25'	10°44.25'	10°59.25'	11°14.25'	11°29.25'	11°44.25'	11°59.25'	12°14.25'	12°29.25'
58	10°14.50'	10°29.50'	10°44.50'	10°59.50'	11°14.50'	11°29.50'	11°44.50'	11°59.50'	12°14.50'	12°29.50'
59	10°14.75'	10°29.75'	10°44.75'	10°59.75'	11°14.75'	11°29.75'	11°44.75'	11°59.75'	12°14.75'	12°29.75'

4 – Minutes et secondes en angles horaires (temps en angles)

		minutes								
secondes	50	51	52	53	54	55	56	57	58	59
0	12°30.00'	12°45.00'	13°00.00'	13°15.00'	13°30.00'	13°45.00'	14°00.00'	14°15.00'	14°30.00'	14°45.00'
1	12°30.25'	12°45.25'	13°00.25'	13°15.25'	13°30.25'	13°45.25'	14°00.25'	14°15.25'	14°30.25'	14°45.25'
2	12°30.50'	12°45.50'	13°00.50'	13°15.50'	13°30.50'	13°45.50'	14°00.50'	14°15.50'	14°30.50'	14°45.50'
3	12°30.75'	12°45.75'	13°00.75'	13°15.75'	13°30.75'	13°45.75'	14°00.75'	14°15.75'	14°30.75'	14°45.75'
4	12°31.00'	12°46.00'	13°01.00'	13°16.00'	13°31.00'	13°46.00'	14°01.00'	14°16.00'	14°31.00'	14°46.00'
5	12°31.25'	12°46.25'	13°01.25'	13°16.25'	13°31.25'	13°46.25'	14°01.25'	14°16.25'	14°31.25'	14°46.25'
6	12°31.50'	12°46.50'	13°01.50'	13°16.50'	13°31.50'	13°46.50'	14°01.50'	14°16.50'	14°31.50'	14°46.50'
7	12°31.75'	12°46.75'	13°01.75'	13°16.75'	13°31.75'	13°46.75'	14°01.75'	14°16.75'	14°31.75'	14°46.75'
8	12°32.00'	12°47.00'	13°02.00'	13°17.00'	13°32.00'	13°47.00'	14°02.00'	14°17.00'	14°32.00'	14°47.00'
9	12°32.25'	12°47.25'	13°02.25'	13°17.25'	13°32.25'	13°47.25'	14°02.25'	14°17.25'	14°32.25'	14°47.25'
10	12°32.50'	12°47.50'	13°02.50'	13°17.50'	13°32.50'	13°47.50'	14°02.50'	14°17.50'	14°32.50'	14°47.50'
11	12°32.75'	12°47.75'	13°02.75'	13°17.75'	13°32.75'	13°47.75'	14°02.75'	14°17.75'	14°32.75'	14°47.75'
12	12°33.00'	12°48.00'	13°03.00'	13°18.00'	13°33.00'	13°48.00'	14°03.00'	14°18.00'	14°33.00'	14°48.00'
13	12°33.25'	12°48.25'	13°03.25'	13°18.25'	13°33.25'	13°48.25'	14°03.25'	14°18.25'	14°33.25'	14°48.25'
14	12°33.50'	12°48.50'	13°03.50'	13°18.50'	13°33.50'	13°48.50'	14°03.50'	14°18.50'	14°33.50'	14°48.50'
15	12°33.75'	12°48.75'	13°03.75'	13°18.75'	13°33.75'	13°48.75'	14°03.75'	14°18.75'	14°33.75'	14°48.75'
16	12°34.00'	12°49.00'	13°04.00'	13°19.00'	13°34.00'	13°49.00'	14°04.00'	14°19.00'	14°34.00'	14°49.00'
17	12°34.25'	12°49.25'	13°04.25'	13°19.25'	13°34.25'	13°49.25'	14°04.25'	14°19.25'	14°34.25'	14°49.25'
18	12°34.50'	12°49.50'	13°04.50'	13°19.50'	13°34.50'	13°49.50'	14°04.50'	14°19.50'	14°34.50'	14°49.50'
19	12°34.75'	12°49.75'	13°04.75'	13°19.75'	13°34.75'	13°49.75'	14°04.75'	14°19.75'	14°34.75'	14°49.75'
20	12°35.00'	12°50.00'	13°05.00'	13°20.00'	13°35.00'	13°50.00'	14°05.00'	14°20.00'	14°35.00'	14°50.00'
21	12°35.25'	12°50.25'	13°05.25'	13°20.25'	13°35.25'	13°50.25'	14°05.25'	14°20.25'	14°35.25'	14°50.25'
22	12°35.50'	12°50.50'	13°05.50'	13°20.50'	13°35.50'	13°50.50'	14°05.50'	14°20.50'	14°35.50'	14°50.50'
23	12°35.75'	12°50.75'	13°05.75'	13°20.75'	13°35.75'	13°50.75'	14°05.75'	14°20.75'	14°35.75'	14°50.75'
24	12°36.00'	12°51.00'	13°06.00'	13°21.00'	13°36.00'	13°51.00'	14°06.00'	14°21.00'	14°36.00'	14°51.00'
25	12°36.25'	12°51.25'	13°06.25'	13°21.25'	13°36.25'	13°51.25'	14°06.25'	14°21.25'	14°36.25'	14°51.25'
26	12°36.50'	12°51.50'	13°06.50'	13°21.50'	13°36.50'	13°51.50'	14°06.50'	14°21.50'	14°36.50'	14°51.50'
27	12°36.75'	12°51.75'	13°06.75'	13°21.75'	13°36.75'	13°51.75'	14°06.75'	14°21.75'	14°36.75'	14°51.75'
28	12°37.00'	12°52.00'	13°07.00'	13°22.00'	13°37.00'	13°52.00'	14°07.00'	14°22.00'	14°37.00'	14°52.00'
29	12°37.25'	12°52.25'	13°07.25'	13°22.25'	13°37.25'	13°52.25'	14°07.25'	14°22.25'	14°37.25'	14°52.25'
30	12°37.50'	12°52.50'	13°07.50'	13°22.50'	13°37.50'	13°52.50'	14°07.50'	14°22.50'	14°37.50'	14°52.50'
31	12°37.75'	12°52.75'	13°07.75'	13°22.75'	13°37.75'	13°52.75'	14°07.75'	14°22.75'	14°37.75'	14°52.75'
32	12°38.00'	12°53.00'	13°08.00'	13°23.00'	13°38.00'	13°53.00'	14°08.00'	14°23.00'	14°38.00'	14°53.00'
33	12°38.25'	12°53.25'	13°08.25'	13°23.25'	13°38.25'	13°53.25'	14°08.25'	14°23.25'	14°38.25'	14°53.25'
34	12°38.50'	12°53.50'	13°08.50'	13°23.50'	13°38.50'	13°53.50'	14°08.50'	14°23.50'	14°38.50'	14°53.50'
35	12°38.75'	12°53.75'	13°08.75'	13°23.75'	13°38.75'	13°53.75'	14°08.75'	14°23.75'	14°38.75'	14°53.75'
36	12°39.00'	12°54.00'	13°09.00'	13°24.00'	13°39.00'	13°54.00'	14°09.00'	14°24.00'	14°39.00'	14°54.00'
37	12°39.25'	12°54.25'	13°09.25'	13°24.25'	13°39.25'	13°54.25'	14°09.25'	14°24.25'	14°39.25'	14°54.25'
38	12°39.50'	12°54.50'	13°09.50'	13°24.50'	13°39.50'	13°54.50'	14°09.50'	14°24.50'	14°39.50'	14°54.50'
39	12°39.75'	12°54.75'	13°09.75'	13°24.75'	13°39.75'	13°54.75'	14°09.75'	14°24.75'	14°39.75'	14°54.75'
40	12°40.00'	12°55.00'	13°10.00'	13°25.00'	13°40.00'	13°55.00'	14°10.00'	14°25.00'	14°40.00'	14°55.00'
41	12°40.25'	12°55.25'	13°10.25'	13°25.25'	13°40.25'	13°55.25'	14°10.25'	14°25.25'	14°40.25'	14°55.25'
42	12°40.50'	12°55.50'	13°10.50'	13°25.50'	13°40.50'	13°55.50'	14°10.50'	14°25.50'	14°40.50'	14°55.50'
43	12°40.75'	12°55.75'	13°10.75'	13°25.75'	13°40.75'	13°55.75'	14°10.75'	14°25.75'	14°40.75'	14°55.75'
44	12°41.00'	12°56.00'	13°11.00'	13°26.00'	13°41.00'	13°56.00'	14°11.00'	14°26.00'	14°41.00'	14°56.00'
45	12°41.25'	12°56.25'	13°11.25'	13°26.25'	13°41.25'	13°56.25'	14°11.25'	14°26.25'	14°41.25'	14°56.25'
46	12°41.50'	12°56.50'	13°11.50'	13°26.50'	13°41.50'	13°56.50'	14°11.50'	14°26.50'	14°41.50'	14°56.50'
47	12°41.75'	12°56.75'	13°11.75'	13°26.75'	13°41.75'	13°56.75'	14°11.75'	14°26.75'	14°41.75'	14°56.75'
48	12°42.00'	12°57.00'	13°12.00'	13°27.00'	13°42.00'	13°57.00'	14°12.00'	14°27.00'	14°42.00'	14°57.00'
49	12°42.25'	12°57.25'	13°12.25'	13°27.25'	13°42.25'	13°57.25'	14°12.25'	14°27.25'	14°42.25'	14°57.25'
50	12°42.50'	12°57.50'	13°12.50'	13°27.50'	13°42.50'	13°57.50'	14°12.50'	14°27.50'	14°42.50'	14°57.50'
51	12°42.75'	12°57.75'	13°12.75'	13°27.75'	13°42.75'	13°57.75'	14°12.75'	14°27.75'	14°42.75'	14°57.75'
52	12°43.00'	12°58.00'	13°13.00'	13°28.00'	13°43.00'	13°58.00'	14°13.00'	14°28.00'	14°43.00'	14°58.00'
53	12°43.25'	12°58.25'	13°13.25'	13°28.25'	13°43.25'	13°58.25'	14°13.25'	14°28.25'	14°43.25'	14°58.25'
54	12°43.50'	12°58.50'	13°13.50'	13°28.50'	13°43.50'	13°58.50'	14°13.50'	14°28.50'	14°43.50'	14°58.50'
55	12°43.75'	12°58.75'	13°13.75'	13°28.75'	13°43.75'	13°58.75'	14°13.75'	14°28.75'	14°43.75'	14°58.75'
56	12°44.00'	12°59.00'	13°14.00'	13°29.00'	13°44.00'	13°59.00'	14°14.00'	14°29.00'	14°44.00'	14°59.00'
57	12°44.25'	12°59.25'	13°14.25'	13°29.25'	13°44.25'	13°59.25'	14°14.25'	14°29.25'	14°44.25'	14°59.25'
58	12°44.50'	12°59.50'	13°14.50'	13°29.50'	13°44.50'	13°59.50'	14°14.50'	14°29.50'	14°44.50'	14°59.50'
59	12°44.75'	12°59.75'	13°14.75'	13°29.75'	13°44.75'	13°59.75'	14°14.75'	14°29.75'	14°44.75'	14°59.75'

