

MATHEMATISCH CENTRUM

2e BOERHAAVESTRAAT 49

AMSTERDAM

REKENAFDELING

Leiding: Prof. Dr Ir A. van Wijngaarden

OMZETTING VAN GRADEN, MINUTEN EN SECONDEN IN CENTIGRADEN

Rapport R 234.

1 9 5 4 .

OMZETTING VAN GRADEN, MINUTEN EN SECONDEN IN CENTIGRADEN

Dit werk bevat 2 tabellen te weten:

- 1°. Op de pagina's 3 tot en met 92 bij een argument gegeven in graden en minuten het bijbehorende aantal centigraden, opgegeven in 7 decimalen.
- 2°. Op de pagina 93 bij een gegeven aantal boogseconden (0 (1) 60) het bijbehorende aantal centigraden, eveneens in 7 decimalen.

0°	0	0.0000000
	1	0.0135185
	2	0.0370370
	3	0.0555556
	4	0.0740741
	5	0.0925926
	6	0.1111111
	7	0.1296296
	8	0.1481481
	9	0.1666667
	10	0.1851852
	11	0.2037037
	12	0.2222222
	13	0.2407407
	14	0.2592593
	15	0.2777778
	16	0.2962963
	17	0.3148148
	18	0.3333333
	19	0.3518519
	20	0.3703704
	21	0.3888889
	22	0.4074074
	23	0.4259259
	24	0.4444444
	25	0.4629630
	26	0.4814815
	27	0.5000000
	28	0.5185185
	29	0.5370370
	30	0.5555556

0°	30	0.5555556
	31	0.5740741
	32	0.5925926
	33	0.6111111
	34	0.6296296
	35	0.6481481
	36	0.6666667
	37	0.6851852
	38	0.7037037
	39	0.7222222
	40	0.7407407
	41	0.7592593
	42	0.7777778
	43	0.7962963
	44	0.8148148
	45	0.8333333
	46	0.8518519
	47	0.8703704
	48	0.8888889
	49	0.9074074
	50	0.9259259
	51	0.9444444
	52	0.9629630
	53	0.9814815
	54	1.0000000
	55	1.0185185
	56	1.0370370
	57	1.0555556
	58	1.0740741
	59	1.0925926
	60	1.1111111

1°	0°	1.1 1 1 1 1 1 1
	1	1.1 2 9 6 2 9 6
	2	1.1 4 8 1 4 8 1
	3	1.1 6 6 6 6 6 7
	4	1.1 8 5 1 8 5 2
	5	1.2 0 3 7 0 3 7
	6	1.2 2 2 2 2 2 2
	7	1.2 4 0 7 4 0 7
	8	1.2 5 9 2 5 9 3
	9	1.2 7 7 7 7 7 8
	10	1.2 9 6 2 9 6 3
	11	1.3 1 4 8 1 4 8
	12	1.3 3 3 3 3 3 3
	13	1.3 5 1 8 5 1 9
	14	1.3 7 0 3 7 0 4
	15	1.3 8 8 8 8 8 9
	16	1.4 0 7 4 0 7 4
	17	1.4 2 5 9 2 5 9
	18	1.4 4 4 4 4 4 4
	19	1.4 6 2 9 6 3 0
	20	1.4 8 1 4 8 1 5
	21	1.5 0 0 0 0 0 0
	22	1.5 1 8 5 1 8 5
	23	1.5 3 7 0 3 7 0
	24	1.5 5 5 5 5 5 6
	25	1.5 7 4 0 7 4 1
	26	1.5 9 2 5 9 2 6
	27	1.6 1 1 1 1 1 1
	28	1.6 2 9 6 2 9 6
	29	1.6 4 8 1 4 8 1
	30	1.6 6 6 6 6 6 7

1°	30°	1.6 6 6 6 6 6 7
	31	1.6 8 5 1 8 5 2
	32	1.7 0 3 7 0 3 7
	33	1.7 2 2 2 2 2 2
	34	1.7 4 0 7 4 0 7
	35	1.7 5 9 2 5 9 3
	36	1.7 7 7 7 7 7 8
	37	1.7 9 6 2 9 6 3
	38	1.8 1 4 8 1 4 8
	39	1.8 3 3 3 3 3 3
	40	1.8 5 1 8 5 1 9
	41	1.8 7 0 3 7 0 4
	42	1.8 8 8 8 8 8 9
	43	1.9 0 7 4 0 7 4
	44	1.9 2 5 9 2 5 9
	45	1.9 4 4 4 4 4 4
	46	1.9 6 2 9 6 3 0
	47	1.9 8 1 4 8 1 5
	48	2.0 0 0 0 0 0 0
	49	2.0 1 8 5 1 8 5
	50	2.0 3 7 0 3 7 0
	51	2.0 5 5 5 5 5 6
	52	2.0 7 4 0 7 4 1
	53	2.0 9 2 5 9 2 6
	54	2.1 1 1 1 1 1 1
	55	2.1 2 9 6 2 9 6
	56	2.1 4 8 1 4 8 1
	57	2.1 6 6 6 6 6 7
	58	2.1 8 5 1 8 5 2
	59	2.2 0 3 7 0 3 7
	60	2.2 2 2 2 2 2 2

2°	0	2.2 2 22222 2
	1	2.2 40740 7
	2	2.2 59259 3
	3	2.2 77777 8
	4	2.2 96296 3
	5	2.3 14814 8
	6	2.3 33333 3
	7	2.3 51851 9
	8	2.3 70370 4
	9	2.3 88888 9
	10	2.4 07407 4
	11	2.4 25925 9
	12	2.4 44444 4
	13	2.4 62963 0
	14	2.4 81481 5
	15	2.5 00000 0
	16	2.5 18518 5
	17	2.5 37037 0
	18	2.5 55555 6
	19	2.5 74074 1
	20	2.5 92592 6
	21	2.6 11111 1
	22	2.6 29629 6
	23	2.6 48148 1
	24	2.6 66666 7
	25	2.6 85185 2
	26	2.7 03703 7
	27	2.7 22222 2
	28	2.7 40740 7
	29	2.7 59259 3
	30	2.7 77777 8

2°	30	2.7 77777 8
	31	2.7 96296 3
	32	2.8 14814 8
	33	2.8 33333 3
	34	2.8 51851 9
	35	2.8 70370 4
	36	2.8 88888 9
	37	2.9 07407 4
	38	2.9 25925 9
	39	2.9 44444 4
	40	2.9 62963 0
	41	2.9 81481 5
	42	3.0 00000 0
	43	3.0 18518 5
	44	3.0 37037 0
	45	3.0 55555 6
	46	3.0 74074 1
	47	3.0 92592 6
	48	3.1 11111 1
	49	3.1 29629 6
	50	3.1 48148 1
	51	3.1 66666 7
	52	3.1 85185 2
	53	3.2 03703 7
	54	3.2 22222 2
	55	3.2 40740 7
	56	3.2 59259 3
	57	3.2 77777 8
	58	3.2 96296 3
	59	3.3 14814 8
	60	3.3 33333 3

5.

3°	0'	3.3 3 333333
	1	3.3 5 18519
	2	3.3 7 03704
	3	3.3 8 888889
	4	3.4 0 74074
	5	3.4 2 59259
	6	3.4 4 44444
	7	3.4 6 29630
	8	3.4 8 14815
	9	3.5 0 000000
	10	3.5 1 85185
	11	3.5 3 70370
	12	3.5 5 555556
	13	3.5 7 40741
	14	3.5 9 25926
	15	3.6 1 111111
	16	3.6 2 96296
	17	3.6 4 81481
	18	3.6 6 666667
	19	3.6 8 51852
	20	3.7 0 37037
	21	3.7 2 22222
	22	3.7 4 07407
	23	3.7 5 92593
	24	3.7 7 77778
	25	3.7 9 62963
	26	3.8 1 48148
	27	3.8 3 333333
	28	3.8 5 18519
	29	3.8 7 03704
	30	3.8 8 888889

3°	30'	3.8 8 888889
	31	3.9 0 74074
	32	3.9 2 59259
	33	3.9 4 44444
	34	3.9 6 29630
	35	3.9 8 14815
	36	4.0 0 000000
	37	4.0 1 85185
	38	4.0 3 70370
	39	4.0 5 555556
	40	4.0 7 40741
	41	4.0 9 25926
	42	4.1 1 111111
	43	4.1 2 96296
	44	4.1 4 81481
	45	4.1 6 666667
	46	4.1 8 51852
	47	4.2 0 37037
	48	4.2 2 222222
	49	4.2 4 07407
	50	4.2 5 92593
	51	4.2 7 777778
	52	4.2 9 62963
	53	4.3 1 48148
	54	4.3 3 333333
	55	4.3 5 18519
	56	4.3 7 03704
	57	4.3 8 888889
	58	4.4 0 74074
	59	4.4 2 59259
	60	4.4 4 444444

4°	0°	4.4 4 44444
	1	4.4 6 29630
	2	4.4 8 14815
	3	4.5 0 00000
	4	4.5 1 85185
	5	4.5 3 70370
	6	4.5 5 55556
	7	4.5 7 40741
	8	4.5 9 25926
	9	4.6 1 11111
	10	4.6 2 96296
	11	4.6 4 81481
	12	4.6 6 66667
	13	4.6 8 51852
	14	4.7 0 37037
	15	4.7 2 22222
	16	4.7 4 07407
	17	4.7 5 92593
	18	4.7 7 77778
	19	4.7 9 62963
	20	4.8 1 48148
	21	4.8 3 33333
	22	4.8 5 18519
	23	4.8 7 03704
	24	4.8 8 88889
	25	4.9 0 74074
	26	4.9 2 59259
	27	4.9 4 44444
	28	4.9 6 29630
	29	4.9 8 14815
	30	5.0 0 00000

4°	30°	5.0 0 00000
	31	5.0 1 85185
	32	5.0 3 70370
	33	5.0 5 55556
	34	5.0 7 40741
	35	5.0 9 25926
	36	5.1 1 11111
	37	5.1 2 96296
	38	5.1 4 81481
	39	5.1 6 66667
	40	5.1 8 51852
	41	5.2 0 37037
	42	5.2 2 22222
	43	5.2 4 07407
	44	5.2 5 92593
	45	5.2 7 77778
	46	5.2 9 62963
	47	5.3 1 48148
	48	5.3 3 33333
	49	5.3 5 18519
	50	5.3 7 03704
	51	5.3 8 88889
	52	5.4 0 74074
	53	5.4 2 59259
	54	5.4 4 44444
	55	5.4 6 29630
	56	5.4 8 14815
	57	5.5 0 00000
	58	5.5 1 85185
	59	5.5 3 70370
	60	5.5 5 55556

5°	0'	5.5 5 5555 6
	1	5.5 7 4074 1
	2	5.5 9 2592 6
	3	5.6 1 1111 1
	4	5.6 2 962 96
	5	5.6 4 8148 1
	6	5.6 6 6666 7
	7	5.6 8 5185 2
	8	5.7 0 3703 7
	9	5.7 2 2222 2
	10	5.7 4 0740 7
	11	5.7 5 9259 3
	12	5.7 7 7777 8
	13	5.7 9 6296 3
	14	5.8 1 4814 8
	15	5.8 3 3333 3
	16	5.8 5 1851 9
	17	5.8 7 0370 4
	18	5.8 8 8888 9
	19	5.9 0 7407 4
	20	5.9 2 5925 9
	21	5.9 4 4444 4
	22	5.9 6 2963 0
	23	5.9 8 1481 5
	24	6.0 0 0000 0
	25	6.0 1 8518 5
	26	6.0 3 7037 0
	27	6.0 5 5555 6
	28	6.0 7 4074 1
	29	6.0 9 2592 6
	30	6.1 1 1111 1

5°	30'	6.1 1 1111 1
	31	6.1 2 9629 6
	32	6.1 4 8148 1
	33	6.1 6 6666 7
	34	6.1 8 5185 2
	35	6.2 0 3703 7
	36	6.2 2 2222 2
	37	6.2 4 0740 7
	38	6.2 5 9259 3
	39	6.2 7 7777 8
	40	6.2 9 6296 3
	41	6.3 1 4814 8
	42	6.3 3 3333 3
	43	6.3 5 1851 9
	44	6.3 7 0370 4
	45	6.3 8 8888 9
	46	6.4 0 7407 4
	47	6.4 2 5925 9
	48	6.4 4 4444 4
	49	6.4 6 2963 0
	50	6.4 8 1481 5
	51	6.5 0 0000 0
	52	6.5 1 8518 5
	53	6.5 3 7037 0
	54	6.5 5 5555 6
	55	6.5 7 4074 1
	56	6.5 9 2592 6
	57	6.6 1 1111 1
	58	6.6 2 9629 6
	59	6.6 4 8148 1
	60	6.6 6 6666 7

6°	0°	6.6 6 6 6 6 6 7
	1	6.6 8 5 1 8 5 2
	2	6.7 0 3 7 0 3 7
	3	6.7 2 2 2 2 2 2
	4	6.7 4 0 7 4 0 7
	5	6.7 5 9 2 5 9 3
	6	6.7 7 7 7 7 7 8
	7	6.7 9 6 2 9 6 3
	8	6.8 1 4 8 1 4 8
	9	6.8 3 3 3 3 3 3
	10	6.8 5 1 8 5 1 9
	11	6.8 7 0 3 7 0 4
	12	6.8 8 8 8 8 8 9
	13	6.9 0 7 4 0 7 4
	14	6.9 2 5 9 2 5 9
	15	6.9 4 4 4 4 4 4
	16	6.9 6 2 9 6 3 0
	17	6.9 8 1 4 8 1 5
	18	7.0 0 0 0 0 0 0
	19	7.0 1 8 5 1 8 5
	20	7.0 3 7 0 3 7 0
	21	7.0 5 5 5 5 5 6
	22	7.0 7 4 0 7 4 1
	23	7.0 9 2 5 9 2 6
	24	7.1 1 1 1 1 1 1
	25	7.1 2 9 6 2 9 6
	26	7.1 4 8 1 4 8 1
	27	7.1 6 6 6 6 6 7
	28	7.1 8 5 1 8 5 2
	29	7.2 0 3 7 0 3 7
	30	7.2 2 2 2 2 2 2

6°	30°	7.2 2 2 2 2 2 2
	31	7.2 4 0 7 4 0 7
	32	7.2 5 9 2 5 9 3
	33	7.2 7 7 7 7 7 8
	34	7.2 9 6 2 9 6 3
	35	7.3 1 4 8 1 4 8
	36	7.3 3 3 3 3 3 3
	37	7.3 5 1 8 5 1 9
	38	7.3 7 0 3 7 0 4
	39	7.3 8 8 8 8 8 9
	40	7.4 0 7 4 0 7 4
	41	7.4 2 5 9 2 5 9
	42	7.4 4 4 4 4 4 4
	43	7.4 6 2 9 6 3 0
	44	7.4 8 1 4 8 1 5
	45	7.5 0 0 0 0 0 0
	46	7.5 1 8 5 1 8 5
	47	7.5 3 7 0 3 7 0
	48	7.5 5 5 5 5 5 6
	49	7.5 7 4 0 7 4 1
	50	7.5 9 2 5 9 2 6
	51	7.6 1 1 1 1 1 1
	52	7.6 2 9 6 2 9 6
	53	7.6 4 8 1 4 8 1
	54	7.6 6 6 6 6 6 7
	55	7.6 8 5 1 8 5 2
	56	7.7 0 3 7 0 3 7
	57	7.7 2 2 2 2 2 2
	58	7.7 4 0 7 4 0 7
	59	7.7 5 9 2 5 9 3
	60	7.7 7 7 7 7 7 8

7°	0	7.7 7 7 7 7 7 8
	1	7.7 9 6 2 9 6 3
	2	7.8 1 4 8 1 4 8
	3	7.8 3 3 3 3 3 3
	4	7.8 5 1 8 5 1 9
	5	7.8 7 0 3 7 0 4
	6	7.8 8 8 8 8 8 9
	7	7.9 0 7 4 0 7 4
	8	7.9 2 5 9 2 5 9
	9	7.9 4 4 4 4 4 4
	10	7.9 6 2 9 6 3 0
	11	7.9 8 1 4 8 1 5
	12	8.0 0 0 0 0 0 0
	13	8.0 1 8 5 1 8 5
	14	8.0 3 7 0 3 7 0
	15	8.0 5 5 5 5 5 6
	16	8.0 7 4 0 7 4 1
	17	8.0 9 2 5 9 2 6
	18	8.1 1 1 1 1 1 1
	19	8.1 2 9 6 2 9 6
	20	8.1 4 8 1 4 8 1
	21	8.1 6 6 6 6 6 7
	22	8.1 8 5 1 8 5 2
	23	8.2 0 3 7 0 3 7
	24	8.2 2 2 2 2 2 2
	25	8.2 4 0 7 4 0 7
	26	8.2 5 9 2 5 9 3
	27	8.2 7 7 7 7 7 8
	28	8.2 9 6 2 9 6 3
	29	8.3 1 4 8 1 4 8
	30	8.3 3 3 3 3 3 3

7°	30	8.3 3 3 3 3 3 3
	31	8.3 5 1 8 5 1 9
	32	8.3 7 0 3 7 0 4
	33	8.3 8 8 8 8 8 9
	34	8.4 0 7 4 0 7 4
	35	8.4 2 5 9 2 5 9
	36	8.4 4 4 4 4 4 4
	37	8.4 6 2 9 6 3 0
	38	8.4 8 1 4 8 1 5
	39	8.5 0 0 0 0 0 0
	40	8.5 1 8 5 1 8 5
	41	8.5 3 7 0 3 7 0
	42	8.5 5 5 5 5 5 6
	43	8.5 7 4 0 7 4 1
	44	8.5 9 2 5 9 2 6
	45	8.6 1 1 1 1 1 1
	46	8.6 2 9 6 2 9 6
	47	8.6 4 8 1 4 8 1
	48	8.6 6 6 6 6 6 7
	49	8.6 8 5 1 8 5 2
	50	8.7 0 3 7 0 3 7
	51	8.7 2 2 2 2 2 2
	52	8.7 4 0 7 4 0 7
	53	8.7 5 9 2 5 9 3
	54	8.7 7 7 7 7 7 8
	55	8.7 9 6 2 9 6 3
	56	8.8 1 4 8 1 4 8
	57	8.8 3 3 3 3 3 3
	58	8.8 5 1 8 5 1 9
	59	8.8 7 0 3 7 0 4
	60	8.8 8 8 8 8 8 9

8°	0'	8.8 8 8 8 8 8 9
	1	8.9 0 7 4 0 7 4
	2	8.9 2 5 9 2 5 9
	3	8.9 4 4 4 4 4 4
	4	8.9 6 2 9 6 3 0
	5	8.9 8 1 4 8 1 5
	6	9.0 0 0 0 0 0 0
	7	9.0 1 8 5 1 8 5
	8	9.0 3 7 0 3 7 0
	9	9.0 5 5 5 5 5 6
	10	9.0 7 4 0 7 4 1
	11	9.0 9 2 5 9 2 6
	12	9.1 1 1 1 1 1 1
	13	9.1 2 9 6 2 9 6
	14	9.1 4 8 1 4 8 1
	15	9.1 6 6 6 6 6 7
	16	9.1 8 5 1 8 5 2
	17	9.2 0 3 7 0 3 7
	18	9.2 2 2 2 2 2 2
	19	9.2 4 0 7 4 0 7
	20	9.2 5 9 2 5 9 3
	21	9.2 7 7 7 7 7 8
	22	9.2 9 6 2 9 6 3
	23	9.3 1 4 8 1 4 8
	24	9.3 3 3 3 3 3 3
	25	9.3 5 1 8 5 1 9
	26	9.3 7 0 3 7 0 4
	27	9.3 8 8 8 8 8 9
	28	9.4 0 7 4 0 7 4
	29	9.4 2 5 9 2 5 9
	30	9.4 4 4 4 4 4 4

8°	30'	9.4 4 4 4 4 4 4
	31	9.4 6 2 9 6 3 0
	32	9.4 8 1 4 8 1 5
	33	9.5 0 0 0 0 0 0
	34	9.5 1 8 5 1 8 5
	35	9.5 3 7 0 3 7 0
	36	9.5 5 5 5 5 5 6
	37	9.5 7 4 0 7 4 1
	38	9.5 9 2 5 9 2 6
	39	9.6 1 1 1 1 1 1
	40	9.6 2 9 6 2 9 6
	41	9.6 4 8 1 4 8 1
	42	9.6 6 6 6 6 6 7
	43	9.6 8 5 1 8 5 2
	44	9.7 0 3 7 0 3 7
	45	9.7 2 2 2 2 2 2
	46	9.7 4 0 7 4 0 7
	47	9.7 5 9 2 5 9 3
	48	9.7 7 7 7 7 7 8
	49	9.7 9 6 2 9 6 3
	50	9.8 1 4 8 1 4 8
	51	9.8 3 3 3 3 3 3
	52	9.8 5 1 8 5 1 9
	53	9.8 7 0 3 7 0 4
	54	9.8 8 8 8 8 8 9
	55	9.9 0 7 4 0 7 4
	56	9.9 2 5 9 2 5 9
	57	9.9 4 4 4 4 4 4
	58	9.9 6 2 9 6 3 0
	59	9.9 8 1 4 8 1 5
	60	1 0.0 0 0 0 0 0 0

30	0	10.00000000
	1	10.0185185
	2	10.0370370
	3	10.0555556
	4	10.0740741
	5	10.0925926
	6	10.1111111
	7	10.1296296
	8	10.1481481
	9	10.1666667