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

minute/100	minutes								
	0	1	2	3	4	5	6	7	8
00	0.000000	0.016667	0.033333	0.050000	0.066667	0.083333	0.100000	0.116667	0.133333
02	0.000333	0.017000	0.033667	0.050333	0.067000	0.083667	0.100333	0.117000	0.133667
04	0.000667	0.017333	0.034000	0.050667	0.067333	0.084000	0.100667	0.117333	0.134000
06	0.001000	0.017667	0.034333	0.051000	0.067667	0.084333	0.101000	0.117667	0.134333
08	0.001333	0.018000	0.034667	0.051333	0.068000	0.084667	0.101333	0.118000	0.134667
10	0.001667	0.018333	0.035000	0.051667	0.068333	0.085000	0.101667	0.118333	0.135000
12	0.002000	0.018667	0.035333	0.052000	0.068667	0.085333	0.102000	0.118667	0.135333
14	0.002333	0.019000	0.035667	0.052333	0.069000	0.085667	0.102333	0.119000	0.135667
16	0.002667	0.019333	0.036000	0.052667	0.069333	0.086000	0.102667	0.119333	0.136000
18	0.003000	0.019667	0.036333	0.053000	0.069667	0.086333	0.103000	0.119667	0.136333
20	0.003333	0.020000	0.036667	0.053333	0.070000	0.086667	0.103333	0.120000	0.136667
22	0.003667	0.020333	0.037000	0.053667	0.070333	0.087000	0.103667	0.120333	0.137000
24	0.004000	0.020667	0.037333	0.054000	0.070667	0.087333	0.104000	0.120667	0.137333
26	0.004333	0.021000	0.037667	0.054333	0.071000	0.087667	0.104333	0.121000	0.137667
28	0.004667	0.021333	0.038000	0.054667	0.071333	0.088000	0.104667	0.121333	0.138000
30	0.005000	0.021667	0.038333	0.055000	0.071667	0.088333	0.105000	0.121667	0.138333
32	0.005333	0.022000	0.038667	0.055333	0.072000	0.088667	0.105333	0.122000	0.138667
34	0.005667	0.022333	0.039000	0.055667	0.072333	0.089000	0.105667	0.122333	0.139000
36	0.006000	0.022667	0.039333	0.056000	0.072667	0.089333	0.106000	0.122667	0.139333
38	0.006333	0.023000	0.039667	0.056333	0.073000	0.089667	0.106333	0.123000	0.139667
40	0.006667	0.023333	0.040000	0.056667	0.073333	0.090000	0.106667	0.123333	0.140000
42	0.007000	0.023667	0.040333	0.057000	0.073667	0.090333	0.107000	0.123667	0.140333
44	0.007333	0.024000	0.040667	0.057333	0.074000	0.090667	0.107333	0.124000	0.140667
46	0.007667	0.024333	0.041000	0.057667	0.074333	0.091000	0.107667	0.124333	0.141000
48	0.008000	0.024667	0.041333	0.058000	0.074667	0.091333	0.108000	0.124667	0.141333
50	0.008333	0.025000	0.041667	0.058333	0.075000	0.091667	0.108333	0.125000	0.141667
52	0.008667	0.025333	0.042000	0.058667	0.075333	0.092000	0.108667	0.125333	0.142000
54	0.009000	0.025667	0.042333	0.059000	0.075667	0.092333	0.109000	0.125667	0.142333
56	0.009333	0.026000	0.042667	0.059333	0.076000	0.092667	0.109333	0.126000	0.142667
58	0.009667	0.026333	0.043000	0.059667	0.076333	0.093000	0.109667	0.126333	0.143000
60	0.010000	0.026667	0.043333	0.060000	0.076667	0.093333	0.110000	0.126667	0.143333
62	0.010333	0.027000	0.043667	0.060333	0.077000	0.093667	0.110333	0.127000	0.143667
64	0.010667	0.027333	0.044000	0.060667	0.077333	0.094000	0.110667	0.127333	0.144000
66	0.011000	0.027667	0.044333	0.061000	0.077667	0.094333	0.111000	0.127667	0.144333
68	0.011333	0.028000	0.044667	0.061333	0.078000	0.094667	0.111333	0.128000	0.144667
70	0.011667	0.028333	0.045000	0.061667	0.078333	0.095000	0.111667	0.128333	0.145000
72	0.012000	0.028667	0.045333	0.062000	0.078667	0.095333	0.112000	0.128667	0.145333
74	0.012333	0.029000	0.045667	0.062333	0.079000	0.095667	0.112333	0.129000	0.145667
76	0.012667	0.029333	0.046000	0.062667	0.079333	0.096000	0.112667	0.129333	0.146000
78	0.013000	0.029667	0.046333	0.063000	0.079667	0.096333	0.113000	0.129667	0.146333
80	0.013333	0.030000	0.046667	0.063333	0.080000	0.096667	0.113333	0.130000	0.146667
82	0.013667	0.030333	0.047000	0.063667	0.080333	0.097000	0.113667	0.130333	0.147000
84	0.014000	0.030667	0.047333	0.064000	0.080667	0.097333	0.114000	0.130667	0.147333
86	0.014333	0.031000	0.047667	0.064333	0.081000	0.097667	0.114333	0.131000	0.147667
88	0.014667	0.031333	0.048000	0.064667	0.081333	0.098000	0.114667	0.131333	0.148000
90	0.015000	0.031667	0.048333	0.065000	0.081667	0.098333	0.115000	0.131667	0.148333
92	0.015333	0.032000	0.048667	0.065333	0.082000	0.098667	0.115333	0.132000	0.148667
94	0.015667	0.032333	0.049000	0.065667	0.082333	0.099000	0.115667	0.132333	0.149000
96	0.016000	0.032667	0.049333	0.066000	0.082667	0.099333	0.116000	0.132667	0.149333
98	0.016333	0.033000	0.049667	0.066333	0.083000	0.099667	0.116333	0.133000	0.149667
100	0.016667	0.033333	0.050000	0.066667	0.083333	0.100000	0.116667	0.133333	0.150000

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

minute/100	minutes								
	9	10	11	12	13	14	15	16	17
00	0.150000	0.166667	0.183333	0.200000	0.216667	0.233333	0.250000	0.266667	0.283333
02	0.150333	0.167000	0.183667	0.200333	0.217000	0.233667	0.250333	0.267000	0.283667
04	0.150667	0.167333	0.184000	0.200667	0.217333	0.234000	0.250667	0.267333	0.284000
06	0.151000	0.167667	0.184333	0.201000	0.217667	0.234333	0.251000	0.267667	0.284333
08	0.151333	0.168000	0.184667	0.201333	0.218000	0.234667	0.251333	0.268000	0.284667
10	0.151667	0.168333	0.185000	0.201667	0.218333	0.235000	0.251667	0.268333	0.285000
12	0.152000	0.168667	0.185333	0.202000	0.218667	0.235333	0.252000	0.268667	0.285333
14	0.152333	0.169000	0.185667	0.202333	0.219000	0.235667	0.252333	0.269000	0.285667
16	0.152667	0.169333	0.186000	0.202667	0.219333	0.236000	0.252667	0.269333	0.286000
18	0.153000	0.169667	0.186333	0.203000	0.219667	0.236333	0.253000	0.269667	0.286333
20	0.153333	0.170000	0.186667	0.203333	0.220000	0.236667	0.253333	0.270000	0.286667
22	0.153667	0.170333	0.187000	0.203667	0.220333	0.237000	0.253667	0.270333	0.287000
24	0.154000	0.170667	0.187333	0.204000	0.220667	0.237333	0.254000	0.270667	0.287333
26	0.154333	0.171000	0.187667	0.204333	0.221000	0.237667	0.254333	0.271000	0.287667
28	0.154667	0.171333	0.188000	0.204667	0.221333	0.238000	0.254667	0.271333	0.288000
30	0.155000	0.171667	0.188333	0.205000	0.221667	0.238333	0.255000	0.271667	0.288333
32	0.155333	0.172000	0.188667	0.205333	0.222000	0.238667	0.255333	0.272000	0.288667
34	0.155667	0.172333	0.189000	0.205667	0.222333	0.239000	0.255667	0.272333	0.289000
36	0.156000	0.172667	0.189333	0.206000	0.222667	0.239333	0.256000	0.272667	0.289333
38	0.156333	0.173000	0.189667	0.206333	0.223000	0.239667	0.256333	0.273000	0.289667
40	0.156667	0.173333	0.190000	0.206667	0.223333	0.240000	0.256667	0.273333	0.290000
42	0.157000	0.173667	0.190333	0.207000	0.223667	0.240333	0.257000	0.273667	0.290333
44	0.157333	0.174000	0.190667	0.207333	0.224000	0.240667	0.257333	0.274000	0.290667
46	0.157667	0.174333	0.191000	0.207667	0.224333	0.241000	0.257667	0.274333	0.291000
48	0.158000	0.174667	0.191333	0.208000	0.224667	0.241333	0.258000	0.274667	0.291333
50	0.158333	0.175000	0.191667	0.208333	0.225000	0.241667	0.258333	0.275000	0.291667
52	0.158667	0.175333	0.192000	0.208667	0.225333	0.242000	0.258667	0.275333	0.292000
54	0.159000	0.175667	0.192333	0.209000	0.225667	0.242333	0.259000	0.275667	0.292333
56	0.159333	0.176000	0.192667	0.209333	0.226000	0.242667	0.259333	0.276000	0.292667
58	0.159667	0.176333	0.193000	0.209667	0.226333	0.243000	0.259667	0.276333	0.293000
60	0.160000	0.176667	0.193333	0.210000	0.226667	0.243333	0.260000	0.276667	0.293333
62	0.160333	0.177000	0.193667	0.210333	0.227000	0.243667	0.260333	0.277000	0.293667
64	0.160667	0.177333	0.194000	0.210667	0.227333	0.244000	0.260667	0.277333	0.294000
66	0.161000	0.177667	0.194333	0.211000	0.227667	0.244333	0.261000	0.277667	0.294333
68	0.161333	0.178000	0.194667	0.211333	0.228000	0.244667	0.261333	0.278000	0.294667
70	0.161667	0.178333	0.195000	0.211667	0.228333	0.245000	0.261667	0.278333	0.295000
72	0.162000	0.178667	0.195333	0.212000	0.228667	0.245333	0.262000	0.278667	0.295333
74	0.162333	0.179000	0.195667	0.212333	0.229000	0.245667	0.262333	0.279000	0.295667
76	0.162667	0.179333	0.196000	0.212667	0.229333	0.246000	0.262667	0.279333	0.296000
78	0.163000	0.179667	0.196333	0.213000	0.229667	0.246333	0.263000	0.279667	0.296333
80	0.163333	0.180000	0.196667	0.213333	0.230000	0.246667	0.263333	0.280000	0.296667
82	0.163667	0.180333	0.197000	0.213667	0.230333	0.247000	0.263667	0.280333	0.297000
84	0.164000	0.180667	0.197333	0.214000	0.230667	0.247333	0.264000	0.280667	0.297333
86	0.164333	0.181000	0.197667	0.214333	0.231000	0.247667	0.264333	0.281000	0.297667
88	0.164667	0.181333	0.198000	0.214667	0.231333	0.248000	0.264667	0.281333	0.298000
90	0.165000	0.181667	0.198333	0.215000	0.231667	0.248333	0.265000	0.281667	0.298333
92	0.165333	0.182000	0.198667	0.215333	0.232000	0.248667	0.265333	0.282000	0.298667
94	0.165667	0.182333	0.199000	0.215667	0.232333	0.249000	0.265667	0.282333	0.299000
96	0.166000	0.182667	0.199333	0.216000	0.232667	0.249333	0.266000	0.282667	0.299333
98	0.166333	0.183000	0.199667	0.216333	0.233000	0.249667	0.266333	0.283000	0.299667
100	0.166667	0.183333	0.200000	0.216667	0.233333	0.250000	0.266667	0.283333	0.300000