10	10.1851852
11	10.2037037
12	10.2222222
13	10.2407407
14	10.2592593
15	10.2777778
16	10.2962963
17	10.3148148
18	10.3333333
19	10.3518519

20	10.3703704
21	10.3888889
22	10.4074074
23	10.4259259
24	10.4444444
25	10.4629630
26	10.4814815
27	10.5000000
28	10.5185185
29	10.5370370

30	10.5555556
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30	10.5555556
31	10.5740741
32	10.5925926
33	10.6111111
34	10.6296296
35	10.6481481
36	10.6666667
37	10.6851852
38	10.7037037
39	10.7222222

40	10.7407407
41	10.7592593
42	10.7777778
43	10.7962963
44	10.8148148
45	10.8333333
46	10.8518519
47	10.8703704
48	10.8888889
49	10.9074074

50	10.9259259
51	10.9444444
52	10.9629630
53	10.9814815
54	11.0000000
55	11.0185185
56	11.0370370
57	11.0555556
58	11.0740741
59	11.0925926

60	11.1111111
----	------------

10°	0'	1 1.1 1 1 1 1 1 1
	1	1 1.1 2 9 6 2 9 6
	2	1 1.1 4 8 1 4 8 1
	3	1 1.1 6 6 6 6 6 7
	4	1 1.1 8 5 1 8 5 2
	5	1 1.2 0 3 7 0 3 7
	6	1 1.2 2 2 2 2 2 2
	7	1 1.2 4 0 7 4 0 7
	8	1 1.2 5 9 2 5 9 3
	9	1 1.2 7 7 7 7 7 8
	10	1 1.2 9 6 2 9 6 3
	11	1 1.3 1 4 8 1 4 8
	12	1 1.3 3 3 3 3 3 3
	13	1 1.3 5 1 8 5 1 9
	14	1 1.3 7 0 3 7 0 4
	15	1 1.3 8 8 8 8 8 9
	16	1 1.4 0 7 4 0 7 4
	17	1 1.4 2 5 9 2 5 9
	18	1 1.4 4 4 4 4 4 4
	19	1 1.4 6 2 9 6 3 0
	20	1 1.4 8 1 4 8 1 5
	21	1 1.5 0 0 0 0 0 0
	22	1 1.5 1 8 5 1 8 5
	23	1 1.5 3 7 0 3 7 0
	24	1 1.5 5 5 5 5 5 6
	25	1 1.5 7 4 0 7 4 1
	26	1 1.5 9 2 5 9 2 6
	27	1 1.6 1 1 1 1 1 1
	28	1 1.6 2 9 6 2 9 6
	29	1 1.6 4 8 1 4 8 1
	30	1 1.6 6 6 6 6 6 7

10°	30'	1 1.6 6 6 6 6 6 7
	31	1 1.6 8 5 1 8 5 2
	32	1 1.7 0 3 7 0 3 7
	33	1 1.7 2 2 2 2 2 2
	34	1 1.7 4 0 7 4 0 7
	35	1 1.7 5 9 2 5 9 3
	36	1 1.7 7 7 7 7 7 8
	37	1 1.7 9 6 2 9 6 3
	38	1 1.8 1 4 8 1 4 8
	39	1 1.8 3 3 3 3 3 3
	40	1 1.8 5 1 8 5 1 9
	41	1 1.8 7 0 3 7 0 4
	42	1 1.8 8 8 8 8 8 9
	43	1 1.9 0 7 4 0 7 4
	44	1 1.9 2 5 9 2 5 9
	45	1 1.9 4 4 4 4 4 4
	46	1 1.9 6 2 9 6 3 0
	47	1 1.9 8 1 4 8 1 5
	48	1 2.0 0 0 0 0 0 0
	49	1 2.0 1 8 5 1 8 5
	50	1 2.0 3 7 0 3 7 0
	51	1 2.0 5 5 5 5 5 6
	52	1 2.0 7 4 0 7 4 1
	53	1 2.0 9 2 5 9 2 6
	54	1 2.1 1 1 1 1 1 1
	55	1 2.1 2 9 6 2 9 6
	56	1 2.1 4 8 1 4 8 1
	57	1 2.1 6 6 6 6 6 7
	58	1 2.1 8 5 1 8 5 2
	59	1 2.2 0 3 7 0 3 7
	60	1 2.2 2 2 2 2 2 2

11°	0'	12.2222222
	1	12.2407407
	2	12.2592593
	3	12.2777778
	4	12.2962963
	5	12.3148148
	6	12.3333333
	7	12.3518519
	8	12.3703704
	9	12.3888889
	10	12.4074074
	11	12.4259259
	12	12.4444444
	13	12.4629630
	14	12.4814815
	15	12.5000000
	16	12.5185185
	17	12.5370370
	18	12.5555556
	19	12.5740741
	20	12.5925926
	21	12.6111111
	22	12.6296296
	23	12.6481481
	24	12.6666667
	25	12.6851852
	26	12.7037037
	27	12.7222222
	28	12.7407407
	29	12.7592593
	30	12.7777778

11°	30'	12.7777778
	31	12.7962963
	32	12.8148148
	33	12.8333333
	34	12.8518519
	35	12.8703704
	36	12.8888889
	37	12.9074074
	38	12.9259259
	39	12.9444444
	40	12.9629630
	41	12.9814815
	42	13.0000000
	43	13.0185185
	44	13.0370370
	45	13.0555556
	46	13.0740741
	47	13.0925926
	48	13.1111111
	49	13.1296296
	50	13.1481481
	51	13.1666667
	52	13.1851852
	53	13.2037037
	54	13.2222222
	55	13.2407407
	56	13.2592593
	57	13.2777778
	58	13.2962963
	59	13.3148148
	60	13.3333333

12°	0'	1 3.3 3 3 3 3 3 3
	1	1 3.3 5 1 8 5 1 9
	2	1 3.3 7 0 3 7 0 4
	3	1 3.3 8 8 8 8 8 9
	4	1 3.4 0 7 4 0 7 4
	5	1 3.4 2 5 9 2 5 9
	6	1 3.4 4 4 4 4 4 4
	7	1 3.4 6 2 9 6 3 0
	8	1 3.4 8 1 4 8 1 5
	9	1 3.5 0 0 0 0 0 0
	10	1 3.5 1 8 5 1 8 5
	11	1 3.5 3 7 0 3 7 0
	12	1 3.5 5 5 5 5 5 6
	13	1 3.5 7 4 0 7 4 1
	14	1 3.5 9 2 5 9 2 6
	15	1 3.6 1 1 1 1 1 1
	16	1 3.6 2 9 6 2 9 6
	17	1 3.6 4 8 1 4 8 1
	18	1 3.6 6 6 6 6 6 7
	19	1 3.6 8 5 1 8 5 2
	20	1 3.7 0 3 7 0 3 7
	21	1 3.7 2 2 2 2 2 2
	22	1 3.7 4 0 7 4 0 7
	23	1 3.7 5 9 2 5 9 3
	24	1 3.7 7 7 7 7 7 8
	25	1 3.7 9 6 2 9 6 3
	26	1 3.8 1 4 8 1 4 8
	27	1 3.8 3 3 3 3 3 3
	28	1 3.8 5 1 8 5 1 9
	29	1 3.8 7 0 3 7 0 4
	30	1 3.8 8 8 8 8 8 9

12°	30'	1 3.8 8 8 8 8 8 9
	31	1 3.9 0 7 4 0 7 4
	32	1 3.9 2 5 9 2 5 9
	33	1 3.9 4 4 4 4 4 4
	34	1 3.9 6 2 9 6 3 0
	35	1 3.9 8 1 4 8 1 5
	36	1 4.0 0 0 0 0 0 0
	37	1 4.0 1 8 5 1 8 5
	38	1 4.0 3 7 0 3 7 0
	39	1 4.0 5 5 5 5 5 6
	40	1 4.0 7 4 0 7 4 1
	41	1 4.0 9 2 5 9 2 6
	42	1 4.1 1 1 1 1 1 1
	43	1 4.1 2 9 6 2 9 6
	44	1 4.1 4 8 1 4 8 1
	45	1 4.1 6 6 6 6 6 7
	46	1 4.1 8 5 1 8 5 2
	47	1 4.2 0 3 7 0 3 7
	48	1 4.2 2 2 2 2 2 2
	49	1 4.2 4 0 7 4 0 7
	50	1 4.2 5 9 2 5 9 3
	51	1 4.2 7 7 7 7 7 8
	52	1 4.2 9 6 2 9 6 3
	53	1 4.3 1 4 8 1 4 8
	54	1 4.3 3 3 3 3 3 3
	55	1 4.3 5 1 8 5 1 9
	56	1 4.3 7 0 3 7 0 4
	57	1 4.3 8 8 8 8 8 9
	58	1 4.4 0 7 4 0 7 4
	59	1 4.4 2 5 9 2 5 9
	60	1 4.4 4 4 4 4 4 4

13°	0'	1 4.4 4 44444
	1	1 4.4 6 29630
	2	1 4.4 8 14815
	3	1 4.5 0 00000
	4	1 4.5 1 85185
	5	1 4.5 3 70370
	6	1 4.5 5 55556
	7	1 4.5 7 40741
	8	1 4.5 9 25926
	9	1 4.6 1 11111
	10	1 4.6 2 96296
	11	1 4.6 4 81481
	12	1 4.6 6 66667
	13	1 4.6 8 51852
	14	1 4.7 0 37037
	15	1 4.7 2 22222
	16	1 4.7 4 07407
	17	1 4.7 5 92593
	18	1 4.7 7 77778
	19	1 4.7 9 62963
	20	1 4.8 1 48148
	21	1 4.8 3 33333
	22	1 4.8 5 18519
	23	1 4.8 7 03704
	24	1 4.8 8 88889
	25	1 4.9 0 74074
	26	1 4.9 2 59259
	27	1 4.9 4 44444
	28	1 4.9 6 29630
	29	1 4.9 8 14815
	30	1 5.0 0 00000

13°	30'	1 5.0 0 00000
	31	1 5.0 1 85185
	32	1 5.0 3 70370
	33	1 5.0 5 55556
	34	1 5.0 7 40741
	35	1 5.0 9 25926
	36	1 5.1 1 11111
	37	1 5.1 2 96296
	38	1 5.1 4 81481
	39	1 5.1 6 66667
	40	1 5.1 8 51852
	41	1 5.2 0 37037
	42	1 5.2 2 22222
	43	1 5.2 4 07407
	44	1 5.2 5 92593
	45	1 5.2 7 77778
	46	1 5.2 9 62963
	47	1 5.3 1 48148
	48	1 5.3 3 33333
	49	1 5.3 5 18519
	50	1 5.3 7 03704
	51	1 5.3 8 88889
	52	1 5.4 0 74074
	53	1 5.4 2 59259
	54	1 5.4 4 44444
	55	1 5.4 6 29630
	56	1 5.4 8 14815
	57	1 5.5 0 00000
	58	1 5.5 1 85185
	59	1 5.5 3 70370
	60	1 5.5 5 55556

14°	0'	15.5 5 55555 6
	1	15.5 7 40741
	2	15.5 9 25926
	3	15.6 1 11111
	4	15.6 2 96296
	5	15.6 4 81481
	6	15.6 6 66667
	7	15.6 8 51852
	8	15.7 0 37037
	9	15.7 2 22222
	10	15.7 4 07407
	11	15.7 5 92593
	12	15.7 7 77778
	13	15.7 9 62963
	14	15.8 1 48148
	15	15.8 3 33333
	16	15.8 5 18519
	17	15.8 7 03704
	18	15.8 8 88889
	19	15.9 0 74074
	20	15.9 2 59259
	21	15.9 4 44444
	22	15.9 6 29630
	23	15.9 8 14815
	24	16.0 0 00000
	25	16.0 1 85185
	26	16.0 3 70370
	27	16.0 5 55556
	28	16.0 7 40741
	29	16.0 9 25926
	30	16.1 1 11111

14°	30'	16.1 1 11111
	31	16.1 2 96296
	32	16.1 4 81481
	33	16.1 6 66667
	34	16.1 8 51852
	35	16.2 0 37037
	36	16.2 2 22222
	37	16.2 4 07407
	38	16.2 5 92593
	39	16.2 7 77778
	40	16.2 9 62963
	41	16.3 1 48148
	42	16.3 3 33333
	43	16.3 5 18519
	44	16.3 7 03704
	45	16.3 8 88889
	46	16.4 0 74074
	47	16.4 2 59259
	48	16.4 4 44444
	49	16.4 6 29630
	50	16.4 8 14815
	51	16.5 0 00000
	52	16.5 1 85185
	53	16.5 3 70370
	54	16.5 5 55556
	55	16.5 7 40741
	56	16.5 9 25926
	57	16.6 1 11111
	58	16.6 2 96296
	59	16.6 4 81481
	60	16.6 6 66667

15°

0'	16.6 6 6666 7
1	16.6 8 5185 2
2	16.7 0 3703 7
3	16.7 2 2222 2
4	16.7 4 0740 7
5	16.7 5 9259 3
6	16.7 7 7777 8
7	16.7 9 6296 3
8	16.8 1 4814 8
9	16.8 3 3333 3
10	16.8 5 1851 9
11	16.8 7 0370 4
12	16.8 8 8888 9
13	16.9 0 7407 4
14	16.9 2 5925 9
15	16.9 4 4444 4
16	16.9 6 2963 0
17	16.9 8 1481 5
18	17.0 0 0000 0
19	17.0 1 8518 5
20	17.0 3 7037 0
21	17.0 5 5555 6
22	17.0 7 4074 1
23	17.0 9 2592 6
24	17.1 1 1111 1
25	17.1 2 9629 6
26	17.1 4 8148 1
27	17.1 6 6666 7
28	17.1 8 5185 2
29	17.2 0 3703 7
30	17.2 2 2222 2

15°

30'	17.2 2 2222 2
31	17.2 4 0740 7
32	17.2 5 9259 3
33	17.2 7 7777 8
34	17.2 9 6296 3
35	17.3 1 4814 8
36	17.3 3 3333 3
37	17.3 5 1851 9
38	17.3 7 0370 4
39	17.3 8 8888 9
40	17.4 0 7407 4
41	17.4 2 5925 9
42	17.4 4 4444 4
43	17.4 6 2963 0
44	17.4 8 1481 5
45	17.5 0 0000 0
46	17.5 1 8518 5
47	17.5 3 7037 0
48	17.5 5 5555 6
49	17.5 7 4074 1
50	17.5 9 2592 6
51	17.6 1 1111 1
52	17.6 2 9629 6
53	17.6 4 8148 1
54	17.6 6 6666 7
55	17.6 8 5185 2
56	17.7 0 3703 7
57	17.7 2 2222 2
58	17.7 4 0740 7
59	17.7 5 9259 3
60	17.7 7 7777 8

18.

16°	0°	17.7 7 7 7 7 7 8
	1	17.7 9 6 2 9 6 3
	2	17.8 1 4 8 1 4 8
	3	17.8 3 3 3 3 3 3
	4	17.8 5 1 8 5 1 9
	5	17.8 7 0 3 7 0 4
	6	17.8 8 8 8 8 8 9
	7	17.9 0 7 4 0 7 4
	8	17.9 2 5 9 2 5 9
	9	17.9 4 4 4 4 4 4
	10	17.9 6 2 9 6 3 0
	11	17.9 8 1 4 8 1 5
	12	18.0 0 0 0 0 0 0
	13	18.0 1 8 5 1 8 5
	14	18.0 3 7 0 3 7 0
	15	18.0 5 5 5 5 5 6
	16	18.0 7 4 0 7 4 1
	17	18.0 9 2 5 9 2 6
	18	18.1 1 1 1 1 1 1
	19	18.1 2 9 6 2 9 6
	20	18.1 4 8 1 4 8 1
	21	18.1 6 6 6 6 6 7
	22	18.1 8 5 1 8 5 2
	23	18.2 0 3 7 0 3 7
	24	18.2 2 2 2 2 2 2
	25	18.2 4 0 7 4 0 7
	26	18.2 5 9 2 5 9 3
	27	18.2 7 7 7 7 7 8
	28	18.2 9 6 2 9 6 3
	29	18.3 1 4 8 1 4 8
	30	18.3 3 3 3 3 3 3

16°	30°	18.3 3 3 3 3 3 3
	31	18.3 5 1 8 5 1 9
	32	18.3 7 0 3 7 0 4
	33	18.3 8 8 8 8 8 9
	34	18.4 0 7 4 0 7 4
	35	18.4 2 5 9 2 5 9
	36	18.4 4 4 4 4 4 4
	37	18.4 6 2 9 6 3 0
	38	18.4 8 1 4 8 1 5
	39	18.5 0 0 0 0 0 0
	40	18.5 1 8 5 1 8 5
	41	18.5 3 7 0 3 7 0
	42	18.5 5 5 5 5 5 6
	43	18.5 7 4 0 7 4 1
	44	18.5 9 2 5 9 2 6
	45	18.6 1 1 1 1 1 1
	46	18.6 2 9 6 2 9 6
	47	18.6 4 8 1 4 8 1
	48	18.6 6 6 6 6 6 7
	49	18.6 8 5 1 8 5 2
	50	18.7 0 3 7 0 3 7
	51	18.7 2 2 2 2 2 2
	52	18.7 4 0 7 4 0 7
	53	18.7 5 9 2 5 9 3
	54	18.7 7 7 7 7 7 8
	55	18.7 9 6 2 9 6 3
	56	18.8 1 4 8 1 4 8
	57	18.8 3 3 3 3 3 3
	58	18.8 5 1 8 5 1 9
	59	18.8 7 0 3 7 0 4
	60	18.8 8 8 8 8 8 9

17°	0'	18.8888889
	1	18.9074074
	2	18.9259259
	3	18.9444444
	4	18.9629630
	5	18.9814815
	6	19.0000000
	7	19.0185185
	8	19.0370370
	9	19.0555556
	10	19.0740741
	11	19.0925926
	12	19.1111111
	13	19.1296296
	14	19.1481481
	15	19.1666667
	16	19.1851852
	17	19.2037037
	18	19.2222222
	19	19.2407407
	20	19.2592593
	21	19.2777778
	22	19.2962963
	23	19.3148148
	24	19.3333333
	25	19.3518519
	26	19.3703704
	27	19.3888889
	28	19.4074074
	29	19.4259259
	30	19.4444444

17°	30'	19.4444444
	31	19.4629630
	32	19.4814815
	33	19.5000000
	34	19.5185185
	35	19.5370370
	36	19.5555556
	37	19.5740741
	38	19.5925926
	39	19.6111111
	40	19.6296296
	41	19.6481481
	42	19.6666667
	43	19.6851852
	44	19.7037037
	45	19.7222222
	46	19.7407407
	47	19.7592593
	48	19.7777778
	49	19.7962963
	50	19.8148148
	51	19.8333333
	52	19.8518519
	53	19.8703704
	54	19.8888889
	55	19.9074074
	56	19.9259259
	57	19.9444444
	58	19.9629630
	59	19.9814815
	60	20.0000000

20.

6°	0'	20.0 0 000000
	1	20.0 1 85185
	2	20.0 3 70370
	3	20.0 5 55556
	4	20.0 7 40741
	5	20.0 9 25926
	6	20.1 1 11111
	7	20.1 2 96296
	8	20.1 4 81481
	9	20.1 6 66667
	10	20.1 8 51852
	11	20.2 0 37037
	12	20.2 2 22222
	13	20.2 4 07407
	14	20.2 5 92593
	15	20.2 7 77778
	16	20.2 9 62963
	17	20.3 1 48148
	18	20.3 3 33333
	19	20.3 5 18519
	20	20.3 7 03704
	21	20.3 8 88889
	22	20.4 0 74074
	23	20.4 2 59259
	24	20.4 4 44444
	25	20.4 6 29630
	26	20.4 8 14815
	27	20.5 0 00000
	28	20.5 1 85185
	29	20.5 3 70370
	30	20.5 5 55556

18°	30'	20.5 5 55556
	31	20.5 7 40741
	32	20.5 9 25926
	33	20.6 1 11111
	34	20.6 2 96296
	35	20.6 4 81481
	36	20.6 6 66667
	37	20.6 8 51852
	38	20.7 0 37037
	39	20.7 2 22222
	40	20.7 4 07407
	41	20.7 5 92593
	42	20.7 7 77778
	43	20.7 9 62963
	44	20.8 1 48148
	45	20.8 3 33333
	46	20.8 5 18519
	47	20.8 7 03704
	48	20.8 8 88889
	49	20.9 0 74074
	50	20.9 2 59259
	51	20.9 4 44444
	52	20.9 6 29630
	53	20.9 8 14815
	54	21.0 0 00000
	55	21.0 1 85185
	56	21.0 3 70370
	57	21.0 5 55556
	58	21.0 7 40741
	59	21.0 9 25926
	60	21.1 1 11111

150	0'	21.1 1 1 1 1 1 1
	1	21.1 2 9 6 2 9 6
	2	21.1 4 8 1 4 8 1
	3	21.1 6 6 6 6 6 7
	4	21.1 8 5 1 8 5 2
	5	21.2 0 3 7 0 3 7
	6	21.2 2 2 2 2 2 2
	7	21.2 4 0 7 4 0 7
	8	21.2 5 9 2 5 9 3
	9	21.2 7 7 7 7 7 8
	10	21.2 9 6 2 9 6 3
	11	21.3 1 4 8 1 4 8
	12	21.3 3 3 3 3 3 3
	13	21.3 5 1 8 5 1 9
	14	21.3 7 0 3 7 0 4
	15	21.3 8 8 8 8 8 9
	16	21.4 0 7 4 0 7 4
	17	21.4 2 5 9 2 5 9
	18	21.4 4 4 4 4 4 4
	19	21.4 6 2 9 6 3 0
	20	21.4 8 1 4 8 1 5
	21	21.5 0 0 0 0 0 0
	22	21.5 1 8 5 1 8 5
	23	21.5 3 7 0 3 7 0
	24	21.5 5 5 5 5 5 6
	25	21.5 7 4 0 7 4 1
	26	21.5 9 2 5 9 2 6
	27	21.6 1 1 1 1 1 1
	28	21.6 2 9 6 2 9 6
	29	21.6 4 8 1 4 8 1
	30	21.6 6 6 6 6 6 7

150	30'	21.6 6 6 6 6 6 7
	31	21.6 8 5 1 8 5 2
	32	21.7 0 3 7 0 3 7
	33	21.7 2 2 2 2 2 2
	34	21.7 4 0 7 4 0 7
	35	21.7 5 9 2 5 9 3
	36	21.7 7 7 7 7 7 8
	37	21.7 9 6 2 9 6 3
	38	21.8 1 4 8 1 4 8
	39	21.8 3 3 3 3 3 3
	40	21.8 5 1 8 5 1 9
	41	21.8 7 0 3 7 0 4
	42	21.8 8 8 8 8 8 9
	43	21.9 0 7 4 0 7 4
	44	21.9 2 5 9 2 5 9
	45	21.9 4 4 4 4 4 4
	46	21.9 6 2 9 6 3 0
	47	21.9 8 1 4 8 1 5
	48	22.0 0 0 0 0 0 0
	49	22.0 1 8 5 1 8 5
	50	22.0 3 7 0 3 7 0
	51	22.0 5 5 5 5 5 6
	52	22.0 7 4 0 7 4 1
	53	22.0 9 2 5 9 2 6
	54	22.1 1 1 1 1 1 1
	55	22.1 2 9 6 2 9 6
	56	22.1 4 8 1 4 8 1
	57	22.1 6 6 6 6 6 7
	58	22.1 8 5 1 8 5 2
	59	22.2 0 3 7 0 3 7
	60	22.2 2 2 2 2 2 2

20°

0'

22.2 222222

1

22.2 407407

2

22.2 592593

3

22.2 777778

4

22.2 962963

5

22.3 148148

6

22.3 333333

7

22.3 518519

8

22.3 703704

9

22.3 888889

10

22.4 074074

11

22.4 259259

12

22.4 444444

13

22.4 629630

14

22.4 814815

15

22.5 000000

16

22.5 185185

17

22.5 370370

18

22.5 555556

19

22.5 740741

20

22.5 925926

21

22.6 111111

22

22.6 296296

23

22.6 481481

24

22.6 666667

25

22.6 851852

26

22.7 037037

27

22.7 222222

28

22.7 407407

29

22.7 592593

30

22.7 777778

20°

30'

22.7 777778

31

22.7 962963

32

22.8 148148

33

22.8 333333

34

22.8 518519

35

22.8 703704

36

22.8 888889

37

22.9 074074

38

22.9 259259

39

22.9 444444

40

22.9 629630

41

22.9 814815

42

23.0 000000

43

23.0 185185

44

23.0 370370

45

23.0 555556

46

23.0 740741

47

23.0 925926

48

23.1 111111

49

23.1 296296

50

23.1 481481

51

23.1 666667

52

23.1 851852

53

23.2 037037

54

23.2 222222

55

23.2 407407

56

23.2 592593

57

23.2 777778

58

23.2 962963

59

23.3 148148

60

23.3 333333

23.

21°	0'	23.3333333
	1	23.3518519
	2	23.3703704
	3	23.3888889
	4	23.4074074
	5	23.4259259
	6	23.4444444
	7	23.4629630
	8	23.4814815
	9	23.5000000
	10	23.5185185
	11	23.5370370
	12	23.5555556
	13	23.5740741
	14	23.5925926
	15	23.6111111
	16	23.6296296
	17	23.6481481
	18	23.6666667
	19	23.6851852
	20	23.7037037
	21	23.7222222
	22	23.7407407
	23	23.7592593
	24	23.7777778
	25	23.7962963
	26	23.8148148
	27	23.8333333
	28	23.8518519
	29	23.8703704
	30	23.8888889

21°	30'	23.8888889
	31	23.9074074
	32	23.9259259
	33	23.9444444
	34	23.9629630
	35	23.9814815
	36	24.0000000
	37	24.0185185
	38	24.0370370
	39	24.0555556
	40	24.0740741
	41	24.0925926
	42	24.1111111
	43	24.1296296
	44	24.1481481
	45	24.1666667
	46	24.1851852
	47	24.2037037
	48	24.2222222
	49	24.2407407
	50	24.2592593
	51	24.2777778
	52	24.2962963
	53	24.3148148
	54	24.3333333
	55	24.3518519
	56	24.3703704
	57	24.3888889
	58	24.4074074
	59	24.4259259
	60	24.4444444

22°	0'	24.4444444
	1	24.4629630
	2	24.4814815
	3	24.5000000
	4	24.5185185
	5	24.5370370
	6	24.5555556
	7	24.5740741
	8	24.5925926
	9	24.6111111
	10	24.6296296
	11	24.6481481
	12	24.6666667
	13	24.6851852
	14	24.7037037
	15	24.7222222
	16	24.7407407
	17	24.7592593
	18	24.7777778
	19	24.7962963
	20	24.8148148
	21	24.8333333
	22	24.8518519
	23	24.8703704
	24	24.8888889
	25	24.9074074
	26	24.9259259
	27	24.9444444
	28	24.9629630
	29	24.9814815
	30	25.0000000

22°	30'	25.0000000
	31	25.0185185
	32	25.0370370
	33	25.0555556
	34	25.0740741
	35	25.0925926
	36	25.1111111
	37	25.1296296
	38	25.1481481
	39	25.1666667
	40	25.1851852
	41	25.2037037
	42	25.2222222
	43	25.2407407
	44	25.2592593
	45	25.2777778
	46	25.2962963
	47	25.3148148
	48	25.3333333
	49	25.3518519
	50	25.3703704
	51	25.3888889
	52	25.4074074
	53	25.4259259
	54	25.4444444
	55	25.4629630
	56	25.4814815
	57	25.5000000
	58	25.5185185
	59	25.5370370
	60	25.5555556

23 ⁰	0'	25.5 5 5 5 5 5 6
	1	25.5 7 4 0 7 4 1
	2	25.5 9 2 5 9 2 6
	3	25.6 1 1 1 1 1 1
	4	25.6 2 9 6 2 9 6
	5	25.6 4 8 1 4 8 1
	6	25.6 6 6 6 6 6 7
	7	25.6 8 5 1 8 5 2
	8	25.7 0 3 7 0 3 7
	9	25.7 2 2 2 2 2 2
	10	25.7 4 0 7 4 0 7
	11	25.7 5 9 2 5 9 3
	12	25.7 7 7 7 7 7 8
	13	25.7 9 6 2 9 6 3
	14	25.8 1 4 8 1 4 8
	15	25.8 3 3 3 3 3 3
	16	25.8 5 1 8 5 1 9
	17	25.8 7 0 3 7 0 4
	18	25.8 8 8 8 8 8 9
	19	25.9 0 7 4 0 7 4
	20	25.9 2 5 9 2 5 9
	21	25.9 4 4 4 4 4 4
	22	25.9 6 2 9 6 3 0
	23	25.9 8 1 4 8 1 5
	24	26.0 0 0 0 0 0 0
	25	26.0 1 8 5 1 8 5
	26	26.0 3 7 0 3 7 0
	27	26.0 5 5 5 5 5 6
	28	26.0 7 4 0 7 4 1
	29	26.0 9 2 5 9 2 6
	30	26.1 1 1 1 1 1 1

23 ⁰	30'	26.1 1 1 1 1 1 1
	31	26.1 2 9 6 2 9 6
	32	26.1 4 8 1 4 8 1
	33	26.1 6 6 6 6 6 7
	34	26.1 8 5 1 8 5 2
	35	26.2 0 3 7 0 3 7
	36	26.2 2 2 2 2 2 2
	37	26.2 4 0 7 4 0 7
	38	26.2 5 9 2 5 9 3
	39	26.2 7 7 7 7 7 8
	40	26.2 9 6 2 9 6 3
	41	26.3 1 4 8 1 4 8
	42	26.3 3 3 3 3 3 3
	43	26.3 5 1 8 5 1 9
	44	26.3 7 0 3 7 0 4
	45	26.3 8 8 8 8 8 9
	46	26.4 0 7 4 0 7 4
	47	26.4 2 5 9 2 5 9
	48	26.4 4 4 4 4 4 4
	49	26.4 6 2 9 6 3 0
	50	26.4 8 1 4 8 1 5
	51	26.5 0 0 0 0 0 0
	52	26.5 1 8 5 1 8 5
	53	26.5 3 7 0 3 7 0
	54	26.5 5 5 5 5 5 6
	55	26.5 7 4 0 7 4 1
	56	26.5 9 2 5 9 2 6
	57	26.6 1 1 1 1 1 1
	58	26.6 2 9 6 2 9 6
	59	26.6 4 8 1 4 8 1
	60	26.6 6 6 6 6 6 7

24°	0	26.6666667
	1	26.6851852
	2	26.7037037
	3	26.7222222
	4	26.7407407
	5	26.7592593
	6	26.7777778
	7	26.7962963
	8	26.8148148
	9	26.8333333
	10	26.8518519
	11	26.8703704
	12	26.8888889
	13	26.9074074
	14	26.9259259
	15	26.9444444
	16	26.9629630
	17	26.9814815
	18	27.0000000
	19	27.0185185
	20	27.0370370
	21	27.0555556
	22	27.0740741
	23	27.0925926
	24	27.1111111
	25	27.1296296
	26	27.1481481
	27	27.1666667
	28	27.1851852
	29	27.2037037
	30	27.2222222

24°	30'	27.2222222
	31	27.2407407
	32	27.2592593
	33	27.2777778
	34	27.2962963
	35	27.3148148
	36	27.3333333
	37	27.3518519
	38	27.3703704
	39	27.3888889
	40	27.4074074
	41	27.4259259
	42	27.4444444
	43	27.4629630
	44	27.4814815
	45	27.5000000
	46	27.5185185
	47	27.5370370
	48	27.5555556
	49	27.5740741
	50	27.5925926
	51	27.6111111
	52	27.6296296
	53	27.6481481
	54	27.6666667
	55	27.6851852
	56	27.7037037
	57	27.7222222
	58	27.7407407
	59	27.7592593
	60	27.7777778

25°	0'	27.7 7 7 7 7 7 8
	1	27.7 9 6 2 9 6 3
	2	27.8 1 4 8 1 4 8
	3	27.8 3 3 3 3 3 3
	4	27.8 5 1 8 5 1 9
	5	27.8 7 0 3 7 0 4
	6	27.8 8 8 8 8 8 9
	7	27.9 0 7 4 0 7 4
	8	27.9 2 5 9 2 5 9
	9	27.9 4 4 4 4 4 4
	10	27.9 6 2 9 6 3 0
	11	27.9 8 1 4 8 1 5
	12	28.0 0 0 0 0 0 0
	13	28.0 1 8 5 1 8 5
	14	28.0 3 7 0 3 7 0
	15	28.0 5 5 5 5 5 6
	16	28.0 7 4 0 7 4 1
	17	28.0 9 2 5 9 2 6
	18	28.1 1 1 1 1 1 1
	19	28.1 2 9 6 2 9 6
	20	28.1 4 8 1 4 8 1
	21	28.1 6 6 6 6 6 7
	22	28.1 8 5 1 8 5 2
	23	28.2 0 3 7 0 3 7
	24	28.2 2 2 2 2 2 2
	25	28.2 4 0 7 4 0 7
	26	28.2 5 9 2 5 9 3
	27	28.2 7 7 7 7 7 8
	28	28.2 9 6 2 9 6 3
	29	28.3 1 4 8 1 4 8
	30	28.3 3 3 3 3 3 3

25°	30'	28.3 3 3 3 3 3 3
	31	28.3 5 1 8 5 1 9
	32	28.3 7 0 3 7 0 4
	33	28.3 8 8 8 8 8 9
	34	28.4 0 7 4 0 7 4
	35	28.4 2 5 9 2 5 9
	36	28.4 4 4 4 4 4 4
	37	28.4 6 2 9 6 3 0
	38	28.4 8 1 4 8 1 5
	39	28.5 0 0 0 0 0 0
	40	28.5 1 8 5 1 8 5
	41	28.5 3 7 0 3 7 0
	42	28.5 5 5 5 5 5 6
	43	28.5 7 4 0 7 4 1
	44	28.5 9 2 5 9 2 6
	45	28.6 1 1 1 1 1 1
	46	28.6 2 9 6 2 9 6
	47	28.6 4 8 1 4 8 1
	48	28.6 6 6 6 6 6 7
	49	28.6 8 5 1 8 5 2
	50	28.7 0 3 7 0 3 7
	51	28.7 2 2 2 2 2 2
	52	28.7 4 0 7 4 0 7
	53	28.7 5 9 2 5 9 3
	54	28.7 7 7 7 7 7 8
	55	28.7 9 6 2 9 6 3
	56	28.8 1 4 8 1 4 8
	57	28.8 3 3 3 3 3 3
	58	28.8 5 1 8 5 1 9
	59	28.8 7 0 3 7 0 4
	60	28.8 8 8 8 8 8 9

26°	0'	28.8888889
	1	28.9074074
	2	28.9259259
	3	28.9444444
	4	28.9629630
	5	28.9814815
	6	29.0000000
	7	29.0185185
	8	29.0370370
	9	29.0555556
	10	29.0740741
	11	29.0925926
	12	29.1111111
	13	29.1296296
	14	29.1481481
	15	29.1666667
	16	29.1851852
	17	29.2037037
	18	29.2222222
	19	29.2407407
	20	29.2592593
	21	29.2777778
	22	29.2962963
	23	29.3148148
	24	29.3333333
	25	29.3518519
	26	29.3703704
	27	29.3888889
	28	29.4074074
	29	29.4259259
	30	29.4444444

26°	30'	29.4444444
	31	29.4629630
	32	29.4814815
	33	29.5000000
	34	29.5185185
	35	29.5370370
	36	29.5555556
	37	29.5740741
	38	29.5925926
	39	29.6111111
	40	29.6296296
	41	29.6481481
	42	29.6666667
	43	29.6851852
	44	29.7037037
	45	29.7222222
	46	29.7407407
	47	29.7592593
	48	29.7777778
	49	29.7962963
	50	29.8148148
	51	29.8333333
	52	29.8518519
	53	29.8703704
	54	29.8888889
	55	29.9074074
	56	29.9259259
	57	29.9444444
	58	29.9629630
	59	29.9814815
	60	30.0000000

27°	0'	30.0 0 000000
	1	30.0 1 85185
	2	30.0 3 70370
	3	30.0 5 55556
	4	30.0 7 40741
	5	30.0 9 25926
	6	30.1 1 11111
	7	30.1 2 96296
	8	30.1 4 81481
	9	30.1 6 66667
	10	30.1 8 51852
	11	30.2 0 37037
	12	30.2 2 22222
	13	30.2 4 07407
	14	30.2 5 92593
	15	30.2 7 77778
	16	30.2 9 62963
	17	30.3 1 48148
	18	30.3 3 33333
	19	30.3 5 18519
	20	30.3 7 03704
	21	30.3 8 88889
	22	30.4 0 74074
	23	30.4 2 59259
	24	30.4 4 44444
	25	30.4 6 29630
	26	30.4 8 14815
	27	30.5 0 00000
	28	30.5 1 85185
	29	30.5 3 70370
	30	30.5 5 55556

27°	30'	30.5 5 55556
	31	30.5 7 40741
	32	30.5 9 25926
	33	30.6 1 11111
	34	30.6 2 96296
	35	30.6 4 81481
	36	30.6 6 66667
	37	30.6 8 51852
	38	30.7 0 37037
	39	30.7 2 22222
	40	30.7 4 07407
	41	30.7 5 92593
	42	30.7 7 77778
	43	30.7 9 62963
	44	30.8 1 48148
	45	30.8 3 33333
	46	30.8 5 18519
	47	30.8 7 03704
	48	30.8 8 88889
	49	30.9 0 74074
	50	30.9 2 59259
	51	30.9 4 44444
	52	30.9 6 29630
	53	30.9 8 14815
	54	31.0 0 00000
	55	31.0 1 85185
	56	31.0 3 70370
	57	31.0 5 55556
	58	31.0 7 40741
	59	31.0 9 25926
	60	31.1 1 11111

28°	0'	31.1111111
	1	31.1296296
	2	31.1481481
	3	31.1666667
	4	31.1851852
	5	31.2037037
	6	31.2222222
	7	31.2407407
	8	31.2592593
	9	31.2777778
	10	31.2962963
	11	31.3148148
	12	31.3333333
	13	31.3518519
	14	31.3703704
	15	31.3888889
	16	31.4074074
	17	31.4259259
	18	31.4444444
	19	31.4629630
	20	31.4814815
	21	31.5000000
	22	31.5185185
	23	31.5370370
	24	31.5555556
	25	31.5740741
	26	31.5925926
	27	31.6111111
	28	31.6296296
	29	31.6481481
	30	31.6666667

28°	30'	31.6666667
	31	31.6851852
	32	31.7037037
	33	31.7222222
	34	31.7407407
	35	31.7592593
	36	31.7777778
	37	31.7962963
	38	31.8148148
	39	31.8333333
	40	31.8518519
	41	31.8703704
	42	31.8888889
	43	31.9074074
	44	31.9259259
	45	31.9444444
	46	31.9629630
	47	31.9814815
	48	32.0000000
	49	32.0185185
	50	32.0370370
	51	32.0555556
	52	32.0740741
	53	32.0925926
	54	32.1111111
	55	32.1296296
	56	32.1481481
	57	32.1666667
	58	32.1851852
	59	32.2037037
	60	32.2222222

29°	0'	32.2 2 22222 2
	1	32.2 4 07407
	2	32.2 5 92593
	3	32.2 7 77778
	4	32.2 9 62963
	5	32.3 1 48148
	6	32.3 3 33333
	7	32.3 5 18519
	8	32.3 7 03704
	9	32.3 8 88889
	10	32.4 0 74074
	11	32.4 2 59259
	12	32.4 4 44444
	13	32.4 6 29630
	14	32.4 8 14815
	15	32.5 0 00000
	16	32.5 1 85185
	17	32.5 3 70370
	18	32.5 5 55556
	19	32.5 7 40741
	20	32.5 9 25926
	21	32.6 1 11111
	22	32.6 2 96296
	23	32.6 4 81481
	24	32.6 6 66667
	25	32.6 8 51852
	26	32.7 0 37037
	27	32.7 2 22222
	28	32.7 4 07407
	29	32.7 5 92593
	30	32.7 7 77778

29°	30'	32.7 7 77778
	31	32.7 9 62963
	32	32.8 1 48148
	33	32.8 3 33333
	34	32.8 5 18519
	35	32.8 7 03704
	36	32.8 8 88889
	37	32.9 0 74074
	38	32.9 2 59259
	39	32.9 4 44444
	40	32.9 6 29630
	41	32.9 8 14815
	42	33.0 0 00000
	43	33.0 1 85185
	44	33.0 3 70370
	45	33.0 5 55556
	46	33.0 7 40741
	47	33.0 9 25926
	48	33.1 1 11111
	49	33.1 2 96296
	50	33.1 4 81481
	51	33.1 6 66667
	52	33.1 8 51852
	53	33.2 0 37037
	54	33.2 2 22222
	55	33.2 4 07407
	56	33.2 5 92593
	57	33.2 7 77778
	58	33.2 9 62963
	59	33.3 1 48148
	60	33.3 3 33333

30°	0'	33.3 3 333333
	1	33.3 5 18519
	2	33.3 7 03704
	3	33.3 8 888889
	4	33.4 0 74074
	5	33.4 2 59259
	6	33.4 4 44444
	7	33.4 6 29630
	8	33.4 8 14815
	9	33.5 0 00000
	10	33.5 1 85185
	11	33.5 3 70370
	12	33.5 5 55556
	13	33.5 7 40741
	14	33.5 9 25926
	15	33.6 1 11111
	16	33.6 2 96296
	17	33.6 4 81481
	18	33.6 6 66667
	19	33.6 8 51852
	20	33.7 0 37037
	21	33.7 2 22222
	22	33.7 4 07407
	23	33.7 5 92593
	24	33.7 7 77778
	25	33.7 9 62963
	26	33.8 1 48148
	27	33.8 3 33333
	28	33.8 5 18519
	29	33.8 7 03704
	30	33.8 8 88889

30°	30	33.8 8 88889
	31	33.9 0 74074
	32	33.9 2 59259
	33	33.9 4 44444
	34	33.9 6 29630
	35	33.9 8 14815
	36	34.0 0 00000
	37	34.0 1 85185
	38	34.0 3 70370
	39	34.0 5 55556
	40	34.0 7 40741
	41	34.0 9 25926
	42	34.1 1 11111
	43	34.1 2 96296
	44	34.1 4 81481
	45	34.1 6 66667
	46	34.1 8 51852
	47	34.2 0 37037
	48	34.2 2 22222
	49	34.2 4 07407
	50	34.2 5 92593
	51	34.2 7 77778
	52	34.2 9 62963
	53	34.3 1 48148
	54	34.3 3 33333
	55	34.3 5 18519
	56	34.3 7 03704
	57	34.3 8 88889
	58	34.4 0 74074
	59	34.4 2 59259
	60	34.4 4 44444

31°	0°	34.4444444
	1	34.4629630
	2	34.4814815
	3	34.5000000
	4	34.5185185
	5	34.5370370
	6	34.5555556
	7	34.5740741
	8	34.5925926
	9	34.6111111
	10	34.6296296
	11	34.6481481
	12	34.6666667
	13	34.6851852
	14	34.7037037
	15	34.7222222
	16	34.7407407
	17	34.7592593
	18	34.7777778
	19	34.7962963
	20	34.8148148
	21	34.8333333
	22	34.8518519
	23	34.8703704
	24	34.8888889
	25	34.9074074
	26	34.9259259
	27	34.9444444
	28	34.9629630
	29	34.9814815
	30	35.0000000

31°	30°	35.0000000
	31	35.0185185
	32	35.0370370
	33	35.0555556
	34	35.0740741
	35	35.0925926
	36	35.1111111
	37	35.1296296
	38	35.1481481
	39	35.1666667
	40	35.1851852
	41	35.2037037
	42	35.2222222
	43	35.2407407
	44	35.2592593
	45	35.2777778
	46	35.2962963
	47	35.3148148
	48	35.3333333
	49	35.3518519
	50	35.3703704
	51	35.3888889
	52	35.4074074
	53	35.4259259
	54	35.4444444
	55	35.4629630
	56	35.4814815
	57	35.5000000
	58	35.5185185
	59	35.5370370
	60	35.5555556

34.