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

minute/100	minutes								
	18	19	20	21	22	23	24	25	26
00	0.300000	0.316667	0.333333	0.350000	0.366667	0.383333	0.400000	0.416667	0.433333
02	0.300333	0.317000	0.333667	0.350333	0.367000	0.383667	0.400333	0.417000	0.433667
04	0.300667	0.317333	0.334000	0.350667	0.367333	0.384000	0.400667	0.417333	0.434000
06	0.301000	0.317667	0.334333	0.351000	0.367667	0.384333	0.401000	0.417667	0.434333
08	0.301333	0.318000	0.334667	0.351333	0.368000	0.384667	0.401333	0.418000	0.434667
10	0.301667	0.318333	0.335000	0.351667	0.368333	0.385000	0.401667	0.418333	0.435000
12	0.302000	0.318667	0.335333	0.352000	0.368667	0.385333	0.402000	0.418667	0.435333
14	0.302333	0.319000	0.335667	0.352333	0.369000	0.385667	0.402333	0.419000	0.435667
16	0.302667	0.319333	0.336000	0.352667	0.369333	0.386000	0.402667	0.419333	0.436000
18	0.303000	0.319667	0.336333	0.353000	0.369667	0.386333	0.403000	0.419667	0.436333
20	0.303333	0.320000	0.336667	0.353333	0.370000	0.386667	0.403333	0.420000	0.436667
22	0.303667	0.320333	0.337000	0.353667	0.370333	0.387000	0.403667	0.420333	0.437000
24	0.304000	0.320667	0.337333	0.354000	0.370667	0.387333	0.404000	0.420667	0.437333
26	0.304333	0.321000	0.337667	0.354333	0.371000	0.387667	0.404333	0.421000	0.437667
28	0.304667	0.321333	0.338000	0.354667	0.371333	0.388000	0.404667	0.421333	0.438000
30	0.305000	0.321667	0.338333	0.355000	0.371667	0.388333	0.405000	0.421667	0.438333
32	0.305333	0.322000	0.338667	0.355333	0.372000	0.388667	0.405333	0.422000	0.438667
34	0.305667	0.322333	0.339000	0.355667	0.372333	0.389000	0.405667	0.422333	0.439000
36	0.306000	0.322667	0.339333	0.356000	0.372667	0.389333	0.406000	0.422667	0.439333
38	0.306333	0.323000	0.339667	0.356333	0.373000	0.389667	0.406333	0.423000	0.439667
40	0.306667	0.323333	0.340000	0.356667	0.373333	0.390000	0.406667	0.423333	0.440000
42	0.307000	0.323667	0.340333	0.357000	0.373667	0.390333	0.407000	0.423667	0.440333
44	0.307333	0.324000	0.340667	0.357333	0.374000	0.390667	0.407333	0.424000	0.440667
46	0.307667	0.324333	0.341000	0.357667	0.374333	0.391000	0.407667	0.424333	0.441000
48	0.308000	0.324667	0.341333	0.358000	0.374667	0.391333	0.408000	0.424667	0.441333
50	0.308333	0.325000	0.341667	0.358333	0.375000	0.391667	0.408333	0.425000	0.441667
52	0.308667	0.325333	0.342000	0.358667	0.375333	0.392000	0.408667	0.425333	0.442000
54	0.309000	0.325667	0.342333	0.359000	0.375667	0.392333	0.409000	0.425667	0.442333
56	0.309333	0.326000	0.342667	0.359333	0.376000	0.392667	0.409333	0.426000	0.442667
58	0.309667	0.326333	0.343000	0.359667	0.376333	0.393000	0.409667	0.426333	0.443000
60	0.310000	0.326667	0.343333	0.360000	0.376667	0.393333	0.410000	0.426667	0.443333
62	0.310333	0.327000	0.343667	0.360333	0.377000	0.393667	0.410333	0.427000	0.443667
64	0.310667	0.327333	0.344000	0.360667	0.377333	0.394000	0.410667	0.427333	0.444000
66	0.311000	0.327667	0.344333	0.361000	0.377667	0.394333	0.411000	0.427667	0.444333
68	0.311333	0.328000	0.344667	0.361333	0.378000	0.394667	0.411333	0.428000	0.444667
70	0.311667	0.328333	0.345000	0.361667	0.378333	0.395000	0.411667	0.428333	0.445000
72	0.312000	0.328667	0.345333	0.362000	0.378667	0.395333	0.412000	0.428667	0.445333
74	0.312333	0.329000	0.345667	0.362333	0.379000	0.395667	0.412333	0.429000	0.445667
76	0.312667	0.329333	0.346000	0.362667	0.379333	0.396000	0.412667	0.429333	0.446000
78	0.313000	0.329667	0.346333	0.363000	0.379667	0.396333	0.413000	0.429667	0.446333
80	0.313333	0.330000	0.346667	0.363333	0.380000	0.396667	0.413333	0.430000	0.446667
82	0.313667	0.330333	0.347000	0.363667	0.380333	0.397000	0.413667	0.430333	0.447000
84	0.314000	0.330667	0.347333	0.364000	0.380667	0.397333	0.414000	0.430667	0.447333
86	0.314333	0.331000	0.347667	0.364333	0.381000	0.397667	0.414333	0.431000	0.447667
88	0.314667	0.331333	0.348000	0.364667	0.381333	0.398000	0.414667	0.431333	0.448000
90	0.315000	0.331667	0.348333	0.365000	0.381667	0.398333	0.415000	0.431667	0.448333
92	0.315333	0.332000	0.348667	0.365333	0.382000	0.398667	0.415333	0.432000	0.448667
94	0.315667	0.332333	0.349000	0.365667	0.382333	0.399000	0.415667	0.432333	0.449000
96	0.316000	0.332667	0.349333	0.366000	0.382667	0.399333	0.416000	0.432667	0.449333
98	0.316333	0.333000	0.349667	0.366333	0.383000	0.399667	0.416333	0.433000	0.449667
100	0.316667	0.333333	0.350000	0.366667	0.383333	0.400000	0.416667	0.433333	0.450000