32°	0'	35.5 5 5 5 5 5 6
	1	35.5 7 4 0 7 4 1
	2	35.5 9 2 5 9 2 6
	3	35.6 1 1 1 1 1 1
	4	35.6 2 9 6 2 9 6
	5	35.6 4 8 1 4 8 1
	6	35.6 6 6 6 6 6 7
	7	35.6 8 5 1 8 5 2
	8	35.7 0 3 7 0 3 7
	9	35.7 2 2 2 2 2 2
	10	35.7 4 0 7 4 0 7
	11	35.7 5 9 2 5 9 3
	12	35.7 7 7 7 7 7 8
	13	35.7 9 6 2 9 6 3
	14	35.8 1 4 8 1 4 8
	15	35.8 3 3 3 3 3 3
	16	35.8 5 1 8 5 1 9
	17	35.8 7 0 3 7 0 4
	18	35.8 8 8 8 8 8 9
	19	35.9 0 7 4 0 7 4
	20	35.9 2 5 9 2 5 9
	21	35.9 4 4 4 4 4 4
	22	35.9 6 2 9 6 3 0
	23	35.9 8 1 4 8 1 5
	24	36.0 0 0 0 0 0 0
	25	36.0 1 8 5 1 8 5
	26	36.0 3 7 0 3 7 0
	27	36.0 5 5 5 5 5 6
	28	36.0 7 4 0 7 4 1
	29	36.0 9 2 5 9 2 6
	30	36.1 1 1 1 1 1 1

32°	30'	36.1 1 1 1 1 1 1
	31	36.1 2 9 6 2 9 6
	32	36.1 4 8 1 4 8 1
	33	36.1 6 6 6 6 6 7
	34	36.1 8 5 1 8 5 2
	35	36.2 0 3 7 0 3 7
	36	36.2 2 2 2 2 2 2
	37	36.2 4 0 7 4 0 7
	38	36.2 5 9 2 5 9 3
	39	36.2 7 7 7 7 7 8
	40	36.2 9 6 2 9 6 3
	41	36.3 1 4 8 1 4 8
	42	36.3 3 3 3 3 3 3
	43	36.3 5 1 8 5 1 9
	44	36.3 7 0 3 7 0 4
	45	36.3 8 8 8 8 8 9
	46	36.4 0 7 4 0 7 4
	47	36.4 2 5 9 2 5 9
	48	36.4 4 4 4 4 4 4
	49	36.4 6 2 9 6 3 0
	50	36.4 8 1 4 8 1 5
	51	36.5 0 0 0 0 0 0
	52	36.5 1 8 5 1 8 5
	53	36.5 3 7 0 3 7 0
	54	36.5 5 5 5 5 5 6
	55	36.5 7 4 0 7 4 1
	56	36.5 9 2 5 9 2 6
	57	36.6 1 1 1 1 1 1
	58	36.6 2 9 6 2 9 6
	59	36.6 4 8 1 4 8 1
	60	36.6 6 6 6 6 6 7

33°	0	36.6 6 66666 7
	1	36.6 8 51852
	2	36.7 0 37037
	3	36.7 2 22222
	4	36.7 4 07407
	5	36.7 5 92593
	6	36.7 7 77778
	7	36.7 9 62963
	8	36.8 1 48148
	9	36.8 3 33333
	10	36.8 5 18519
	11	36.8 7 03704
	12	36.8 8 88889
	13	36.9 0 74074
	14	36.9 2 59259
	15	36.9 4 44444
	16	36.9 6 29630
	17	36.9 8 14815
	18	37.0 0 00000
	19	37.0 1 85185
	20	37.0 3 70370
	21	37.0 5 55556
	22	37.0 7 40741
	23	37.0 9 25926
	24	37.1 1 11111
	25	37.1 2 96296
	26	37.1 4 81481
	27	37.1 6 66667
	28	37.1 8 51852
	29	37.2 0 37037
	30	37.2 2 22222

33°	30'	37.2 2 22222
	31	37.2 4 07407
	32	37.2 5 92593
	33	37.2 7 77778
	34	37.2 9 62963
	35	37.3 1 48148
	36	37.3 3 33333
	37	37.3 5 18519
	38	37.3 7 03704
	39	37.3 8 88889
	40	37.4 0 74074
	41	37.4 2 59259
	42	37.4 4 44444
	43	37.4 6 29630
	44	37.4 8 14815
	45	37.5 0 00000
	46	37.5 1 85185
	47	37.5 3 70370
	48	37.5 5 55556
	49	37.5 7 40741
	50	37.5 9 25926
	51	37.6 1 11111
	52	37.6 2 96296
	53	37.6 4 81481
	54	37.6 6 66667
	55	37.6 8 51852
	56	37.7 0 37037
	57	37.7 2 22222
	58	37.7 4 07407
	59	37.7 5 92593
	60	37.7 7 77778

34°	0'	37.7777778
	1	37.7962963
	2	37.8148148
	3	37.8333333
	4	37.8518519
	5	37.8703704
	6	37.8888889
	7	37.9074074
	8	37.9259259
	9	37.9444444
	10	37.9629630
	11	37.9814815
	12	38.0000000
	13	38.0185185
	14	38.0370370
	15	38.0555556
	16	38.0740741
	17	38.0925926
	18	38.1111111
	19	38.1296296
	20	38.1481481
	21	38.1666667
	22	38.1851852
	23	38.2037037
	24	38.2222222
	25	38.2407407
	26	38.2592593
	27	38.2777778
	28	38.2962963
	29	38.3148148
	30	38.3333333

34°	30'	38.3333333
	31	38.3518519
	32	38.3703704
	33	38.3888889
	34	38.4074074
	35	38.4259259
	36	38.4444444
	37	38.4629630
	38	38.4814815
	39	38.5000000
	40	38.5185185
	41	38.5370370
	42	38.5555556
	43	38.5740741
	44	38.5925926
	45	38.6111111
	46	38.6296296
	47	38.6481481
	48	38.6666667
	49	38.6851852
	50	38.7037037
	51	38.7222222
	52	38.7407407
	53	38.7592593
	54	38.7777778
	55	38.7962963
	56	38.8148148
	57	38.8333333
	58	38.8518519
	59	38.8703704
	60	38.8888889

35°	0'	38.8888888
	1	38.9074074
	2	38.9259259
	3	38.9444444
	4	38.9629630
	5	38.9814815
	6	39.0000000
	7	39.0185185
	8	39.0370370
	9	39.0555556
	10	39.0740741
	11	39.0925926
	12	39.1111111
	13	39.1296296
	14	39.1481481
	15	39.1666667
	16	39.1851852
	17	39.2037037
	18	39.2222222
	19	39.2407407
	20	39.2592593
	21	39.2777778
	22	39.2962963
	23	39.3148148
	24	39.3333333
	25	39.3518519
	26	39.3703704
	27	39.3888889
	28	39.4074074
	29	39.4259259
	30	39.4444444

35°	30'	39.4444444
	31	39.4629630
	32	39.4814815
	33	39.5000000
	34	39.5185185
	35	39.5370370
	36	39.5555556
	37	39.5740741
	38	39.5925926
	39	39.6111111
	40	39.6296296
	41	39.6481481
	42	39.6666667
	43	39.6851852
	44	39.7037037
	45	39.7222222
	46	39.7407407
	47	39.7592593
	48	39.7777778
	49	39.7962963
	50	39.8148148
	51	39.8333333
	52	39.8518519
	53	39.8703704
	54	39.8888889
	55	39.9074074
	56	39.9259259
	57	39.9444444
	58	39.9629630
	59	39.9814815
	60	40.0000000

36°	0'	40.0000000
	1	40.0185185
	2	40.0370370
	3	40.0555556
	4	40.0740741
	5	40.0925926
	6	40.1111111
	7	40.1296296
	8	40.1481481
	9	40.1666667
	10	40.1851852
	11	40.2037037
	12	40.2222222
	13	40.2407407
	14	40.2592593
	15	40.2777778
	16	40.2962963
	17	40.3148148
	18	40.3333333
	19	40.3518519
	20	40.3703704
	21	40.3888889
	22	40.4074074
	23	40.4259259
	24	40.4444444
	25	40.4629630
	26	40.4814815
	27	40.5000000
	28	40.5185185
	29	40.5370370
	30	40.5555556

36°	30'	40.5555556
	31	40.5740741
	32	40.5925926
	33	40.6111111
	34	40.6296296
	35	40.6481481
	36	40.6666667
	37	40.6851852
	38	40.7037037
	39	40.7222222
	40	40.7407407
	41	40.7592593
	42	40.7777778
	43	40.7962963
	44	40.8148148
	45	40.8333333
	46	40.8518519
	47	40.8703704
	48	40.8888889
	49	40.9074074
	50	40.9259259
	51	40.9444444
	52	40.9629630
	53	40.9814815
	54	41.0000000
	55	41.0185185
	56	41.0370370
	57	41.0555556
	58	41.0740741
	59	41.0925926
	60	41.1111111

37°	0°	41.1 1 1 1 1 1 1
	1	41.1 2 9 6 2 9 6
	2	41.1 4 8 1 4 8 1
	3	41.1 6 6 6 6 6 7
	4	41.1 8 5 1 8 5 2
	5	41.2 0 3 7 0 3 7
	6	41.2 2 2 2 2 2 2
	7	41.2 4 0 7 4 0 7
	8	41.2 5 9 2 5 9 3
	9	41.2 7 7 7 7 7 0
	10	41.2 9 6 2 9 6 3
	11	41.3 1 4 8 1 4 0
	12	41.3 3 3 3 3 3 3
	13	41.3 5 1 8 5 1 9
	14	41.3 7 0 3 7 0 4
	15	41.3 8 8 8 8 8 9
	16	41.4 0 7 4 0 7 4
	17	41.4 2 5 9 2 5 9
	18	41.4 4 4 4 4 4 4
	19	41.4 6 2 9 6 3 0
	20	41.4 8 1 4 8 1 5
	21	41.5 0 0 0 0 0 0
	22	41.5 1 8 5 1 8 5
	23	41.5 3 7 0 3 7 0
	24	41.5 5 5 5 5 5 6
	25	41.5 7 4 0 7 4 1
	26	41.5 9 2 5 9 2 6
	27	41.6 1 1 1 1 1 1
	28	41.6 2 9 6 2 9 6
	29	41.6 4 8 1 4 8 1
	30	41.6 6 6 6 6 6 7

37°	30°	41.6 6 6 6 6 6 7
	31	41.6 8 5 1 8 5 2
	32	41.7 0 3 7 0 3 7
	33	41.7 2 2 2 2 2 2
	34	41.7 4 0 7 4 0 7
	35	41.7 5 9 2 5 9 3
	36	41.7 7 7 7 7 7 0
	37	41.7 9 6 2 9 6 3
	38	41.8 1 4 8 1 4 0
	39	41.8 3 3 3 3 3 3
	40	41.8 5 1 8 5 1 9
	41	41.8 7 0 3 7 0 4
	42	41.8 8 8 8 8 8 9
	43	41.9 0 7 4 0 7 4
	44	41.9 2 5 9 2 5 9
	45	41.9 4 4 4 4 4 4
	46	41.9 6 2 9 6 3 0
	47	41.9 8 1 4 8 1 5
	48	42.0 0 0 0 0 0 0
	49	42.0 1 8 5 1 8 5
	50	42.0 3 7 0 3 7 0
	51	42.0 5 5 5 5 5 6
	52	42.0 7 4 0 7 4 1
	53	42.0 9 2 5 9 2 6
	54	42.1 1 1 1 1 1 1
	55	42.1 2 9 6 2 9 6
	56	42.1 4 8 1 4 8 1
	57	42.1 6 6 6 6 6 7
	58	42.1 8 5 1 8 5 2
	59	42.2 0 3 7 0 3 7
	60	42.2 2 2 2 2 2 2

38°	0'	42.2222222
	1	42.2407407
	2	42.2592593
	3	42.2777778
	4	42.2962963
	5	42.3148148
	6	42.3333333
	7	42.3518519
	8	42.3703704
	9	42.3888889
	10	42.4074074
	11	42.4259259
	12	42.4444444
	13	42.4629630
	14	42.4814815
	15	42.5000000
	16	42.5185185
	17	42.5370370
	18	42.5555556
	19	42.5740741
	20	42.5925926
	21	42.6111111
	22	42.6296296
	23	42.6481481
	24	42.6666667
	25	42.6851852
	26	42.7037037
	27	42.7222222
	28	42.7407407
	29	42.7592593
	30	42.7777778

38°	30'	42.7777778
	31	42.7962963
	32	42.8148148
	33	42.8333333
	34	42.8518519
	35	42.8703704
	36	42.8888889
	37	42.9074074
	38	42.9259259
	39	42.9444444
	40	42.9629630
	41	42.9814815
	42	43.0000000
	43	43.0185185
	44	43.0370370
	45	43.0555556
	46	43.0740741
	47	43.0925926
	48	43.1111111
	49	43.1296296
	50	43.1481481
	51	43.1666667
	52	43.1851852
	53	43.2037037
	54	43.2222222
	55	43.2407407
	56	43.2592593
	57	43.2777778
	58	43.2962963
	59	43.3148148
	60	43.3333333

3 2°	0°	43.3 3 333333
	1	43.3 5 1851 2
	2	43.3 7 0370 4
	3	43.3 8 8888 8 2
	4	43.4 0 7407 4
	5	43.4 2 5925 2
	6	43.4 4 4444 4 4
	7	43.4 6 2963 0
	8	43.4 8 1481 5
	9	43.5 0 0000 0 0
	10	43.5 1 8518 5
	11	43.5 3 7037 0
	12	43.5 5 5555 5 6
	13	43.5 7 4074 1
	14	43.5 9 2592 6
	15	43.6 1 1111 1 1
	16	43.6 2 9629 6
	17	43.6 4 8148 1
	18	43.6 6 6666 6 7
	19	43.6 8 5185 2
	20	43.7 0 3703 7
	21	43.7 2 2222 2 2
	22	43.7 4 0740 7
	23	43.7 5 9259 3
	24	43.7 7 7777 7 0
	25	43.7 9 6296 3
	26	43.8 1 4814 0
	27	43.8 3 3333 3 3
	28	43.8 5 1851 2
	29	43.8 7 0370 4
	30	43.8 8 8888 8 2

3 2°	30°	43.8 8 8888 8 2
	31	43.9 0 7407 4
	32	43.9 2 5925 2
	33	43.9 4 4444 4 4
	34	43.9 6 2963 0
	35	43.9 8 1481 5
	36	44.0 0 0000 0 0
	37	44.0 1 8518 5
	38	44.0 3 7037 0
	39	44.0 5 5555 5 6
	40	44.0 7 4074 1
	41	44.0 9 2592 6
	42	44.1 1 1111 1 1
	43	44.1 2 9629 6
	44	44.1 4 8148 1
	45	44.1 6 6666 6 7
	46	44.1 8 5185 2
	47	44.2 0 3703 7
	48	44.2 2 2222 2 2
	49	44.2 4 0740 7
	50	44.2 5 9259 3
	51	44.2 7 7777 7 0
	52	44.2 9 6296 3
	53	44.3 1 4814 0
	54	44.3 3 3333 3 3
	55	44.3 5 1851 2
	56	44.3 7 0370 4
	57	44.3 8 8888 8 2
	58	44.4 0 7407 4
	59	44.4 2 5925 2
	60	44.4 4 4444 4 4

4.0	0	44.4444444
	1	44.4629630
	2	44.4814815
	3	44.5000000
	4	44.5185185
	5	44.5370370
	6	44.5555556
	7	44.5740741
	8	44.5925926
	9	44.6111111
	10	44.6296296
	11	44.6481481
	12	44.6666667
	13	44.6851852
	14	44.7037037
	15	44.7222222
	16	44.7407407
	17	44.7592593
	18	44.7777778
	19	44.7962963
	20	44.8148148
	21	44.8333333
	22	44.8518519
	23	44.8703704
	24	44.8888889
	25	44.9074074
	26	44.9259259
	27	44.9444444
	28	44.9629630
	29	44.9814815
	30	45.0000000

4.0	30	45.0000000
	31	45.0185185
	32	45.0370370
	33	45.0555556
	34	45.0740741
	35	45.0925926
	36	45.1111111
	37	45.1296296
	38	45.1481481
	39	45.1666667
	40	45.1851852
	41	45.2037037
	42	45.2222222
	43	45.2407407
	44	45.2592593
	45	45.2777778
	46	45.2962963
	47	45.3148148
	48	45.3333333
	49	45.3518519
	50	45.3703704
	51	45.3888889
	52	45.4074074
	53	45.4259259
	54	45.4444444
	55	45.4629630
	56	45.4814815
	57	45.5000000
	58	45.5185185
	59	45.5370370
	60	45.5555556

41°

0	45.5 55555 6
1	45.5 740741
2	45.5 92592 6
3	45.6 11111 1
4	45.6 29629 6
5	45.6 481481
6	45.6 66666 7
7	45.6 85185 2
8	45.7 03703 7
9	45.7 22222 2
10	45.7 40740 7
11	45.7 59259 3
12	45.7 77777 0
13	45.7 96296 3
14	45.8 14814 0
15	45.8 33333 3
16	45.8 51851 9
17	45.8 70370 4
18	45.8 88888 9
19	45.9 07407 4
20	45.9 25925 9
21	45.9 44444 4
22	45.9 62963 0
23	45.9 81481 5
24	46.0 00000 0
25	46.0 18518 5
26	46.0 37037 0
27	46.0 55555 6
28	46.0 74074 1
29	46.0 92592 6
30	46.1 11111 1

41° 30'

30	46.1 11111 1
31	46.1 29629 6
32	46.1 48148 1
33	46.1 66666 7
34	46.1 85185 2
35	46.2 03703 7
36	46.2 22222 2
37	46.2 40740 7
38	46.2 59259 3
39	46.2 77777 0
40	46.2 96296 3
41	46.3 14814 0
42	46.3 33333 3
43	46.3 51851 9
44	46.3 70370 4
45	46.3 88888 9
46	46.4 07407 4
47	46.4 25925 9
48	46.4 44444 4
49	46.4 62963 0
50	46.4 81481 5
51	46.5 00000 0
52	46.5 18518 5
53	46.5 37037 0
54	46.5 55555 6
55	46.5 74074 1
56	46.5 92592 6
57	46.6 11111 1
58	46.6 29629 6
59	46.6 48148 1
60	46.6 66666 7

42°	0'	46.66666667
	1	46.6851852
	2	46.7037037
	3	46.7222222
	4	46.7407407
	5	46.7592593
	6	46.7777778
	7	46.7962963
	8	46.8148148
	9	46.8333333
	10	46.8518519
	11	46.8703704
	12	46.8888889
	13	46.9074074
	14	46.9259259
	15	46.9444444
	16	46.9629630
	17	46.9814815
	18	47.0000000
	19	47.0185185
	20	47.0370370
	21	47.0555556
	22	47.0740741
	23	47.0925926
	24	47.1111111
	25	47.1296296
	26	47.1481481
	27	47.1666667
	28	47.1851852
	29	47.2037037
	30	47.2222222

42°	30'	47.2222222
	31	47.2407407
	32	47.2592593
	33	47.2777778
	34	47.2962963
	35	47.3148148
	36	47.3333333
	37	47.3518519
	38	47.3703704
	39	47.3888889
	40	47.4074074
	41	47.4259259
	42	47.4444444
	43	47.4629630
	44	47.4814815
	45	47.5000000
	46	47.5185185
	47	47.5370370
	48	47.5555556
	49	47.5740741
	50	47.5925926
	51	47.6111111
	52	47.6296296
	53	47.6481481
	54	47.6666667
	55	47.6851852
	56	47.7037037
	57	47.7222222
	58	47.7407407
	59	47.7592593
	60	47.7777778

43° 0' 47.77777778
 1 47.7962963
 2 47.8148148
 3 47.8333333
 4 47.8518519
 5 47.8703704
 6 47.8888889
 7 47.9074074
 8 47.9259259
 9 47.9444444

10 47.9629630
 11 47.9814815
 12 48.0000000
 13 48.0185185
 14 48.0370370
 15 48.0555556
 16 48.0740741
 17 48.0925926
 18 48.1111111
 19 48.1296296

20 48.1481481
 21 48.1666667
 22 48.1851852
 23 48.2037037
 24 48.2222222
 25 48.2407407
 26 48.2592593
 27 48.2777778
 28 48.2962963
 29 48.3148148

30 48.3333333

43° 30' 48.3333333
 31 48.3518519
 32 48.3703704
 33 48.3888889
 34 48.4074074
 35 48.4259259
 36 48.4444444
 37 48.4629630
 38 48.4814815
 39 48.5000000

40 48.5185185
 41 48.5370370
 42 48.5555556
 43 48.5740741
 44 48.5925926
 45 48.6111111
 46 48.6296296
 47 48.6481481
 48 48.6666667
 49 48.6851852

50 48.7037037
 51 48.7222222
 52 48.7407407
 53 48.7592593
 54 48.7777778
 55 48.7962963
 56 48.8148148
 57 48.8333333
 58 48.8518519
 59 48.8703704

60 48.8888889

44° 0' 48.88888889
 1 48.9074074
 2 48.9259259
 3 48.9444444
 4 48.9629630
 5 48.9814815
 6 49.0000000
 7 49.0185185
 8 49.0370370
 9 49.0555556

10 49.0740741
 11 49.0925926
 12 49.1111111
 13 49.1296296
 14 49.1481481
 15 49.1666667
 16 49.1851852
 17 49.2037037
 18 49.2222222
 19 49.2407407

20 49.2592593
 21 49.2777778
 22 49.2962963
 23 49.3148148
 24 49.3333333
 25 49.3518519
 26 49.3703704
 27 49.3888889
 28 49.4074074
 29 49.4259259

30 49.4444444

44° 30' 49.4444444
 31 49.4629630
 32 49.4814815
 33 49.5000000
 34 49.5185185
 35 49.5370370
 36 49.5555556
 37 49.5740741
 38 49.5925926
 39 49.6111111

40 49.6296296
 41 49.6481481
 42 49.6666667
 43 49.6851852
 44 49.7037037
 45 49.7222222
 46 49.7407407
 47 49.7592593
 48 49.7777778
 49 49.7962963

50 49.8148148
 51 49.8333333
 52 49.8518519
 53 49.8703704
 54 49.8888889
 55 49.9074074
 56 49.9259259
 57 49.9444444
 58 49.9629630
 59 49.9814815

60 50.0000000

45°	0'	50.0 0 000000
	1	50.0 1 85185
	2	50.0 3 70370
	3	50.0 5 55556
	4	50.0 7 40741
	5	50.0 9 25926
	6	50.1 1 11111
	7	50.1 2 96296
	8	50.1 4 81481
	9	50.1 6 66667
	10	50.1 8 51852
	11	50.2 0 37037
	12	50.2 2 22222
	13	50.2 4 07407
	14	50.2 5 92593
	15	50.2 7 77777
	16	50.2 9 62963
	17	50.3 1 48148
	18	50.3 3 33333
	19	50.3 5 18519
	20	50.3 7 03704
	21	50.3 8 88889
	22	50.4 0 74074
	23	50.4 2 59259
	24	50.4 4 44444
	25	50.4 6 29630
	26	50.4 8 14815
	27	50.5 0 00000
	28	50.5 1 85185
	29	50.5 3 70370
	30	50.5 5 55556

45°	30'	50.5 5 55556
	31	50.5 7 40741
	32	50.5 9 25926
	33	50.6 1 11111
	34	50.6 2 96296
	35	50.6 4 81481
	36	50.6 6 66667
	37	50.6 8 51852
	38	50.7 0 37037
	39	50.7 2 22222
	40	50.7 4 07407
	41	50.7 5 92593
	42	50.7 7 77777
	43	50.7 9 62963
	44	50.8 1 48148
	45	50.8 3 33333
	46	50.8 5 18519
	47	50.8 7 03704
	48	50.8 8 88889
	49	50.9 0 74074
	50	50.9 2 59259
	51	50.9 4 44444
	52	50.9 6 29630
	53	50.9 8 14815
	54	51.0 0 00000
	55	51.0 1 85185
	56	51.0 3 70370
	57	51.0 5 55556
	58	51.0 7 40741
	59	51.0 9 25926
	60	51.1 1 11111

46° 0' 51.1111111
 1 51.1296296
 2 51.1481481
 3 51.1666667
 4 51.1851852
 5 51.2037037
 6 51.2222222
 7 51.2407407
 8 51.2592593
 9 51.2777778

10 51.2962963
 11 51.3148148
 12 51.3333333
 13 51.3518519
 14 51.3703704
 15 51.3888889
 16 51.4074074
 17 51.4259259
 18 51.4444444
 19 51.4629630

20 51.4814815
 21 51.5000000
 22 51.5185185
 23 51.5370370
 24 51.5555556
 25 51.5740741
 26 51.5925926
 27 51.6111111
 28 51.6296296
 29 51.6481481

30 51.6666667

46° 30' 51.6666667
 31 51.6851852
 32 51.7037037
 33 51.7222222
 34 51.7407407
 35 51.7592593
 36 51.7777778
 37 51.7962963
 38 51.8148148
 39 51.8333333

40 51.8518519
 41 51.8703704
 42 51.8888889
 43 51.9074074
 44 51.9259259
 45 51.9444444
 46 51.9629630
 47 51.9814815
 48 52.0000000
 49 52.0185185

50 52.0370370
 51 52.0555556
 52 52.0740741
 53 52.0925926
 54 52.1111111
 55 52.1296296
 56 52.1481481
 57 52.1666667
 58 52.1851852
 59 52.2037037

60 52.2222222

47°	0	52.2222222
	1	52.2407407
	2	52.2592593
	3	52.2777778
	4	52.2962963
	5	52.3148148
	6	52.3333333
	7	52.3518519
	8	52.3703704
	9	52.3888889
	10	52.4074074
	11	52.4259259
	12	52.4444444
	13	52.4629630
	14	52.4814815
	15	52.5000000
	16	52.5185185
	17	52.5370370
	18	52.5555556
	19	52.5740741
	20	52.5925926
	21	52.6111111
	22	52.6296296
	23	52.6481481
	24	52.6666667
	25	52.6851852
	26	52.7037037
	27	52.7222222
	28	52.7407407
	29	52.7592593
	30	52.7777778

47°	30'	52.7777778
	31	52.7962963
	32	52.8148148
	33	52.8333333
	34	52.8518519
	35	52.8703704
	36	52.8888889
	37	52.9074074
	38	52.9259259
	39	52.9444444
	40	52.9629630
	41	52.9814815
	42	53.0000000
	43	53.0185185
	44	53.0370370
	45	53.0555556
	46	53.0740741
	47	53.0925926
	48	53.1111111
	49	53.1296296
	50	53.1481481
	51	53.1666667
	52	53.1851852
	53	53.2037037
	54	53.2222222
	55	53.2407407
	56	53.2592593
	57	53.2777778
	58	53.2962963
	59	53.3148148
	60	53.3333333

45° 0'	53.3 3 33333 3
1	53.3 5 18519
2	53.3 7 03704
3	53.3 8 888889
4	53.4 0 74074
5	53.4 2 59259
6	53.4 4 44444
7	53.4 6 29630
8	53.4 8 14815
9	53.5 0 00000
10	53.5 1 85185
11	53.5 3 70370
12	53.5 5 55556
13	53.5 7 40741
14	53.5 9 25926
15	53.6 1 11111
16	53.6 2 96296
17	53.6 4 81481
18	53.6 6 66667
19	53.6 8 51852
20	53.7 0 37037
21	53.7 2 22222
22	53.7 4 07407
23	53.7 5 92593
24	53.7 7 77778
25	53.7 9 62963
26	53.8 1 48148
27	53.8 3 33333
28	53.8 5 18519
29	53.8 7 03704
30	53.8 8 88889

45° 30'	53.8 8 88889
31	53.9 0 74074
32	53.9 2 59259
33	53.9 4 44444
34	53.9 6 29630
35	53.9 8 14815
36	54.0 0 00000
37	54.0 1 85185
38	54.0 3 70370
39	54.0 5 55556
40	54.0 7 40741
41	54.0 9 25926
42	54.1 1 11111
43	54.1 2 96296
44	54.1 4 81481
45	54.1 6 66667
46	54.1 8 51852
47	54.2 0 37037
48	54.2 2 22222
49	54.2 4 07407
50	54.2 5 92593
51	54.2 7 77778
52	54.2 9 62963
53	54.3 1 48148
54	54.3 3 33333
55	54.3 5 18519
56	54.3 7 03704
57	54.3 8 88889
58	54.4 0 74074
59	54.4 2 59259
60	54.4 4 44444

49°	0'	54.4 4 44444
	1	54.4 6 29630
	2	54.4 8 14815
	3	54.5 0 00000
	4	54.5 1 85185
	5	54.5 3 70370
	6	54.5 5 55556
	7	54.5 7 40741
	8	54.5 9 25926
	9	54.6 1 11111
	10	54.6 2 96296
	11	54.6 4 81481
	12	54.6 6 66667
	13	54.6 8 51852
	14	54.7 0 37037
	15	54.7 2 22222
	16	54.7 4 07407
	17	54.7 5 92593
	18	54.7 7 77777
	19	54.7 9 62963
	20	54.8 1 48148
	21	54.8 3 33333
	22	54.8 5 18519
	23	54.8 7 03704
	24	54.8 8 88889
	25	54.9 0 74074
	26	54.9 2 59259
	27	54.9 4 44444
	28	54.9 6 29630
	29	54.9 8 14815
	30	55.0 0 00000

49°	30'	55.0 0 00000
	31	55.0 1 85185
	32	55.0 3 70370
	33	55.0 5 55556
	34	55.0 7 40741
	35	55.0 9 25926
	36	55.1 1 11111
	37	55.1 2 96296
	38	55.1 4 81481
	39	55.1 6 66667
	40	55.1 8 51852
	41	55.2 0 37037
	42	55.2 2 22222
	43	55.2 4 07407
	44	55.2 5 92593
	45	55.2 7 77777
	46	55.2 9 62963
	47	55.3 1 48148
	48	55.3 3 33333
	49	55.3 5 18519
	50	55.3 7 03704
	51	55.3 8 88889
	52	55.4 0 74074
	53	55.4 2 59259
	54	55.4 4 44444
	55	55.4 6 29630
	56	55.4 8 14815
	57	55.5 0 00000
	58	55.5 1 85185
	59	55.5 3 70370
	60	55.5 5 55556

50°	0'	55.5 5 55555 6
	1	55.5 7 40741
	2	55.5 9 25926
	3	55.6 1 11111
	4	55.6 2 96296
	5	55.6 4 81481
	6	55.6 6 66667
	7	55.6 8 51852
	8	55.7 0 37037
	9	55.7 2 22222
	10	55.7 4 07407
	11	55.7 5 92593
	12	55.7 7 77778
	13	55.7 9 62963
	14	55.8 1 48148
	15	55.8 3 33333
	16	55.8 5 18519
	17	55.8 7 03704
	18	55.8 8 88889
	19	55.9 0 74074
	20	55.9 2 59259
	21	55.9 4 44444
	22	55.9 6 29630
	23	55.9 8 14815
	24	56.0 0 00000
	25	56.0 1 85185
	26	56.0 3 70370
	27	56.0 5 55556
	28	56.0 7 40741
	29	56.0 9 25926
	30	56.1 1 11111

50°	30'	56.1 1 11111
	31	56.1 2 96296
	32	56.1 4 81481
	33	56.1 6 66667
	34	56.1 8 51852
	35	56.2 0 37037
	36	56.2 2 22222
	37	56.2 4 07407
	38	56.2 5 92593
	39	56.2 7 77778
	40	56.2 9 62963
	41	56.3 1 48148
	42	56.3 3 33333
	43	56.3 5 18519
	44	56.3 7 03704
	45	56.3 8 88889
	46	56.4 0 74074
	47	56.4 2 59259
	48	56.4 4 44444
	49	56.4 6 29630
	50	56.4 8 14815
	51	56.5 0 00000
	52	56.5 1 85185
	53	56.5 3 70370
	54	56.5 5 55556
	55	56.5 7 40741
	56	56.5 9 25926
	57	56.6 1 11111
	58	56.6 2 96296
	59	56.6 4 81481
	60	56.6 6 66667

51°	0'	56.6 6 6666 7
	1	56.6 8 5185 2
	2	56.7 0 3703 7
	3	56.7 2 2222 2
	4	56.7 4 0740 7
	5	56.7 5 9259 3
	6	56.7 7 7777 7
	7	56.7 9 6296 3
	8	56.8 1 4814 8
	9	56.8 3 3333 3
	10	56.8 5 1851 9
	11	56.8 7 0370 4
	12	56.8 8 8888 8
	13	56.9 0 7407 4
	14	56.9 2 5925 9
	15	56.9 4 4444 4
	16	56.9 6 2963 0
	17	56.9 8 1481 5
	18	57.0 0 0000 0
	19	57.0 1 8518 5
	20	57.0 3 7037 0
	21	57.0 5 5555 6
	22	57.0 7 4074 1
	23	57.0 9 2592 6
	24	57.1 1 1111 1
	25	57.1 2 9629 6
	26	57.1 4 8148 1
	27	57.1 6 6666 7
	28	57.1 8 5185 2
	29	57.2 0 3703 7
	30	57.2 2 2222 2

51°	30'	57.2 2 2222 2
	31	57.2 4 0740 7
	32	57.2 5 9259 3
	33	57.2 7 7777 7
	34	57.2 9 6296 3
	35	57.3 1 4814 8
	36	57.3 3 3333 3
	37	57.3 5 1851 9
	38	57.3 7 0370 4
	39	57.3 8 8888 8
	40	57.4 0 7407 4
	41	57.4 2 5925 9
	42	57.4 4 4444 4
	43	57.4 6 2963 0
	44	57.4 8 1481 5
	45	57.5 0 0000 0
	46	57.5 1 8518 5
	47	57.5 3 7037 0
	48	57.5 5 5555 6
	49	57.5 7 4074 1
	50	57.5 9 2592 6
	51	57.6 1 1111 1
	52	57.6 2 9629 6
	53	57.6 4 8148 1
	54	57.6 6 6666 7
	55	57.6 8 5185 2
	56	57.7 0 3703 7
	57	57.7 2 2222 2
	58	57.7 4 0740 7
	59	57.7 5 9259 3
	60	57.7 7 7777 7

52°	0'	57.7 7 777770
	1	57.7 9 62963
	2	57.8 1 48140
	3	57.8 3 333333
	4	57.8 5 18519
	5	57.8 7 03704
	6	57.8 8 888889
	7	57.9 0 74074
	8	57.9 2 59259
	9	57.9 4 444444
	10	57.9 6 29630
	11	57.9 8 14815
	12	58.0 0 000000
	13	58.0 1 85185
	14	58.0 3 70370
	15	58.0 5 555556
	16	58.0 7 40741
	17	58.0 9 25926
	18	58.1 1 111111
	19	58.1 2 96296
	20	58.1 4 81481
	21	58.1 6 666667
	22	58.1 8 51852
	23	58.2 0 37037
	24	58.2 2 222222
	25	58.2 4 07407
	26	58.2 5 92593
	27	58.2 7 777770
	28	58.2 9 62963
	29	58.3 1 48140
	30	58.3 3 333333

52°	30'	58.3 3 333333
	31	58.3 5 18519
	32	58.3 7 03704
	33	58.3 8 888889
	34	58.4 0 74074
	35	58.4 2 59259
	36	58.4 4 444444
	37	58.4 6 29630
	38	58.4 8 14815
	39	58.5 0 000000
	40	58.5 1 85185
	41	58.5 3 70370
	42	58.5 5 555556
	43	58.5 7 40741
	44	58.5 9 25926
	45	58.6 1 111111
	46	58.6 2 96296
	47	58.6 4 81481
	48	58.6 6 666667
	49	58.6 8 51852
	50	58.7 0 37037
	51	58.7 2 222222
	52	58.7 4 07407
	53	58.7 5 92593
	54	58.7 7 777770
	55	58.7 9 62963
	56	58.8 1 48140
	57	58.8 3 333333
	58	58.8 5 18519
	59	58.8 7 03704
	60	58.8 8 888889

53°	0'	58.88888889
	1	58.9074074
	2	58.9259259
	3	58.9444444
	4	58.9629630
	5	58.9814815
	6	59.0000000
	7	59.0185185
	8	59.0370370
	9	59.0555556
	10	59.0740741
	11	59.0925926
	12	59.1111111
	13	59.1296296
	14	59.1481481
	15	59.1666667
	16	59.1851852
	17	59.2037037
	18	59.2222222
	19	59.2407407
	20	59.2592593
	21	59.2777778
	22	59.2962963
	23	59.3148148
	24	59.3333333
	25	59.3518519
	26	59.3703704
	27	59.3888889
	28	59.4074074
	29	59.4259259
	30	59.4444444

53°	30'	59.4444444
	31	59.4629630
	32	59.4814815
	33	59.5000000
	34	59.5185185
	35	59.5370370
	36	59.5555556
	37	59.5740741
	38	59.5925926
	39	59.6111111
	40	59.6296296
	41	59.6481481
	42	59.6666667
	43	59.6851852
	44	59.7037037
	45	59.7222222
	46	59.7407407
	47	59.7592593
	48	59.7777778
	49	59.7962963
	50	59.8148148
	51	59.8333333
	52	59.8518519
	53	59.8703704
	54	59.8888889
	55	59.9074074
	56	59.9259259
	57	59.9444444
	58	59.9629630
	59	59.9814815
	60	60.0000000

54°	0	60.0 0 000000
	1	60.0 1 85185
	2	60.0 3 70370
	3	60.0 5 55556
	4	60.0 7 40741
	5	60.0 9 25926
	6	60.1 1 11111
	7	60.1 2 96296
	8	60.1 4 81481
	9	60.1 6 66667
	10	60.1 8 51852
	11	60.2 0 37037
	12	60.2 2 22222
	13	60.2 4 07407
	14	60.2 5 92593
	15	60.2 7 77777
	16	60.2 9 62963
	17	60.3 1 48148
	18	60.3 3 33333
	19	60.3 5 18519
	20	60.3 7 03704
	21	60.3 8 88889
	22	60.4 0 74074
	23	60.4 2 59259
	24	60.4 4 44444
	25	60.4 6 29630
	26	60.4 8 14815
	27	60.5 0 00000
	28	60.5 1 85185
	29	60.5 3 70370
	30	60.5 5 55556

54°	30	60.5 5 55556
	31	60.5 7 40741
	32	60.5 9 25926
	33	60.6 1 11111
	34	60.6 2 96296
	35	60.6 4 81481
	36	60.6 6 66667
	37	60.6 8 51852
	38	60.7 0 37037
	39	60.7 2 22222
	40	60.7 4 07407
	41	60.7 5 92593
	42	60.7 7 77777
	43	60.7 9 62963
	44	60.8 1 48148
	45	60.8 3 33333
	46	60.8 5 18519
	47	60.8 7 03704
	48	60.8 8 88889
	49	60.9 0 74074
	50	60.9 2 59259
	51	60.9 4 44444
	52	60.9 6 29630
	53	60.9 8 14815
	54	61.0 0 00000
	55	61.0 1 85185
	56	61.0 3 70370
	57	61.0 5 55556
	58	61.0 7 40741
	59	61.0 9 25926
	60	61.1 1 11111

55°	0°	61.1 1 1 1 1 1 1
	1	61.1 2 9 6 2 9 6
	2	61.1 4 8 1 4 8 1
	3	61.1 6 6 6 6 6 7
	4	61.1 8 5 1 8 5 2
	5	61.2 0 3 7 0 3 7
	6	61.2 2 2 2 2 2 2
	7	61.2 4 0 7 4 0 7
	8	61.2 5 9 2 5 9 3
	9	61.2 7 7 7 7 7 0
	10	61.2 9 6 2 9 6 3
	11	61.3 1 4 8 1 4 0
	12	61.3 3 3 3 3 3 3
	13	61.3 5 1 8 5 1 9
	14	61.3 7 0 3 7 0 4
	15	61.3 8 8 8 8 8 9
	16	61.4 0 7 4 0 7 4
	17	61.4 2 5 9 2 5 9
	18	61.4 4 4 4 4 4 4
	19	61.4 6 2 9 6 3 0
	20	61.4 8 1 4 8 1 5
	21	61.5 0 0 0 0 0 0
	22	61.5 1 8 5 1 8 5
	23	61.5 3 7 0 3 7 0
	24	61.5 5 5 5 5 5 6
	25	61.5 7 4 0 7 4 1
	26	61.5 9 2 5 9 2 6
	27	61.6 1 1 1 1 1 1
	28	61.6 2 9 6 2 9 6
	29	61.6 4 8 1 4 8 1
	30	61.6 6 6 6 6 6 7