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

minute/100	minutes								
	27	28	29	30	31	32	33	34	35
00	0.450000	0.466667	0.483333	0.500000	0.516667	0.533333	0.550000	0.566667	0.583333
02	0.450333	0.467000	0.483667	0.500333	0.517000	0.533667	0.550333	0.567000	0.583667
04	0.450667	0.467333	0.484000	0.500667	0.517333	0.534000	0.550667	0.567333	0.584000
06	0.451000	0.467667	0.484333	0.501000	0.517667	0.534333	0.551000	0.567667	0.584333
08	0.451333	0.468000	0.484667	0.501333	0.518000	0.534667	0.551333	0.568000	0.584667
10	0.451667	0.468333	0.485000	0.501667	0.518333	0.535000	0.551667	0.568333	0.585000
12	0.452000	0.468667	0.485333	0.502000	0.518667	0.535333	0.552000	0.568667	0.585333
14	0.452333	0.469000	0.485667	0.502333	0.519000	0.535667	0.552333	0.569000	0.585667
16	0.452667	0.469333	0.486000	0.502667	0.519333	0.536000	0.552667	0.569333	0.586000
18	0.453000	0.469667	0.486333	0.503000	0.519667	0.536333	0.553000	0.569667	0.586333
20	0.453333	0.470000	0.486667	0.503333	0.520000	0.536667	0.553333	0.570000	0.586667
22	0.453667	0.470333	0.487000	0.503667	0.520333	0.537000	0.553667	0.570333	0.587000
24	0.454000	0.470667	0.487333	0.504000	0.520667	0.537333	0.554000	0.570667	0.587333
26	0.454333	0.471000	0.487667	0.504333	0.521000	0.537667	0.554333	0.571000	0.587667
28	0.454667	0.471333	0.488000	0.504667	0.521333	0.538000	0.554667	0.571333	0.588000
30	0.455000	0.471667	0.488333	0.505000	0.521667	0.538333	0.555000	0.571667	0.588333
32	0.455333	0.472000	0.488667	0.505333	0.522000	0.538667	0.555333	0.572000	0.588667
34	0.455667	0.472333	0.489000	0.505667	0.522333	0.539000	0.555667	0.572333	0.589000
36	0.456000	0.472667	0.489333	0.506000	0.522667	0.539333	0.556000	0.572667	0.589333
38	0.456333	0.473000	0.489667	0.506333	0.523000	0.539667	0.556333	0.573000	0.589667
40	0.456667	0.473333	0.490000	0.506667	0.523333	0.540000	0.556667	0.573333	0.590000
42	0.457000	0.473667	0.490333	0.507000	0.523667	0.540333	0.557000	0.573667	0.590333
44	0.457333	0.474000	0.490667	0.507333	0.524000	0.540667	0.557333	0.574000	0.590667
46	0.457667	0.474333	0.491000	0.507667	0.524333	0.541000	0.557667	0.574333	0.591000
48	0.458000	0.474667	0.491333	0.508000	0.524667	0.541333	0.558000	0.574667	0.591333
50	0.458333	0.475000	0.491667	0.508333	0.525000	0.541667	0.558333	0.575000	0.591667
52	0.458667	0.475333	0.492000	0.508667	0.525333	0.542000	0.558667	0.575333	0.592000
54	0.459000	0.475667	0.492333	0.509000	0.525667	0.542333	0.559000	0.575667	0.592333
56	0.459333	0.476000	0.492667	0.509333	0.526000	0.542667	0.559333	0.576000	0.592667
58	0.459667	0.476333	0.493000	0.509667	0.526333	0.543000	0.559667	0.576333	0.593000
60	0.460000	0.476667	0.493333	0.510000	0.526667	0.543333	0.560000	0.576667	0.593333
62	0.460333	0.477000	0.493667	0.510333	0.527000	0.543667	0.560333	0.577000	0.593667
64	0.460667	0.477333	0.494000	0.510667	0.527333	0.544000	0.560667	0.577333	0.594000
66	0.461000	0.477667	0.494333	0.511000	0.527667	0.544333	0.561000	0.577667	0.594333
68	0.461333	0.478000	0.494667	0.511333	0.528000	0.544667	0.561333	0.578000	0.594667
70	0.461667	0.478333	0.495000	0.511667	0.528333	0.545000	0.561667	0.578333	0.595000
72	0.462000	0.478667	0.495333	0.512000	0.528667	0.545333	0.562000	0.578667	0.595333
74	0.462333	0.479000	0.495667	0.512333	0.529000	0.545667	0.562333	0.579000	0.595667
76	0.462667	0.479333	0.496000	0.512667	0.529333	0.546000	0.562667	0.579333	0.596000
78	0.463000	0.479667	0.496333	0.513000	0.529667	0.546333	0.563000	0.579667	0.596333
80	0.463333	0.480000	0.496667	0.513333	0.530000	0.546667	0.563333	0.580000	0.596667
82	0.463667	0.480333	0.497000	0.513667	0.530333	0.547000	0.563667	0.580333	0.597000
84	0.464000	0.480667	0.497333	0.514000	0.530667	0.547333	0.564000	0.580667	0.597333
86	0.464333	0.481000	0.497667	0.514333	0.531000	0.547667	0.564333	0.581000	0.597667
88	0.464667	0.481333	0.498000	0.514667	0.531333	0.548000	0.564667	0.581333	0.598000
90	0.465000	0.481667	0.498333	0.515000	0.531667	0.548333	0.565000	0.581667	0.598333
92	0.465333	0.482000	0.498667	0.515333	0.532000	0.548667	0.565333	0.582000	0.598667
94	0.465667	0.482333	0.499000	0.515667	0.532333	0.549000	0.565667	0.582333	0.599000
96	0.466000	0.482667	0.499333	0.516000	0.532667	0.549333	0.566000	0.582667	0.599333
98	0.466333	0.483000	0.499667	0.516333	0.533000	0.549667	0.566333	0.583000	0.599667
100	0.466667	0.483333	0.500000	0.516667	0.533333	0.550000	0.566667	0.583333	0.600000

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

minute/100	minutes								
	36	37	38	39	40	41	42	43	44
00	0.600000	0.616667	0.633333	0.650000	0.666667	0.683333	0.700000	0.716667	0.733333
02	0.600333	0.617000	0.633667	0.650333	0.667000	0.683667	0.700333	0.717000	0.733667
04	0.600667	0.617333	0.634000	0.650667	0.667333	0.684000	0.700667	0.717333	0.734000
06	0.601000	0.617667	0.634333	0.651000	0.667667	0.684333	0.701000	0.717667	0.734333
08	0.601333	0.618000	0.634667	0.651333	0.668000	0.684667	0.701333	0.718000	0.734667
10	0.601667	0.618333	0.635000	0.651667	0.668333	0.685000	0.701667	0.718333	0.735000
12	0.602000	0.618667	0.635333	0.652000	0.668667	0.685333	0.702000	0.718667	0.735333
14	0.602333	0.619000	0.635667	0.652333	0.669000	0.685667	0.702333	0.719000	0.735667
16	0.602667	0.619333	0.636000	0.652667	0.669333	0.686000	0.702667	0.719333	0.736000
18	0.603000	0.619667	0.636333	0.653000	0.669667	0.686333	0.703000	0.719667	0.736333
20	0.603333	0.620000	0.636667	0.653333	0.670000	0.686667	0.703333	0.720000	0.736667
22	0.603667	0.620333	0.637000	0.653667	0.670333	0.687000	0.703667	0.720333	0.737000
24	0.604000	0.620667	0.637333	0.654000	0.670667	0.687333	0.704000	0.720667	0.737333
26	0.604333	0.621000	0.637667	0.654333	0.671000	0.687667	0.704333	0.721000	0.737667
28	0.604667	0.621333	0.638000	0.654667	0.671333	0.688000	0.704667	0.721333	0.738000
30	0.605000	0.621667	0.638333	0.655000	0.671667	0.688333	0.705000	0.721667	0.738333
32	0.605333	0.622000	0.638667	0.655333	0.672000	0.688667	0.705333	0.722000	0.738667
34	0.605667	0.622333	0.639000	0.655667	0.672333	0.689000	0.705667	0.722333	0.739000
36	0.606000	0.622667	0.639333	0.656000	0.672667	0.689333	0.706000	0.722667	0.739333
38	0.606333	0.623000	0.639667	0.656333	0.673000	0.689667	0.706333	0.723000	0.739667
40	0.606667	0.623333	0.640000	0.656667	0.673333	0.690000	0.706667	0.723333	0.740000
42	0.607000	0.623667	0.640333	0.657000	0.673667	0.690333	0.707000	0.723667	0.740333
44	0.607333	0.624000	0.640667	0.657333	0.674000	0.690667	0.707333	0.724000	0.740667
46	0.607667	0.624333	0.641000	0.657667	0.674333	0.691000	0.707667	0.724333	0.741000
48	0.608000	0.624667	0.641333	0.658000	0.674667	0.691333	0.708000	0.724667	0.741333
50	0.608333	0.625000	0.641667	0.658333	0.675000	0.691667	0.708333	0.725000	0.741667
52	0.608667	0.625333	0.642000	0.658667	0.675333	0.692000	0.708667	0.725333	0.742000
54	0.609000	0.625667	0.642333	0.659000	0.675667	0.692333	0.709000	0.725667	0.742333
56	0.609333	0.626000	0.642667	0.659333	0.676000	0.692667	0.709333	0.726000	0.742667
58	0.609667	0.626333	0.643000	0.659667	0.676333	0.693000	0.709667	0.726333	0.743000
60	0.610000	0.626667	0.643333	0.660000	0.676667	0.693333	0.710000	0.726667	0.743333
62	0.610333	0.627000	0.643667	0.660333	0.677000	0.693667	0.710333	0.727000	0.743667
64	0.610667	0.627333	0.644000	0.660667	0.677333	0.694000	0.710667	0.727333	0.744000
66	0.611000	0.627667	0.644333	0.661000	0.677667	0.694333	0.711000	0.727667	0.744333
68	0.611333	0.628000	0.644667	0.661333	0.678000	0.694667	0.711333	0.728000	0.744667
70	0.611667	0.628333	0.645000	0.661667	0.678333	0.695000	0.711667	0.728333	0.745000
72	0.612000	0.628667	0.645333	0.662000	0.678667	0.695333	0.712000	0.728667	0.745333
74	0.612333	0.629000	0.645667	0.662333	0.679000	0.695667	0.712333	0.729000	0.745667
76	0.612667	0.629333	0.646000	0.662667	0.679333	0.696000	0.712667	0.729333	0.746000
78	0.613000	0.629667	0.646333	0.663000	0.679667	0.696333	0.713000	0.729667	0.746333
80	0.613333	0.630000	0.646667	0.663333	0.680000	0.696667	0.713333	0.730000	0.746667
82	0.613667	0.630333	0.647000	0.663667	0.680333	0.697000	0.713667	0.730333	0.747000
84	0.614000	0.630667	0.647333	0.664000	0.680667	0.697333	0.714000	0.730667	0.747333
86	0.614333	0.631000	0.647667	0.664333	0.681000	0.697667	0.714333	0.731000	0.747667
88	0.614667	0.631333	0.648000	0.664667	0.681333	0.698000	0.714667	0.731333	0.748000
90	0.615000	0.631667	0.648333	0.665000	0.681667	0.698333	0.715000	0.731667	0.748333
92	0.615333	0.632000	0.648667	0.665333	0.682000	0.698667	0.715333	0.732000	0.748667
94	0.615667	0.632333	0.649000	0.665667	0.682333	0.699000	0.715667	0.732333	0.749000
96	0.616000	0.632667	0.649333	0.666000	0.682667	0.699333	0.716000	0.732667	0.749333
98	0.616333	0.633000	0.649667	0.666333	0.683000	0.699667	0.716333	0.733000	0.749667
100	0.616667	0.633333	0.650000	0.666667	0.683333	0.700000	0.716667	0.733333	0.750000