55°	30°	61.6 6 6 6 6 6 7
	31	61.6 8 5 1 8 5 2
	32	61.7 0 3 7 0 3 7
	33	61.7 2 2 2 2 2 2
	34	61.7 4 0 7 4 0 7
	35	61.7 5 9 2 5 9 3
	36	61.7 7 7 7 7 7 0
	37	61.7 9 6 2 9 6 3
	38	61.8 1 4 8 1 4 0
	39	61.8 3 3 3 3 3 3
	40	61.8 5 1 8 5 1 9
	41	61.8 7 0 3 7 0 4
	42	61.8 8 8 8 8 8 9
	43	61.9 0 7 4 0 7 4
	44	61.9 2 5 9 2 5 9
	45	61.9 4 4 4 4 4 4
	46	61.9 6 2 9 6 3 0
	47	61.9 8 1 4 8 1 5
	48	62.0 0 0 0 0 0 0
	49	62.0 1 8 5 1 8 5
	50	62.0 3 7 0 3 7 0
	51	62.0 5 5 5 5 5 6
	52	62.0 7 4 0 7 4 1
	53	62.0 9 2 5 9 2 6
	54	62.1 1 1 1 1 1 1
	55	62.1 2 9 6 2 9 6
	56	62.1 4 8 1 4 8 1
	57	62.1 6 6 6 6 6 7
	58	62.1 8 5 1 8 5 2
	59	62.2 0 3 7 0 3 7
	60	62.2 2 2 2 2 2 2

56°	0'	62.2 2 22222 2
	1	62.2 4 07407
	2	62.2 5 92593
	3	62.2 7 77777 0
	4	62.2 9 62963
	5	62.3 1 4814 0
	6	62.3 3 33333 3
	7	62.3 5 1851 9
	8	62.3 7 0370 4
	9	62.3 8 8888 8 9
	10	62.4 0 7407 4
	11	62.4 2 5925 9
	12	62.4 4 4444 4
	13	62.4 6 2963 0
	14	62.4 8 1481 5
	15	62.5 0 0000 0 0
	16	62.5 1 8518 5
	17	62.5 3 7037 0
	18	62.5 5 5555 5 6
	19	62.5 7 4074 1
	20	62.5 9 2592 6
	21	62.6 1 1111 1 1
	22	62.6 2 9629 6
	23	62.6 4 8148 1
	24	62.6 6 6666 6 7
	25	62.6 8 5185 2
	26	62.7 0 3703 7
	27	62.7 2 2222 2 2
	28	62.7 4 0740 7
	29	62.7 5 9259 3
	30	62.7 7 7777 7 0

56°	30'	62.7 7 7777 7 0
	31	62.7 9 6296 3
	32	62.8 1 4814 0
	33	62.8 3 3333 3 3
	34	62.8 5 1851 9
	35	62.8 7 0370 4
	36	62.8 8 8888 8 9
	37	62.9 0 7407 4
	38	62.9 2 5925 9
	39	62.9 4 4444 4 4
	40	62.9 6 2963 0
	41	62.9 8 1481 5
	42	63.0 0 0000 0 0
	43	63.0 1 8518 5
	44	63.0 3 7037 0
	45	63.0 5 5555 5 6
	46	63.0 7 4074 1
	47	63.0 9 2592 6
	48	63.1 1 1111 1 1
	49	63.1 2 9629 6
	50	63.1 4 8148 1
	51	63.1 6 6666 6 7
	52	63.1 8 5185 2
	53	63.2 0 3703 7
	54	63.2 2 2222 2 2
	55	63.2 4 0740 7
	56	63.2 5 9259 3
	57	63.2 7 7777 7 0
	58	63.2 9 6296 3
	59	63.3 1 4814 0
	60	63.3 3 3333 3 3

57°	0°	63.3 3 333333
	1	63.3 5 18519
	2	63.3 7 03704
	3	63.3 8 888889
	4	63.4 0 74074
	5	63.4 2 59259
	6	63.4 4 44444
	7	63.4 6 29630
	8	63.4 8 14815
	9	63.5 0 000000
	10	63.5 1 85185
	11	63.5 3 70370
	12	63.5 5 555556
	13	63.5 7 40741
	14	63.5 9 25926
	15	63.6 1 111111
	16	63.6 2 96296
	17	63.6 4 81481
	18	63.6 6 666667
	19	63.6 8 51852
	20	63.7 0 37037
	21	63.7 2 22222
	22	63.7 4 07407
	23	63.7 5 92593
	24	63.7 7 77777
	25	63.7 9 62963
	26	63.8 1 48148
	27	63.8 3 33333
	28	63.8 5 18519
	29	63.8 7 03704
	30	63.8 8 888889

57°	30	63.8 8 888889
	31	63.9 0 74074
	32	63.9 2 59259
	33	63.9 4 44444
	34	63.9 6 29630
	35	63.9 8 14815
	36	64.0 0 000000
	37	64.0 1 85185
	38	64.0 3 70370
	39	64.0 5 555556
	40	64.0 7 40741
	41	64.0 9 25926
	42	64.1 1 111111
	43	64.1 2 96296
	44	64.1 4 81481
	45	64.1 6 666667
	46	64.1 8 51852
	47	64.2 0 37037
	48	64.2 2 22222
	49	64.2 4 07407
	50	64.2 5 92593
	51	64.2 7 77777
	52	64.2 9 62963
	53	64.3 1 48148
	54	64.3 3 33333
	55	64.3 5 18519
	56	64.3 7 03704
	57	64.3 8 888889
	58	64.4 0 74074
	59	64.4 2 59259
	60	64.4 4 44444

50°	0'	64.4 4 44444 4
	1	64.4 6 29630
	2	64.4 8 14815
	3	64.5 0 00000
	4	64.5 1 85185
	5	64.5 3 70370
	6	64.5 5 55556
	7	64.5 7 40741
	8	64.5 9 25926
	9	64.6 1 11111
	10	64.6 2 96296
	11	64.6 4 81481
	12	64.6 6 66667
	13	64.6 8 51852
	14	64.7 0 37037
	15	64.7 2 22222
	16	64.7 4 07407
	17	64.7 5 92593
	18	64.7 7 77778
	19	64.7 9 62963
	20	64.8 1 48148
	21	64.8 3 33333
	22	64.8 5 18519
	23	64.8 7 03704
	24	64.8 8 88889
	25	64.9 0 74074
	26	64.9 2 59259
	27	64.9 4 44444
	28	64.9 6 29630
	29	64.9 8 14815
	30	65.0 0 00000

50°	30'	65.0 0 00000
	31	65.0 1 85185
	32	65.0 3 70370
	33	65.0 5 55556
	34	65.0 7 40741
	35	65.0 9 25926
	36	65.1 1 11111
	37	65.1 2 96296
	38	65.1 4 81481
	39	65.1 6 66667
	40	65.1 8 51852
	41	65.2 0 37037
	42	65.2 2 22222
	43	65.2 4 07407
	44	65.2 5 92593
	45	65.2 7 77778
	46	65.2 9 62963
	47	65.3 1 48148
	48	65.3 3 33333
	49	65.3 5 18519
	50	65.3 7 03704
	51	65.3 8 88889
	52	65.4 0 74074
	53	65.4 2 59259
	54	65.4 4 44444
	55	65.4 6 29630
	56	65.4 8 14815
	57	65.5 0 00000
	58	65.5 1 85185
	59	65.5 3 70370
	60	65.5 5 55556

59°	0'	65.5 5 55555 6
	1	65.5 7 40741
	2	65.5 9 25926
	3	65.6 1 11111
	4	65.6 2 96296
	5	65.6 4 81481
	6	65.6 6 66667
	7	65.6 8 51852
	8	65.7 0 37037
	9	65.7 2 22222
	10	65.7 4 07407
	11	65.7 5 92593
	12	65.7 7 77777
	13	65.7 9 62963
	14	65.8 1 48148
	15	65.8 3 33333
	16	65.8 5 18519
	17	65.8 7 03704
	18	65.8 8 88889
	19	65.9 0 74074
	20	65.9 2 59259
	21	65.9 4 44444
	22	65.9 6 29630
	23	65.9 8 14815
	24	66.0 0 00000
	25	66.0 1 85185
	26	66.0 3 70370
	27	66.0 5 55556
	28	66.0 7 40741
	29	66.0 9 25926
	30	66.1 1 11111

59°	30'	66.1 1 11111
	31	66.1 2 96296
	32	66.1 4 81481
	33	66.1 6 66667
	34	66.1 8 51852
	35	66.2 0 37037
	36	66.2 2 22222
	37	66.2 4 07407
	38	66.2 5 92593
	39	66.2 7 77777
	40	66.2 9 62963
	41	66.3 1 48148
	42	66.3 3 33333
	43	66.3 5 18519
	44	66.3 7 03704
	45	66.3 8 88889
	46	66.4 0 74074
	47	66.4 2 59259
	48	66.4 4 44444
	49	66.4 6 29630
	50	66.4 8 14815
	51	66.5 0 00000
	52	66.5 1 85185
	53	66.5 3 70370
	54	66.5 5 55556
	55	66.5 7 40741
	56	66.5 9 25926
	57	66.6 1 11111
	58	66.6 2 96296
	59	66.6 4 81481
	60	66.6 6 66667

60°	0	66.6 6 6666 7
	1	66.6 8 5185 2
	2	66.7 0 3703 7
	3	66.7 2 2222 2
	4	66.7 4 0740 7
	5	66.7 5 9259 3
	6	66.7 7 7777 0
	7	66.7 9 6296 3
	8	66.8 1 4814 8
	9	66.8 3 3333 3
	10	66.8 5 1851 9
	11	66.8 7 0370 4
	12	66.8 8 8888 9
	13	66.9 0 7407 4
	14	66.9 2 5925 9
	15	66.9 4 4444 4
	16	66.9 6 2963 0
	17	66.9 8 1481 5
	18	67.0 0 0000 0
	19	67.0 1 8518 5
	20	67.0 3 7037 0
	21	67.0 5 5555 6
	22	67.0 7 4074 1
	23	67.0 9 2592 6
	24	67.1 1 1111 1
	25	67.1 2 9629 6
	26	67.1 4 8148 1
	27	67.1 6 6666 7
	28	67.1 8 5185 2
	29	67.2 0 3703 7
	30	67.2 2 2222 2

60°	30	67.2 2 2222 2
	31	67.2 4 0740 7
	32	67.2 5 9259 3
	33	67.2 7 7777 0
	34	67.2 9 6296 3
	35	67.3 1 4814 8
	36	67.3 3 3333 3
	37	67.3 5 1851 9
	38	67.3 7 0370 4
	39	67.3 8 8888 9
	40	67.4 0 7407 4
	41	67.4 2 5925 9
	42	67.4 4 4444 4
	43	67.4 6 2963 0
	44	67.4 8 1481 5
	45	67.5 0 0000 0
	46	67.5 1 8518 5
	47	67.5 3 7037 0
	48	67.5 5 5555 6
	49	67.5 7 4074 1
	50	67.5 9 2592 6
	51	67.6 1 1111 1
	52	67.6 2 9629 6
	53	67.6 4 8148 1
	54	67.6 6 6666 7
	55	67.6 8 5185 2
	56	67.7 0 3703 7
	57	67.7 2 2222 2
	58	67.7 4 0740 7
	59	67.7 5 9259 3
	60	67.7 7 7777 0

61°	0'	67.77777778
	1	67.7962963
	2	67.8148148
	3	67.8333333
	4	67.8518519
	5	67.8703704
	6	67.88888889
	7	67.9074074
	8	67.9259259
	9	67.9444444
	10	67.9629630
	11	67.9814815
	12	68.0000000
	13	68.0185185
	14	68.0370370
	15	68.0555556
	16	68.0740741
	17	68.0925926
	18	68.1111111
	19	68.1296296
	20	68.1481481
	21	68.1666667
	22	68.1851852
	23	68.2037037
	24	68.2222222
	25	68.2407407
	26	68.2592593
	27	68.2777778
	28	68.2962963
	29	68.3148148
	30	68.3333333

61°	30'	68.3333333
	31	68.3518519
	32	68.3703704
	33	68.3888889
	34	68.4074074
	35	68.4259259
	36	68.4444444
	37	68.4629630
	38	68.4814815
	39	68.5000000
	40	68.5185185
	41	68.5370370
	42	68.5555556
	43	68.5740741
	44	68.5925926
	45	68.6111111
	46	68.6296296
	47	68.6481481
	48	68.6666667
	49	68.6851852
	50	68.7037037
	51	68.7222222
	52	68.7407407
	53	68.7592593
	54	68.7777778
	55	68.7962963
	56	68.8148148
	57	68.8333333
	58	68.8518519
	59	68.8703704
	60	68.8888889

62°	0°	68.8 8 8 8 8 8 9
	1	68.9 0 7 4 0 7 4
	2	68.9 2 5 9 2 5 9
	3	68.9 4 4 4 4 4 4
	4	68.9 6 2 9 6 3 0
	5	68.9 8 1 4 8 1 5
	6	69.0 0 0 0 0 0 0
	7	69.0 1 8 5 1 8 5
	8	69.0 3 7 0 3 7 0
	9	69.0 5 5 5 5 5 6
	10	69.0 7 4 0 7 4 1
	11	69.0 9 2 5 9 2 6
	12	69.1 1 1 1 1 1 1
	13	69.1 2 9 6 2 9 6
	14	69.1 4 8 1 4 8 1
	15	69.1 6 6 6 6 6 7
	16	69.1 8 5 1 8 5 2
	17	69.2 0 3 7 0 3 7
	18	69.2 2 2 2 2 2 2
	19	69.2 4 0 7 4 0 7
	20	69.2 5 9 2 5 9 3
	21	69.2 7 7 7 7 7 0
	22	69.2 9 6 2 9 6 3
	23	69.3 1 4 8 1 4 0
	24	69.3 3 3 3 3 3 3
	25	69.3 5 1 8 5 1 9
	26	69.3 7 0 3 7 0 4
	27	69.3 8 8 8 8 8 9
	28	69.4 0 7 4 0 7 4
	29	69.4 2 5 9 2 5 9
	30	69.4 4 4 4 4 4 4

62°	30°	69.4 4 4 4 4 4 4
	31	69.4 6 2 9 6 3 0
	32	69.4 8 1 4 8 1 5
	33	69.5 0 0 0 0 0 0
	34	69.5 1 8 5 1 8 5
	35	69.5 3 7 0 3 7 0
	36	69.5 5 5 5 5 5 6
	37	69.5 7 4 0 7 4 1
	38	69.5 9 2 5 9 2 6
	39	69.6 1 1 1 1 1 1
	40	69.6 2 9 6 2 9 6
	41	69.6 4 8 1 4 8 1
	42	69.6 6 6 6 6 6 7
	43	69.6 8 5 1 8 5 2
	44	69.7 0 3 7 0 3 7
	45	69.7 2 2 2 2 2 2
	46	69.7 4 0 7 4 0 7
	47	69.7 5 9 2 5 9 3
	48	69.7 7 7 7 7 7 0
	49	69.7 9 6 2 9 6 3
	50	69.8 1 4 8 1 4 0
	51	69.8 3 3 3 3 3 3
	52	69.8 5 1 8 5 1 9
	53	69.8 7 0 3 7 0 4
	54	69.8 8 8 8 8 8 9
	55	69.9 0 7 4 0 7 4
	56	69.9 2 5 9 2 5 9
	57	69.9 4 4 4 4 4 4
	58	69.9 6 2 9 6 3 0
	59	69.9 8 1 4 8 1 5
	60	70.0 0 0 0 0 0 0

63°	0°	70.0 0 000000
	1	70.0 1 85185
	2	70.0 3 70370
	3	70.0 5 55556
	4	70.0 7 40741
	5	70.0 9 25926
	6	70.1 1 11111
	7	70.1 2 96296
	8	70.1 4 81481
	9	70.1 6 66667
	10	70.1 8 51852
	11	70.2 0 37037
	12	70.2 2 22222
	13	70.2 4 07407
	14	70.2 5 92593
	15	70.2 7 77770
	16	70.2 9 62963
	17	70.3 1 43140
	18	70.3 3 33333
	19	70.3 5 18519
	20	70.3 7 03704
	21	70.3 8 88889
	22	70.4 0 74074
	23	70.4 2 59259
	24	70.4 4 44444
	25	70.4 6 29630
	26	70.4 8 14815
	27	70.5 0 00000
	28	70.5 1 85185
	29	70.5 3 70370
	30	70.5 5 55556

63°	30°	70.5 5 55556
	31	70.5 7 40741
	32	70.5 9 25926
	33	70.6 1 11111
	34	70.6 2 96296
	35	70.6 4 81481
	36	70.6 6 66667
	37	70.6 8 51852
	38	70.7 0 37037
	39	70.7 2 22222
	40	70.7 4 07407
	41	70.7 5 92593
	42	70.7 7 77770
	43	70.7 9 62963
	44	70.8 1 43140
	45	70.8 3 33333
	46	70.8 5 18519
	47	70.8 7 03704
	48	70.8 8 88889
	49	70.9 0 74074
	50	70.9 2 59259
	51	70.9 4 44444
	52	70.9 6 29630
	53	70.9 8 14815
	54	71.0 0 00000
	55	71.0 1 85185
	56	71.0 3 70370
	57	71.0 5 55556
	58	71.0 7 40741
	59	71.0 9 25926
	60	71.1 1 11111

64°	0'	71.1 1 1 1 1 1 1
	1	71.1 2 9 6 2 9 6
	2	71.1 4 8 1 4 8 1
	3	71.1 6 6 6 6 6 7
	4	71.1 8 5 1 8 5 2
	5	71.2 0 3 7 0 3 7
	6	71.2 2 2 2 2 2 2
	7	71.2 4 0 7 4 0 7
	8	71.2 5 9 2 5 9 3
	9	71.2 7 7 7 7 7 8
	10	71.2 9 6 2 9 6 3
	11	71.3 1 4 8 1 4 8
	12	71.3 3 3 3 3 3 3
	13	71.3 5 1 8 5 1 9
	14	71.3 7 0 3 7 0 4
	15	71.3 8 8 8 8 8 9
	16	71.4 0 7 4 0 7 4
	17	71.4 2 5 9 2 5 9
	18	71.4 4 4 4 4 4 4
	19	71.4 6 2 9 6 3 0
	20	71.4 8 1 4 8 1 5
	21	71.5 0 0 0 0 0 0
	22	71.5 1 8 5 1 8 5
	23	71.5 3 7 0 3 7 0
	24	71.5 5 5 5 5 5 6
	25	71.5 7 4 0 7 4 1
	26	71.5 9 2 5 9 2 6
	27	71.6 1 1 1 1 1 1
	28	71.6 2 9 6 2 9 6
	29	71.6 4 8 1 4 8 1
	30	71.6 6 6 6 6 6 7

64°	30'	71.6 6 6 6 6 6 7
	31	71.6 8 5 1 8 5 2
	32	71.7 0 3 7 0 3 7
	33	71.7 2 2 2 2 2 2
	34	71.7 4 0 7 4 0 7
	35	71.7 5 9 2 5 9 3
	36	71.7 7 7 7 7 7 8
	37	71.7 9 6 2 9 6 3
	38	71.8 1 4 8 1 4 8
	39	71.8 3 3 3 3 3 3
	40	71.8 5 1 8 5 1 9
	41	71.8 7 0 3 7 0 4
	42	71.8 8 8 8 8 8 9
	43	71.9 0 7 4 0 7 4
	44	71.9 2 5 9 2 5 9
	45	71.9 4 4 4 4 4 4
	46	71.9 6 2 9 6 3 0
	47	71.9 8 1 4 8 1 5
	48	72.0 0 0 0 0 0 0
	49	72.0 1 8 5 1 8 5
	50	72.0 3 7 0 3 7 0
	51	72.0 5 5 5 5 5 6
	52	72.0 7 4 0 7 4 1
	53	72.0 9 2 5 9 2 6
	54	72.1 1 1 1 1 1 1
	55	72.1 2 9 6 2 9 6
	56	72.1 4 8 1 4 8 1
	57	72.1 6 6 6 6 6 7
	58	72.1 8 5 1 8 5 2
	59	72.2 0 3 7 0 3 7
	60	72.2 2 2 2 2 2 2

65°	0	72.2 2 2 2 2 2 2
	1	72.2 4 0 7 4 0 7
	2	72.2 5 9 2 5 9 3
	3	72.2 7 7 7 7 7 0
	4	72.2 9 6 2 9 6 3
	5	72.3 1 4 8 1 4 0
	6	72.3 3 3 3 3 3 3
	7	72.3 5 1 8 5 1 9
	8	72.3 7 0 3 7 0 4
	9	72.3 8 8 8 8 8 9
	10	72.4 0 7 4 0 7 4
	11	72.4 2 5 9 2 5 9
	12	72.4 4 4 4 4 4 4
	13	72.4 6 2 9 6 3 0
	14	72.4 8 1 4 8 1 5
	15	72.5 0 0 0 0 0 0
	16	72.5 1 8 5 1 8 5
	17	72.5 3 7 0 3 7 0
	18	72.5 5 5 5 5 5 6
	19	72.5 7 4 0 7 4 1
	20	72.5 9 2 5 9 2 6
	21	72.6 1 1 1 1 1 1
	22	72.6 2 9 6 2 9 6
	23	72.6 4 8 1 4 8 1
	24	72.6 6 6 6 6 6 7
	25	72.6 8 5 1 8 5 2
	26	72.7 0 3 7 0 3 7
	27	72.7 2 2 2 2 2 2
	28	72.7 4 0 7 4 0 7
	29	72.7 5 9 2 5 9 3
	30	72.7 7 7 7 7 7 0

65°	30	72.7 7 7 7 7 7 0
	31	72.7 9 6 2 9 6 3
	32	72.8 1 4 8 1 4 0
	33	72.8 3 3 3 3 3 3
	34	72.8 5 1 8 5 1 9
	35	72.8 7 0 3 7 0 4
	36	72.8 8 8 8 8 8 9
	37	72.9 0 7 4 0 7 4
	38	72.9 2 5 9 2 5 9
	39	72.9 4 4 4 4 4 4
	40	72.9 6 2 9 6 3 0
	41	72.9 8 1 4 8 1 5
	42	73.0 0 0 0 0 0 0
	43	73.0 1 8 5 1 8 5
	44	73.0 3 7 0 3 7 0
	45	73.0 5 5 5 5 5 6
	46	73.0 7 4 0 7 4 1
	47	73.0 9 2 5 9 2 6
	48	73.1 1 1 1 1 1 1
	49	73.1 2 9 6 2 9 6
	50	73.1 4 8 1 4 8 1
	51	73.1 6 6 6 6 6 7
	52	73.1 8 5 1 8 5 2
	53	73.2 0 3 7 0 3 7
	54	73.2 2 2 2 2 2 2
	55	73.2 4 0 7 4 0 7
	56	73.2 5 9 2 5 9 3
	57	73.2 7 7 7 7 7 0
	58	73.2 9 6 2 9 6 3
	59	73.3 1 4 8 1 4 0
	60	73.3 3 3 3 3 3 3

66°	0'	73.3 3 33333
	1	73.3 5 18519
	2	73.3 7 03704
	3	73.3 8 88889
	4	73.4 0 74074
	5	73.4 2 59259
	6	73.4 4 44444
	7	73.4 6 29630
	8	73.4 8 14815
	9	73.5 0 00000
	10	73.5 1 85185
	11	73.5 3 70370
	12	73.5 5 55556
	13	73.5 7 40741
	14	73.5 9 25926
	15	73.6 1 11111
	16	73.6 2 96296
	17	73.6 4 81481
	18	73.6 6 66667
	19	73.6 8 51852
	20	73.7 0 37037
	21	73.7 2 22222
	22	73.7 4 07407
	23	73.7 5 92593
	24	73.7 7 77778
	25	73.7 9 62963
	26	73.8 1 48148
	27	73.8 3 33333
	28	73.8 5 18519
	29	73.8 7 03704
	30	73.8 8 88889

66°	30'	73.8 8 88889
	31	73.9 0 74074
	32	73.9 2 59259
	33	73.9 4 44444
	34	73.9 6 29630
	35	73.9 8 14815
	36	74.0 0 00000
	37	74.0 1 85185
	38	74.0 3 70370
	39	74.0 5 55556
	40	74.0 7 40741
	41	74.0 9 25926
	42	74.1 1 11111
	43	74.1 2 96296
	44	74.1 4 81481
	45	74.1 6 66667
	46	74.1 8 51852
	47	74.2 0 37037
	48	74.2 2 22222
	49	74.2 4 07407
	50	74.2 5 92593
	51	74.2 7 77778
	52	74.2 9 62963
	53	74.3 1 48148
	54	74.3 3 33333
	55	74.3 5 18519
	56	74.3 7 03704
	57	74.3 8 88889
	58	74.4 0 74074
	59	74.4 2 59259
	60	74.4 4 44444

67°	0'	74.4 4 44444 4
	1	74.4 6 29630
	2	74.4 8 14815
	3	74.5 0 00000
	4	74.5 1 85185
	5	74.5 3 70370
	6	74.5 5 55556
	7	74.5 7 40741
	8	74.5 9 25926
	9	74.6 1 11111
	10	74.6 2 96296
	11	74.6 4 81481
	12	74.6 6 66667
	13	74.6 8 51852
	14	74.7 0 37037
	15	74.7 2 22222
	16	74.7 4 07407
	17	74.7 5 92593
	18	74.7 7 77777
	19	74.7 9 62963
	20	74.8 1 48148
	21	74.8 3 33333
	22	74.8 5 18519
	23	74.8 7 03704
	24	74.8 8 88889
	25	74.9 0 74074
	26	74.9 2 59259
	27	74.9 4 44444
	28	74.9 6 29630
	29	74.9 8 14815
	30	75.0 0 00000

67°	30'	75.0 0 00000
	31	75.0 1 85185
	32	75.0 3 70370
	33	75.0 5 55556
	34	75.0 7 40741
	35	75.0 9 25926
	36	75.1 1 11111
	37	75.1 2 96296
	38	75.1 4 81481
	39	75.1 6 66667
	40	75.1 8 51852
	41	75.2 0 37037
	42	75.2 2 22222
	43	75.2 4 07407
	44	75.2 5 92593
	45	75.2 7 77777
	46	75.2 9 62963
	47	75.3 1 48148
	48	75.3 3 33333
	49	75.3 5 18519
	50	75.3 7 03704
	51	75.3 8 88889
	52	75.4 0 74074
	53	75.4 2 59259
	54	75.4 4 44444
	55	75.4 6 29630
	56	75.4 8 14815
	57	75.5 0 00000
	58	75.5 1 85185
	59	75.5 3 70370
	60	75.5 5 55556

70.

6 0	0	75.5 5 5 5 5 5 6
	1	75.5 7 4 0 7 4 1
	2	75.5 9 2 5 9 2 6
	3	75.6 1 1 1 1 1 1
	4	75.6 2 9 6 2 9 6
	5	75.6 4 8 1 4 8 1
	6	75.6 6 6 6 6 6 7
	7	75.6 8 5 1 8 5 2
	8	75.7 0 3 7 0 3 7
	9	75.7 2 2 2 2 2 2
	10	75.7 4 0 7 4 0 7
	11	75.7 5 9 2 5 9 3
	12	75.7 7 7 7 7 7 0
	13	75.7 9 6 2 9 6 3
	14	75.8 1 4 8 1 4 0
	15	75.8 3 3 3 3 3 3
	16	75.8 5 1 8 5 1 9
	17	75.8 7 0 3 7 0 4
	18	75.8 8 8 8 8 8 9
	19	75.9 0 7 4 0 7 4
	20	75.9 2 5 9 2 5 9
	21	75.9 4 4 4 4 4 4
	22	75.9 6 2 9 6 3 0
	23	75.9 8 1 4 8 1 5
	24	76.0 0 0 0 0 0 0
	25	76.0 1 8 5 1 8 5
	26	76.0 3 7 0 3 7 0
	27	76.0 5 5 5 5 5 6
	28	76.0 7 4 0 7 4 1
	29	76.0 9 2 5 9 2 6
	30	76.1 1 1 1 1 1 1

6 0	30	76.1 1 1 1 1 1 1
	31	76.1 2 9 6 2 9 6
	32	76.1 4 8 1 4 8 1
	33	76.1 6 6 6 6 6 7
	34	76.1 8 5 1 8 5 2
	35	76.2 0 3 7 0 3 7
	36	76.2 2 2 2 2 2 2
	37	76.2 4 0 7 4 0 7
	38	76.2 5 9 2 5 9 3
	39	76.2 7 7 7 7 7 0
	40	76.2 9 6 2 9 6 3
	41	76.3 1 4 8 1 4 0
	42	76.3 3 3 3 3 3 3
	43	76.3 5 1 8 5 1 9
	44	76.3 7 0 3 7 0 4
	45	76.3 8 8 8 8 8 9
	46	76.4 0 7 4 0 7 4
	47	76.4 2 5 9 2 5 9
	48	76.4 4 4 4 4 4 4
	49	76.4 6 2 9 6 3 0
	50	76.4 8 1 4 8 1 5
	51	76.5 0 0 0 0 0 0
	52	76.5 1 8 5 1 8 5
	53	76.5 3 7 0 3 7 0
	54	76.5 5 5 5 5 5 6
	55	76.5 7 4 0 7 4 1
	56	76.5 9 2 5 9 2 6
	57	76.6 1 1 1 1 1 1
	58	76.6 2 9 6 2 9 6
	59	76.6 4 8 1 4 8 1
	60	76.6 6 6 6 6 6 7

71.

69°	0'	76.666 666 7
	1	76.68 5185 2
	2	76.70 3703 7
	3	76.72 2222 2
	4	76.74 0740 7
	5	76.75 9259 3
	6	76.77 7777 8
	7	76.79 6296 3
	8	76.81 4814 8
	9	76.83 3333 3
	10	76.85 1851 9
	11	76.87 0370 4
	12	76.88 8888 9
	13	76.90 7407 4
	14	76.92 5925 9
	15	76.94 4444 4
	16	76.96 2963 0
	17	76.98 1481 5
	18	77.00 0000 0
	19	77.01 8518 5
	20	77.03 7037 0
	21	77.05 5555 6
	22	77.07 4074 1
	23	77.09 2592 6
	24	77.11 1111 1
	25	77.12 9629 6
	26	77.14 8148 1
	27	77.16 6666 7
	28	77.18 5185 2
	29	77.20 3703 7
	30	77.22 2222 2

69°	30'	77.22 2222 2
	31	77.24 0740 7
	32	77.25 9259 3
	33	77.27 7777 8
	34	77.29 6296 3
	35	77.31 4814 8
	36	77.33 3333 3
	37	77.35 1851 9
	38	77.37 0370 4
	39	77.38 8888 9
	40	77.40 7407 4
	41	77.42 5925 9
	42	77.44 4444 4
	43	77.46 2963 0
	44	77.48 1481 5
	45	77.50 0000 0
	46	77.51 8518 5
	47	77.53 7037 0
	48	77.55 5555 6
	49	77.57 4074 1
	50	77.59 2592 6
	51	77.61 1111 1
	52	77.62 9629 6
	53	77.64 8148 1
	54	77.66 6666 7
	55	77.68 5185 2
	56	77.70 3703 7
	57	77.72 2222 2
	58	77.74 0740 7
	59	77.75 9259 3
	60	77.77 7777 8

70°	0	77.7 7 777770
	1	77.7 9 62963
	2	77.8 1 43140
	3	77.8 3 333333
	4	77.8 5 18519
	5	77.8 7 03704
	6	77.8 8 888889
	7	77.9 0 74074
	8	77.9 2 59259
	9	77.9 4 444444
	10	77.9 6 29630
	11	77.9 8 14815
	12	78.0 0 000000
	13	78.0 1 85185
	14	78.0 3 70370
	15	78.0 5 555556
	16	78.0 7 40741
	17	78.0 9 25926
	18	78.1 1 111111
	19	78.1 2 96296
	20	78.1 4 81481
	21	78.1 6 666667
	22	78.1 8 51852
	23	78.2 0 37037
	24	78.2 2 222222
	25	78.2 4 07407
	26	78.2 5 92593
	27	78.2 7 777770
	28	78.2 9 62963
	29	78.3 1 48140
	30	78.3 3 333333

70°	30'	78.3 3 333333
	31	78.3 5 18519
	32	78.3 7 03704
	33	78.3 8 888889
	34	78.4 0 74074
	35	78.4 2 59259
	36	78.4 4 444444
	37	78.4 6 29630
	38	78.4 8 14815
	39	78.5 0 000000
	40	78.5 1 85185
	41	78.5 3 70370
	42	78.5 5 555556
	43	78.5 7 40741
	44	78.5 9 25926
	45	78.6 1 111111
	46	78.6 2 96296
	47	78.6 4 81481
	48	78.6 6 666667
	49	78.6 8 51852
	50	78.7 0 37037
	51	78.7 2 222222
	52	78.7 4 07407
	53	78.7 5 92593
	54	78.7 7 777770
	55	78.7 9 62963
	56	78.8 1 48140
	57	78.8 3 333333
	58	78.8 5 18519
	59	78.8 7 03704
	60	78.8 8 888889

73.

71°	0'	78.8888889
	1	78.9074074
	2	78.9259259
	3	78.9444444
	4	78.9629630
	5	78.9814815
	6	79.0000000
	7	79.0185185
	8	79.0370370
	9	79.0555556
	10	79.0740741
	11	79.0925926
	12	79.1111111
	13	79.1296296
	14	79.1481481
	15	79.1666667
	16	79.1851852
	17	79.2037037
	18	79.2222222
	19	79.2407407
	20	79.2592593
	21	79.2777778
	22	79.2962963
	23	79.3148148
	24	79.3333333
	25	79.3518519
	26	79.3703704
	27	79.3888889
	28	79.4074074
	29	79.4259259
	30	79.4444444

71°	30'	79.4444444
	31	79.4629630
	32	79.4814815
	33	79.5000000
	34	79.5185185
	35	79.5370370
	36	79.5555556
	37	79.5740741
	38	79.5925926
	39	79.6111111
	40	79.6296296
	41	79.6481481
	42	79.6666667
	43	79.6851852
	44	79.7037037
	45	79.7222222
	46	79.7407407
	47	79.7592593
	48	79.7777778
	49	79.7962963
	50	79.8148148
	51	79.8333333
	52	79.8518519
	53	79.8703704
	54	79.8888889
	55	79.9074074
	56	79.9259259
	57	79.9444444
	58	79.9629630
	59	79.9814815
	60	80.0000000

72°	0°	80.0 0 000000
	1	80.0 1 85185
	2	80.0 3 70370
	3	80.0 5 55556
	4	80.0 7 40741
	5	80.0 9 25926
	6	80.1 1 11111
	7	80.1 2 96296
	8	80.1 4 81481
	9	80.1 6 66667
	10	80.1 8 51852
	11	80.2 0 37037
	12	80.2 2 22222
	13	80.2 4 07407
	14	80.2 5 92593
	15	80.2 7 77778
	16	80.2 9 62963
	17	80.3 1 48148
	18	80.3 3 33333
	19	80.3 5 18519
	20	80.3 7 03704
	21	80.3 8 88889
	22	80.4 0 74074
	23	80.4 2 59259
	24	80.4 4 44444
	25	80.4 6 29630
	26	80.4 8 14815
	27	80.5 0 00000
	28	80.5 1 85185
	29	80.5 3 70370
	30	80.5 5 55556

72°	30°	80.5 5 55556
	31	80.5 7 40741
	32	80.5 9 25926
	33	80.6 1 11111
	34	80.6 2 96296
	35	80.6 4 81481
	36	80.6 6 66667
	37	80.6 8 51852
	38	80.7 0 37037
	39	80.7 2 22222
	40	80.7 4 07407
	41	80.7 5 92593
	42	80.7 7 77778
	43	80.7 9 62963
	44	80.8 1 48148
	45	80.8 3 33333
	46	80.8 5 18519
	47	80.8 7 03704
	48	80.8 8 88889
	49	80.9 0 74074
	50	80.9 2 59259
	51	80.9 4 44444
	52	80.9 6 29630
	53	80.9 8 14815
	54	81.0 0 00000
	55	81.0 1 85185
	56	81.0 3 70370
	57	81.0 5 55556
	58	81.0 7 40741
	59	81.0 9 25926
	60	81.1 1 11111

73°	0'	81.1 1 1 1 1 1 1
	1	81.1 2 9 6 2 9 6
	2	81.1 4 8 1 4 8 1
	3	81.1 6 6 6 6 6 7
	4	81.1 8 5 1 8 5 2
	5	81.2 0 3 7 0 3 7
	6	81.2 2 2 2 2 2 2
	7	81.2 4 0 7 4 0 7
	8	81.2 5 9 2 5 9 3
	9	81.2 7 7 7 7 7 8
	10	81.2 9 6 2 9 6 3
	11	81.3 1 4 8 1 4 8
	12	81.3 3 3 3 3 3 3
	13	81.3 5 1 8 5 1 9
	14	81.3 7 0 3 7 0 4
	15	81.3 8 8 8 8 8 9
	16	81.4 0 7 4 0 7 4
	17	81.4 2 5 9 2 5 9
	18	81.4 4 4 4 4 4 4
	19	81.4 6 2 9 6 3 0
	20	81.4 8 1 4 8 1 5
	21	81.5 0 0 0 0 0 0
	22	81.5 1 8 5 1 8 5
	23	81.5 3 7 0 3 7 0
	24	81.5 5 5 5 5 5 6
	25	81.5 7 4 0 7 4 1
	26	81.5 9 2 5 9 2 6
	27	81.6 1 1 1 1 1 1
	28	81.6 2 9 6 2 9 6
	29	81.6 4 8 1 4 8 1
	30	81.6 6 6 6 6 6 7

73°	30'	81.6 6 6 6 6 6 7
	31	81.6 8 5 1 8 5 2
	32	81.7 0 3 7 0 3 7
	33	81.7 2 2 2 2 2 2
	34	81.7 4 0 7 4 0 7
	35	81.7 5 9 2 5 9 3
	36	81.7 7 7 7 7 7 8
	37	81.7 9 6 2 9 6 3
	38	81.8 1 4 8 1 4 8
	39	81.8 3 3 3 3 3 3
	40	81.8 5 1 8 5 1 9
	41	81.8 7 0 3 7 0 4
	42	81.8 8 8 8 8 8 9
	43	81.9 0 7 4 0 7 4
	44	81.9 2 5 9 2 5 9
	45	81.9 4 4 4 4 4 4
	46	81.9 6 2 9 6 3 0
	47	81.9 8 1 4 8 1 5
	48	82.0 0 0 0 0 0 0
	49	82.0 1 8 5 1 8 5
	50	82.0 3 7 0 3 7 0
	51	82.0 5 5 5 5 5 6
	52	82.0 7 4 0 7 4 1
	53	82.0 9 2 5 9 2 6
	54	82.1 1 1 1 1 1 1
	55	82.1 2 9 6 2 9 6
	56	82.1 4 8 1 4 8 1
	57	82.1 6 6 6 6 6 7
	58	82.1 8 5 1 8 5 2
	59	82.2 0 3 7 0 3 7
	60	82.2 2 2 2 2 2 2

74°	0'	82.2 2 22222
	1	82.2 4 07407
	2	82.2 5 92593
	3	82.2 7 77777
	4	82.2 9 62963
	5	82.3 1 48148
	6	82.3 3 33333
	7	82.3 5 18519
	8	82.3 7 03704
	9	82.3 8 88888
	10	82.4 0 74074
	11	82.4 2 59259
	12	82.4 4 44444
	13	82.4 6 29630
	14	82.4 8 14815
	15	82.5 0 00000
	16	82.5 1 85185
	17	82.5 3 70370
	18	82.5 5 55556
	19	82.5 7 40741
	20	82.5 9 25926
	21	82.6 1 11111
	22	82.6 2 96296
	23	82.6 4 81481
	24	82.6 6 66667
	25	82.6 8 51852
	26	82.7 0 37037
	27	82.7 2 22222
	28	82.7 4 07407
	29	82.7 5 92593
	30	82.7 7 77777

74°	30'	82.7 7 77777
	31	82.7 9 62963
	32	82.8 1 48148
	33	82.8 3 33333
	34	82.8 5 18519
	35	82.8 7 03704
	36	82.8 8 88888
	37	82.9 0 74074
	38	82.9 2 59259
	39	82.9 4 44444
	40	82.9 6 29630
	41	82.9 8 14815
	42	83.0 0 00000
	43	83.0 1 85185
	44	83.0 3 70370
	45	83.0 5 55556
	46	83.0 7 40741
	47	83.0 9 25926
	48	83.1 1 11111
	49	83.1 2 96296
	50	83.1 4 81481
	51	83.1 6 66667
	52	83.1 8 51852
	53	83.2 0 37037
	54	83.2 2 22222
	55	83.2 4 07407
	56	83.2 5 92593
	57	83.2 7 77777
	58	83.2 9 62963
	59	83.3 1 48148
	60	83.3 3 33333

75°	0'	83.3333333
	1	83.3518519
	2	83.3703704
	3	83.3888889
	4	83.4074074
	5	83.4259259
	6	83.4444444
	7	83.4629630
	8	83.4814815
	9	83.5000000
	10	83.5185185
	11	83.5370370
	12	83.5555556
	13	83.5740741
	14	83.5925926
	15	83.6111111
	16	83.6296296
	17	83.6481481
	18	83.6666667
	19	83.6851852
	20	83.7037037
	21	83.7222222
	22	83.7407407
	23	83.7592593
	24	83.7777778
	25	83.7962963
	26	83.8148148
	27	83.8333333
	28	83.8518519
	29	83.8703704
	30	83.8888889

75°	30'	83.8888889
	31	83.9074074
	32	83.9259259
	33	83.9444444
	34	83.9629630
	35	83.9814815
	36	84.0000000
	37	84.0185185
	38	84.0370370
	39	84.0555556
	40	84.0740741
	41	84.0925926
	42	84.1111111
	43	84.1296296
	44	84.1481481
	45	84.1666667
	46	84.1851852
	47	84.2037037
	48	84.2222222
	49	84.2407407
	50	84.2592593
	51	84.2777778
	52	84.2962963
	53	84.3148148
	54	84.3333333
	55	84.3518519
	56	84.3703704
	57	84.3888889
	58	84.4074074
	59	84.4259259
	60	84.4444444

76°	0'	84.4444444
	1	84.4629630
	2	84.4814815
	3	84.5000000
	4	84.5185185
	5	84.5370370
	6	84.5555556
	7	84.5740741
	8	84.5925926
	9	84.6111111
	10	84.6296296
	11	84.6481481
	12	84.6666667
	13	84.6851852
	14	84.7037037
	15	84.7222222
	16	84.7407407
	17	84.7592593
	18	84.7777778
	19	84.7962963
	20	84.8148148
	21	84.8333333
	22	84.8518519
	23	84.8703704
	24	84.8888889
	25	84.9074074
	26	84.9259259
	27	84.9444444
	28	84.9629630
	29	84.9814815
	30	85.0000000

76°	30'	85.0000000
	31	85.0185185
	32	85.0370370
	33	85.0555556
	34	85.0740741
	35	85.0925926
	36	85.1111111
	37	85.1296296
	38	85.1481481
	39	85.1666667
	40	85.1851852
	41	85.2037037
	42	85.2222222
	43	85.2407407
	44	85.2592593
	45	85.2777778
	46	85.2962963
	47	85.3148148
	48	85.3333333
	49	85.3518519
	50	85.3703704
	51	85.3888889
	52	85.4074074
	53	85.4259259
	54	85.4444444
	55	85.4629630
	56	85.4814815
	57	85.5000000
	58	85.5185185
	59	85.5370370
	60	85.5555556