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

minute/100	minutes								
	45	46	47	48	49	50	51	52	53
00	0.750000	0.766667	0.783333	0.800000	0.816667	0.833333	0.850000	0.866667	0.883333
02	0.750333	0.767000	0.783667	0.800333	0.817000	0.833667	0.850333	0.867000	0.883667
04	0.750667	0.767333	0.784000	0.800667	0.817333	0.834000	0.850667	0.867333	0.884000
06	0.751000	0.767667	0.784333	0.801000	0.817667	0.834333	0.851000	0.867667	0.884333
08	0.751333	0.768000	0.784667	0.801333	0.818000	0.834667	0.851333	0.868000	0.884667
10	0.751667	0.768333	0.785000	0.801667	0.818333	0.835000	0.851667	0.868333	0.885000
12	0.752000	0.768667	0.785333	0.802000	0.818667	0.835333	0.852000	0.868667	0.885333
14	0.752333	0.769000	0.785667	0.802333	0.819000	0.835667	0.852333	0.869000	0.885667
16	0.752667	0.769333	0.786000	0.802667	0.819333	0.836000	0.852667	0.869333	0.886000
18	0.753000	0.769667	0.786333	0.803000	0.819667	0.836333	0.853000	0.869667	0.886333
20	0.753333	0.770000	0.786667	0.803333	0.820000	0.836667	0.853333	0.870000	0.886667
22	0.753667	0.770333	0.787000	0.803667	0.820333	0.837000	0.853667	0.870333	0.887000
24	0.754000	0.770667	0.787333	0.804000	0.820667	0.837333	0.854000	0.870667	0.887333
26	0.754333	0.771000	0.787667	0.804333	0.821000	0.837667	0.854333	0.871000	0.887667
28	0.754667	0.771333	0.788000	0.804667	0.821333	0.838000	0.854667	0.871333	0.888000
30	0.755000	0.771667	0.788333	0.805000	0.821667	0.838333	0.855000	0.871667	0.888333
32	0.755333	0.772000	0.788667	0.805333	0.822000	0.838667	0.855333	0.872000	0.888667
34	0.755667	0.772333	0.789000	0.805667	0.822333	0.839000	0.855667	0.872333	0.889000
36	0.756000	0.772667	0.789333	0.806000	0.822667	0.839333	0.856000	0.872667	0.889333
38	0.756333	0.773000	0.789667	0.806333	0.823000	0.839667	0.856333	0.873000	0.889667
40	0.756667	0.773333	0.790000	0.806667	0.823333	0.840000	0.856667	0.873333	0.890000
42	0.757000	0.773667	0.790333	0.807000	0.823667	0.840333	0.857000	0.873667	0.890333
44	0.757333	0.774000	0.790667	0.807333	0.824000	0.840667	0.857333	0.874000	0.890667
46	0.757667	0.774333	0.791000	0.807667	0.824333	0.841000	0.857667	0.874333	0.891000
48	0.758000	0.774667	0.791333	0.808000	0.824667	0.841333	0.858000	0.874667	0.891333
50	0.758333	0.775000	0.791667	0.808333	0.825000	0.841667	0.858333	0.875000	0.891667
52	0.758667	0.775333	0.792000	0.808667	0.825333	0.842000	0.858667	0.875333	0.892000
54	0.759000	0.775667	0.792333	0.809000	0.825667	0.842333	0.859000	0.875667	0.892333
56	0.759333	0.776000	0.792667	0.809333	0.826000	0.842667	0.859333	0.876000	0.892667
58	0.759667	0.776333	0.793000	0.809667	0.826333	0.843000	0.859667	0.876333	0.893000
60	0.760000	0.776667	0.793333	0.810000	0.826667	0.843333	0.860000	0.876667	0.893333
62	0.760333	0.777000	0.793667	0.810333	0.827000	0.843667	0.860333	0.877000	0.893667
64	0.760667	0.777333	0.794000	0.810667	0.827333	0.844000	0.860667	0.877333	0.894000
66	0.761000	0.777667	0.794333	0.811000	0.827667	0.844333	0.861000	0.877667	0.894333
68	0.761333	0.778000	0.794667	0.811333	0.828000	0.844667	0.861333	0.878000	0.894667
70	0.761667	0.778333	0.795000	0.811667	0.828333	0.845000	0.861667	0.878333	0.895000
72	0.762000	0.778667	0.795333	0.812000	0.828667	0.845333	0.862000	0.878667	0.895333
74	0.762333	0.779000	0.795667	0.812333	0.829000	0.845667	0.862333	0.879000	0.895667
76	0.762667	0.779333	0.796000	0.812667	0.829333	0.846000	0.862667	0.879333	0.896000
78	0.763000	0.779667	0.796333	0.813000	0.829667	0.846333	0.863000	0.879667	0.896333
80	0.763333	0.780000	0.796667	0.813333	0.830000	0.846667	0.863333	0.880000	0.896667
82	0.763667	0.780333	0.797000	0.813667	0.830333	0.847000	0.863667	0.880333	0.897000
84	0.764000	0.780667	0.797333	0.814000	0.830667	0.847333	0.864000	0.880667	0.897333
86	0.764333	0.781000	0.797667	0.814333	0.831000	0.847667	0.864333	0.881000	0.897667
88	0.764667	0.781333	0.798000	0.814667	0.831333	0.848000	0.864667	0.881333	0.898000
90	0.765000	0.781667	0.798333	0.815000	0.831667	0.848333	0.865000	0.881667	0.898333
92	0.765333	0.782000	0.798667	0.815333	0.832000	0.848667	0.865333	0.882000	0.898667
94	0.765667	0.782333	0.799000	0.815667	0.832333	0.849000	0.865667	0.882333	0.899000
96	0.766000	0.782667	0.799333	0.816000	0.832667	0.849333	0.866000	0.882667	0.899333
98	0.766333	0.783000	0.799667	0.816333	0.833000	0.849667	0.866333	0.883000	0.899667
100	0.766667	0.783333	0.800000	0.816667	0.833333	0.850000	0.866667	0.883333	0.900000