77°	0'	85.5555556
	1	85.5740741
	2	85.5925926
	3	85.6111111
	4	85.6296296
	5	85.6481481
	6	85.6666667
	7	85.6851852
	8	85.7037037
	9	85.7222222
	10	85.7407407
	11	85.7592593
	12	85.7777778
	13	85.7962963
	14	85.8148148
	15	85.8333333
	16	85.8518519
	17	85.8703704
	18	85.8888889
	19	85.9074074
	20	85.9259259
	21	85.9444444
	22	85.9629630
	23	85.9814815
	24	86.0000000
	25	86.0185185
	26	86.0370370
	27	86.0555556
	28	86.0740741
	29	86.0925926
	30	86.1111111

77°	30'	86.1111111
	31	86.1296296
	32	86.1481481
	33	86.1666667
	34	86.1851852
	35	86.2037037
	36	86.2222222
	37	86.2407407
	38	86.2592593
	39	86.2777778
	40	86.2962963
	41	86.3148148
	42	86.3333333
	43	86.3518519
	44	86.3703704
	45	86.3888889
	46	86.4074074
	47	86.4259259
	48	86.4444444
	49	86.4629630
	50	86.4814815
	51	86.5000000
	52	86.5185185
	53	86.5370370
	54	86.5555556
	55	86.5740741
	56	86.5925926
	57	86.6111111
	58	86.6296296
	59	86.6481481
	60	86.6666667

78°	0'	86.666 666 7
	1	86.685 185 2
	2	86.703 703 7
	3	86.722 222 2
	4	86.740 740 7
	5	86.759 259 3
	6	86.777 777 8
	7	86.796 296 3
	8	86.814 814 8
	9	86.833 333 3
	10	86.851 851 9
	11	86.870 370 4
	12	86.888 888 9
	13	86.907 407 4
	14	86.925 925 9
	15	86.944 444 4
	16	86.962 963 0
	17	86.981 481 5
	18	87.000 000 0
	19	87.018 518 5
	20	87.037 037 0
	21	87.055 555 6
	22	87.074 074 1
	23	87.092 592 6
	24	87.111 111 1
	25	87.129 629 6
	26	87.148 148 1
	27	87.166 666 7
	28	87.185 185 2
	29	87.203 703 7
	30	87.222 222 2

78°	30'	87.222 222 2
	31	87.240 740 7
	32	87.259 259 3
	33	87.277 777 8
	34	87.296 296 3
	35	87.314 814 8
	36	87.333 333 3
	37	87.351 851 9
	38	87.370 370 4
	39	87.388 888 9
	40	87.407 407 4
	41	87.425 925 9
	42	87.444 444 4
	43	87.462 963 0
	44	87.481 481 5
	45	87.500 000 0
	46	87.518 518 5
	47	87.537 037 0
	48	87.555 555 6
	49	87.574 074 1
	50	87.592 592 6
	51	87.611 111 1
	52	87.629 629 6
	53	87.648 148 1
	54	87.666 666 7
	55	87.685 185 2
	56	87.703 703 7
	57	87.722 222 2
	58	87.740 740 7
	59	87.759 259 3
	60	87.777 777 8

79°	0'	87.777 777 8
	1	87.79 6 29 6 3
	2	87.81 48 14 8
	3	87.83 33 33 3 3
	4	87.85 18 51 9
	5	87.87 03 70 4
	6	87.88 88 88 8 9
	7	87.90 74 07 4
	8	87.92 59 25 9
	9	87.94 44 44 4 4
	10	87.96 29 63 0
	11	87.98 14 81 5
	12	88.00 00 00 0 0
	13	88.01 85 18 5
	14	88.03 70 37 0
	15	88.05 55 55 5 6
	16	88.07 40 74 1
	17	88.09 25 92 6
	18	88.11 11 11 1 1
	19	88.12 96 29 6
	20	88.14 81 48 1
	21	88.16 66 66 6 7
	22	88.18 51 85 2
	23	88.20 37 03 7
	24	88.22 22 22 2 2
	25	88.24 07 40 7
	26	88.25 92 59 3
	27	88.27 77 77 7 8
	28	88.29 62 96 3
	29	88.31 48 14 8
	30	88.33 33 33 3 3

79°	30'	88.33 33 33 3 3
	31	88.35 18 51 9
	32	88.37 03 70 4
	33	88.38 88 88 8 9
	34	88.40 74 07 4
	35	88.42 59 25 9
	36	88.44 44 44 4 4
	37	88.46 29 63 0
	38	88.48 14 81 5
	39	88.50 00 00 0 0
	40	88.51 85 18 5
	41	88.53 70 37 0
	42	88.55 55 55 5 6
	43	88.57 40 74 1
	44	88.59 25 92 6
	45	88.61 11 11 1 1
	46	88.62 96 29 6
	47	88.64 81 48 1
	48	88.66 66 66 6 7
	49	88.68 51 85 2
	50	88.70 37 03 7
	51	88.72 22 22 2 2
	52	88.74 07 40 7
	53	88.75 92 59 3
	54	88.77 77 77 7 8
	55	88.79 62 96 3
	56	88.81 48 14 8
	57	88.83 33 33 3 3
	58	88.85 18 51 9
	59	88.87 03 70 4
	60	88.88 88 88 8 9

80°	0'	88.888 8889
	1	88.907 4074
	2	88.925 9259
	3	88.944 4444
	4	88.962 9630
	5	88.981 4815
	6	89.000 0000
	7	89.018 5185
	8	89.037 0370
	9	89.055 5556
	10	89.074 0741
	11	89.092 5926
	12	89.111 1111
	13	89.129 6296
	14	89.148 1481
	15	89.166 6667
	16	89.185 1852
	17	89.203 7037
	18	89.222 2222
	19	89.240 7407
	20	89.259 2593
	21	89.277 7778
	22	89.296 2963
	23	89.314 8148
	24	89.333 3333
	25	89.351 8519
	26	89.370 3704
	27	89.388 8889
	28	89.407 4074
	29	89.425 9259
	30	89.444 4444

80°	30'	89.444 4444
	31	89.462 9630
	32	89.481 4815
	33	89.500 0000
	34	89.518 5185
	35	89.537 0370
	36	89.555 5556
	37	89.574 0741
	38	89.592 5926
	39	89.611 1111
	40	89.629 6296
	41	89.648 1481
	42	89.666 6667
	43	89.685 1852
	44	89.703 7037
	45	89.722 2222
	46	89.740 7407
	47	89.759 2593
	48	89.777 7778
	49	89.796 2963
	50	89.814 8148
	51	89.833 3333
	52	89.851 8519
	53	89.870 3704
	54	89.888 8889
	55	89.907 4074
	56	89.925 9259
	57	89.944 4444
	58	89.962 9630
	59	89.981 4815
	60	90.000 0000

81°	0'	90.00000000
	1	90.0185185
	2	90.0370370
	3	90.0555556
	4	90.0740741
	5	90.0925926
	6	90.1111111
	7	90.1296296
	8	90.1481481
	9	90.1666667
	10	90.1851852
	11	90.2037037
	12	90.2222222
	13	90.2407407
	14	90.2592593
	15	90.2777778
	16	90.2962963
	17	90.3148148
	18	90.3333333
	19	90.3518519
	20	90.3703704
	21	90.3888889
	22	90.4074074
	23	90.4259259
	24	90.4444444
	25	90.4629630
	26	90.4814815
	27	90.5000000
	28	90.5185185
	29	90.5370370
	30	90.5555556

81°	30'	90.5555556
	31	90.5740741
	32	90.5925926
	33	90.6111111
	34	90.6296296
	35	90.6481481
	36	90.6666667
	37	90.6851852
	38	90.7037037
	39	90.7222222
	40	90.7407407
	41	90.7592593
	42	90.7777778
	43	90.7962963
	44	90.8148148
	45	90.8333333
	46	90.8518519
	47	90.8703704
	48	90.8888889
	49	90.9074074
	50	90.9259259
	51	90.9444444
	52	90.9629630
	53	90.9814815
	54	91.0000000
	55	91.0185185
	56	91.0370370
	57	91.0555556
	58	91.0740741
	59	91.0925926
	60	91.1111111

82°	0'	91.1111111
	1	91.1296296
	2	91.1481481
	3	91.1666667
	4	91.1851852
	5	91.2037037
	6	91.2222222
	7	91.2407407
	8	91.2592593
	9	91.2777778
	10	91.2962963
	11	91.3148148
	12	91.3333333
	13	91.3518519
	14	91.3703704
	15	91.3888889
	16	91.4074074
	17	91.4259259
	18	91.4444444
	19	91.4629630
	20	91.4814815
	21	91.5000000
	22	91.5185185
	23	91.5370370
	24	91.5555556
	25	91.5740741
	26	91.5925926
	27	91.6111111
	28	91.6296296
	29	91.6481481
	30	91.6666667

82°	30'	91.6666667
	31	91.6851852
	32	91.7037037
	33	91.7222222
	34	91.7407407
	35	91.7592593
	36	91.7777778
	37	91.7962963
	38	91.8148148
	39	91.8333333
	40	91.8518519
	41	91.8703704
	42	91.8888889
	43	91.9074074
	44	91.9259259
	45	91.9444444
	46	91.9629630
	47	91.9814815
	48	92.0000000
	49	92.0185185
	50	92.0370370
	51	92.0555556
	52	92.0740741
	53	92.0925926
	54	92.1111111
	55	92.1296296
	56	92.1481481
	57	92.1666667
	58	92.1851852
	59	92.2037037
	60	92.2222222

83°	0'	92.2222222
	1	92.2407407
	2	92.2592593
	3	92.2777778
	4	92.2962963
	5	92.3148148
	6	92.3333333
	7	92.3518519
	8	92.3703704
	9	92.3888889
	10	92.4074074
	11	92.4259259
	12	92.4444444
	13	92.4629630
	14	92.4814815
	15	92.5000000
	16	92.5185185
	17	92.5370370
	18	92.5555556
	19	92.5740741
	20	92.5925926
	21	92.6111111
	22	92.6296296
	23	92.6481481
	24	92.6666667
	25	92.6851852
	26	92.7037037
	27	92.7222222
	28	92.7407407
	29	92.7592593
	30	92.7777778

83°	30'	92.7777778
	31	92.7962963
	32	92.8148148
	33	92.8333333
	34	92.8518519
	35	92.8703704
	36	92.8888889
	37	92.9074074
	38	92.9259259
	39	92.9444444
	40	92.9629630
	41	92.9814815
	42	93.0000000
	43	93.0185185
	44	93.0370370
	45	93.0555556
	46	93.0740741
	47	93.0925926
	48	93.1111111
	49	93.1296296
	50	93.1481481
	51	93.1666667
	52	93.1851852
	53	93.2037037
	54	93.2222222
	55	93.2407407
	56	93.2592593
	57	93.2777778
	58	93.2962963
	59	93.3148148
	60	93.3333333

84°	0'	93.3333333
	1	93.3518519
	2	93.3703704
	3	93.3888889
	4	93.4074074
	5	93.4259259
	6	93.4444444
	7	93.4629630
	8	93.4814815
	9	93.5000000
	10	93.5185185
	11	93.5370370
	12	93.5555556
	13	93.5740741
	14	93.5925926
	15	93.6111111
	16	93.6296296
	17	93.6481481
	18	93.6666667
	19	93.6851852
	20	93.7037037
	21	93.7222222
	22	93.7407407
	23	93.7592593
	24	93.7777778
	25	93.7962963
	26	93.8148148
	27	93.8333333
	28	93.8518519
	29	93.8703704
	30	93.8888889

84°	30'	93.8888889
	31	93.9074074
	32	93.9259259
	33	93.9444444
	34	93.9629630
	35	93.9814815
	36	94.0000000
	37	94.0185185
	38	94.0370370
	39	94.0555556
	40	94.0740741
	41	94.0925926
	42	94.1111111
	43	94.1296296
	44	94.1481481
	45	94.1666667
	46	94.1851852
	47	94.2037037
	48	94.2222222
	49	94.2407407
	50	94.2592593
	51	94.2777778
	52	94.2962963
	53	94.3148148
	54	94.3333333
	55	94.3518519
	56	94.3703704
	57	94.3888889
	58	94.4074074
	59	94.4259259
	60	94.4444444

85° 0' 94.4444444
 1 94.4629630
 2 94.4814815
 3 94.5000000
 4 94.5185185
 5 94.5370370
 6 94.5555556
 7 94.5740741
 8 94.5925926
 9 94.6111111

10 94.6296296
 11 94.6481481
 12 94.6666667
 13 94.6851852
 14 94.7037037
 15 94.7222222
 16 94.7407407
 17 94.7592593
 18 94.7777778
 19 94.7962963

20 94.8148148
 21 94.8333333
 22 94.8518519
 23 94.8703704
 24 94.8888889
 25 94.9074074
 26 94.9259259
 27 94.9444444
 28 94.9629630
 29 94.9814815

30 95.0000000

85° 30' 95.0000000
 31 95.0185185
 32 95.0370370
 33 95.0555556
 34 95.0740741
 35 95.0925926
 36 95.1111111
 37 95.1296296
 38 95.1481481
 39 95.1666667

40 95.1851852
 41 95.2037037
 42 95.2222222
 43 95.2407407
 44 95.2592593
 45 95.2777778
 46 95.2962963
 47 95.3148148
 48 95.3333333
 49 95.3518519

50 95.3703704
 51 95.3888889
 52 95.4074074
 53 95.4259259
 54 95.4444444
 55 95.4629630
 56 95.4814815
 57 95.5000000
 58 95.5185185
 59 95.5370370

60 95.5555556

86°	0'	95.5555556
	1	95.5740741
	2	95.5925926
	3	95.6111111
	4	95.6296296
	5	95.6481481
	6	95.6666667
	7	95.6851852
	8	95.7037037
	9	95.7222222
	10	95.7407407
	11	95.7592593
	12	95.7777778
	13	95.7962963
	14	95.8148148
	15	95.8333333
	16	95.8518519
	17	95.8703704
	18	95.8888889
	19	95.9074074
	20	95.9259259
	21	95.9444444
	22	95.9629630
	23	95.9814815
	24	96.0000000
	25	96.0185185
	26	96.0370370
	27	96.0555556
	28	96.0740741
	29	96.0925926
	30	96.1111111

86°	30'	96.1111111
	31	96.1296296
	32	96.1481481
	33	96.1666667
	34	96.1851852
	35	96.2037037
	36	96.2222222
	37	96.2407407
	38	96.2592593
	39	96.2777778
	40	96.2962963
	41	96.3148148
	42	96.3333333
	43	96.3518519
	44	96.3703704
	45	96.3888889
	46	96.4074074
	47	96.4259259
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	51	96.5000000
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	57	96.6111111
	58	96.6296296
	59	96.6481481
	60	96.6666667

87°	0'	96.6666667
	1	96.6851852
	2	96.7037037
	3	96.7222222
	4	96.7407407
	5	96.7592593
	6	96.7777778
	7	96.7962963
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	9	96.8333333
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	15	96.9444444
	16	96.9629630
	17	96.9814815
	18	97.0000000
	19	97.0185185
	20	97.0370370
	21	97.0555556
	22	97.0740741
	23	97.0925926
	24	97.1111111
	25	97.1296296
	26	97.1481481
	27	97.1666667
	28	97.1851852
	29	97.2037037
	30	97.2222222

87°	30'	97.2222222
	31	97.2407407
	32	97.2592593
	33	97.2777778
	34	97.2962963
	35	97.3148148
	36	97.3333333
	37	97.3518519
	38	97.3703704
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	41	97.4259259
	42	97.4444444
	43	97.4629630
	44	97.4814815
	45	97.5000000
	46	97.5185185
	47	97.5370370
	48	97.5555556
	49	97.5740741
	50	97.5925926
	51	97.6111111
	52	97.6296296
	53	97.6481481
	54	97.6666667
	55	97.6851852
	56	97.7037037
	57	97.7222222
	58	97.7407407
	59	97.7592593
	60	97.7777778

88°	0'	97.777 777 8
	1	97.796 296 3
	2	97.814 814 8
	3	97.833 333 3
	4	97.851 851 9
	5	97.870 370 4
	6	97.888 888 9
	7	97.907 407 4
	8	97.925 925 9
	9	97.944 444 4
	10	97.962 963 0
	11	97.981 481 5
	12	98.000 000 0
	13	98.018 518 5
	14	98.037 037 0
	15	98.055 555 6
	16	98.074 074 1
	17	98.092 592 6
	18	98.111 111 1
	19	98.129 629 6
	20	98.148 148 1
	21	98.166 666 7
	22	98.185 185 2
	23	98.203 703 7
	24	98.222 222 2
	25	98.240 740 7
	26	98.259 259 3
	27	98.277 777 8
	28	98.296 296 3
	29	98.314 814 8
	30	98.333 333 3

88°	30'	98.333 333 3
	31	98.351 851 9
	32	98.370 370 4
	33	98.388 888 9
	34	98.407 407 4
	35	98.425 925 9
	36	98.444 444 4
	37	98.462 963 0
	38	98.481 481 5
	39	98.500 000 0
	40	98.518 518 5
	41	98.537 037 0
	42	98.555 555 6
	43	98.574 074 1
	44	98.592 592 6
	45	98.611 111 1
	46	98.629 629 6
	47	98.648 148 1
	48	98.666 666 7
	49	98.685 185 2
	50	98.703 703 7
	51	98.722 222 2
	52	98.740 740 7
	53	98.759 259 3
	54	98.777 777 8
	55	98.796 296 3
	56	98.814 814 8
	57	98.833 333 3
	58	98.851 851 9
	59	98.870 370 4
	60	98.888 888 9

89°	0'	98.88888889
	1	98.9074074
	2	98.9259259
	3	98.9444444
	4	98.9629630
	5	98.9814815
	6	99.0000000
	7	99.0185185
	8	99.0370370
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	11	99.0925926
	12	99.1111111
	13	99.1296296
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	18	99.2222222
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	22	99.2962963
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	24	99.3333333
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	27	99.3888889
	28	99.4074074
	29	99.4259259
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89°	30'	99.4444444
	31	99.4629630
	32	99.4814815
	33	99.5000000
	34	99.5185185
	35	99.5370370
	36	99.5555556
	37	99.5740741
	38	99.5925926
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	40	99.6296296
	41	99.6481481
	42	99.6666667
	43	99.6851852
	44	99.7037037
	45	99.7222222
	46	99.7407407
	47	99.7592593
	48	99.7777778
	49	99.7962963
	50	99.8148148
	51	99.8333333
	52	99.8518519
	53	99.8703704
	54	99.8888889
	55	99.9074074
	56	99.9259259
	57	99.9444444
	58	99.9629630
	59	99.9814815
	60	100.0000000

0	0.0 0 0 3 0 8 6	30	0.0 0 9 5 6 7 9
1	0.0 0 3 3 9 5 1	31	0.0 1 2 6 5 4 3
2	0.0 0 6 4 8 1 5	32	0.0 1 5 7 4 0 7
3	0.0 0 9 5 6 7 9	33	0.0 1 8 8 2 7 2
4	0.0 1 2 6 5 4 3	34	0.0 2 1 9 1 3 6
5	0.0 1 5 7 4 0 7	35	0.0 2 5 0 0 0 0
6	0.0 1 8 8 2 7 2	36	0.0 2 8 0 8 6 4
7	0.0 2 1 9 1 3 6	37	0.0 3 1 1 7 2 8
8	0.0 2 5 0 0 0 0	38	0.0 3 4 2 5 9 3
9	0.0 2 8 0 8 6 4	39	0.0 3 7 3 4 5 7
10	0.0 3 1 1 7 2 8	40	0.0 4 0 4 3 2 1
11	0.0 3 4 2 5 9 3	41	0.0 4 3 5 1 8 5
12	0.0 3 7 3 4 5 7	42	0.0 4 6 6 0 4 9
13	0.0 4 0 4 3 2 1	43	0.0 4 9 6 9 1 4
14	0.0 4 3 5 1 8 5	44	0.0 5 2 7 7 7 8
15	0.0 4 6 6 0 4 9	45	0.0 5 5 8 6 4 2
16	0.0 4 9 6 9 1 4	46	0.0 5 8 9 5 0 6
17	0.0 5 2 7 7 7 8	47	0.0 6 2 0 3 7 0
18	0.0 5 5 8 6 4 2	48	0.0 6 5 1 2 3 5
19	0.0 5 8 9 5 0 6	49	0.0 6 8 2 0 9 9
20	0.0 6 2 0 3 7 0	50	0.0 7 1 2 9 6 3
21	0.0 6 5 1 2 3 5	51	0.0 7 4 3 8 2 7
22	0.0 6 8 2 0 9 9	52	0.0 7 7 4 6 9 1
23	0.0 7 1 2 9 6 3	53	0.0 8 0 5 5 5 6
24	0.0 7 4 3 8 2 7	54	0.0 8 3 6 4 2 0
25	0.0 7 7 4 6 9 1	55	0.0 8 6 7 2 8 4
26	0.0 8 0 5 5 5 6	56	0.0 8 9 8 1 4 8
27	0.0 8 3 6 4 2 0	57	0.0 9 2 9 0 1 2
28	0.0 8 6 7 2 8 4	58	0.0 9 5 9 8 7 7
29	0.0 8 9 8 1 4 8	59	0.0 9 9 0 7 4 1
30	0.0 9 2 9 0 1 2	60	0.1 0 2 1 6 0 5