5 – Degrés décimaux (< 1) en minutes d'arc (angle en angle)

minute/100	minutes					
	54	55	56	57	58	59
00	0.900000	0.916667	0.933333	0.950000	0.966667	0.983333
02	0.900333	0.917000	0.933667	0.950333	0.967000	0.983667
04	0.900667	0.917333	0.934000	0.950667	0.967333	0.984000
06	0.901000	0.917667	0.934333	0.951000	0.967667	0.984333
08	0.901333	0.918000	0.934667	0.951333	0.968000	0.984667
10	0.901667	0.918333	0.935000	0.951667	0.968333	0.985000
12	0.902000	0.918667	0.935333	0.952000	0.968667	0.985333
14	0.902333	0.919000	0.935667	0.952333	0.969000	0.985667
16	0.902667	0.919333	0.936000	0.952667	0.969333	0.986000
18	0.903000	0.919667	0.936333	0.953000	0.969667	0.986333
20	0.903333	0.920000	0.936667	0.953333	0.970000	0.986667
22	0.903667	0.920333	0.937000	0.953667	0.970333	0.987000
24	0.904000	0.920667	0.937333	0.954000	0.970667	0.987333
26	0.904333	0.921000	0.937667	0.954333	0.971000	0.987667
28	0.904667	0.921333	0.938000	0.954667	0.971333	0.988000
30	0.905000	0.921667	0.938333	0.955000	0.971667	0.988333
32	0.905333	0.922000	0.938667	0.955333	0.972000	0.988667
34	0.905667	0.922333	0.939000	0.955667	0.972333	0.989000
36	0.906000	0.922667	0.939333	0.956000	0.972667	0.989333
38	0.906333	0.923000	0.939667	0.956333	0.973000	0.989667
40	0.906667	0.923333	0.940000	0.956667	0.973333	0.990000
42	0.907000	0.923667	0.940333	0.957000	0.973667	0.990333
44	0.907333	0.924000	0.940667	0.957333	0.974000	0.990667
46	0.907667	0.924333	0.941000	0.957667	0.974333	0.991000
48	0.908000	0.924667	0.941333	0.958000	0.974667	0.991333
50	0.908333	0.925000	0.941667	0.958333	0.975000	0.991667
52	0.908667	0.925333	0.942000	0.958667	0.975333	0.992000
54	0.909000	0.925667	0.942333	0.959000	0.975667	0.992333
56	0.909333	0.926000	0.942667	0.959333	0.976000	0.992667
58	0.909667	0.926333	0.943000	0.959667	0.976333	0.993000
60	0.910000	0.926667	0.943333	0.960000	0.976667	0.993333
62	0.910333	0.927000	0.943667	0.960333	0.977000	0.993667
64	0.910667	0.927333	0.944000	0.960667	0.977333	0.994000
66	0.911000	0.927667	0.944333	0.961000	0.977667	0.994333
68	0.911333	0.928000	0.944667	0.961333	0.978000	0.994667
70	0.911667	0.928333	0.945000	0.961667	0.978333	0.995000
72	0.912000	0.928667	0.945333	0.962000	0.978667	0.995333
74	0.912333	0.929000	0.945667	0.962333	0.979000	0.995667
76	0.912667	0.929333	0.946000	0.962667	0.979333	0.996000
78	0.913000	0.929667	0.946333	0.963000	0.979667	0.996333
80	0.913333	0.930000	0.946667	0.963333	0.980000	0.996667
82	0.913667	0.930333	0.947000	0.963667	0.980333	0.997000
84	0.914000	0.930667	0.947333	0.964000	0.980667	0.997333
86	0.914333	0.931000	0.947667	0.964333	0.981000	0.997667
88	0.914667	0.931333	0.948000	0.964667	0.981333	0.998000
90	0.915000	0.931667	0.948333	0.965000	0.981667	0.998333
92	0.915333	0.932000	0.948667	0.965333	0.982000	0.998667
94	0.915667	0.932333	0.949000	0.965667	0.982333	0.999000
96	0.916000	0.932667	0.949333	0.966000	0.982667	0.999333
98	0.916333	0.933000	0.949667	0.966333	0.983000	0.999667
100	0.916667	0.933333	0.950000	0.966667	0.983333	1.000000