

EXAME DE SELEÇÃO PARA CATEGORIA DE CAPITÃO-AMADOR

Exame: I / 2020

Anexos

A2 CORREÇÃO DE ALTURA DE 10° - 90° - SOL, ESTRELAS E PLANETAS

Out — Mar			SOL			Abr — Set			ESTRELAS E PLANETAS						DEPRESSÃO					
a	Limbo		a	Limbo		a	Corr.		a	Corr.		Elev do	Corr.	Elev do	Elev do	Corr.	Elev do	Corr.		
ap	Inf	Sup	ap	Inf	Sup	ap			ap	adicional		Olho		Olho	Olho		Olho			
2015																				
VÊNUS																				
1 jan — 3 mai																				
4 dez — 31dez																				
o /																				
60 + 0.1																				
4 mai — 22 jun																				
13 out — 3 dez																				
o /																				
41 + 0.2																				
76 + 0.1																				
23 jun — 14 jul																				
19 set — 12 out																				
o /																				
34 + 0.3																				
60 + 0.2																				
80 + 0.1																				
15 jul — 30 jul																				
2 set — 18 set																				
o /																				
29 + 0.4																				
51 + 0.3																				
68 + 0.2																				
83 + 0.1																				
31 jul — 1 set																				
o /																				
26 + 0.5																				
46 + 0.4																				
60 + 0.3																				
73 + 0.2																				
84 + 0.1																				
MARTE																				
1 jan — 31 dez																				
o /																				
60 + 0.1																				
9 33 + 10.8 - 21.5																				
9 45 + 10.9 - 21.4																				
9 56 + 11.0 - 21.3																				
10 08 + 11.1 - 21.2																				
10 20 + 11.2 - 21.1																				
10 33 + 11.3 - 21.0																				
10 46 + 11.4 - 20.9																				
11 00 + 11.5 - 20.8																				
11 15 + 11.6 - 20.7																				
11 30 + 11.7 - 20.6																				
11 45 + 11.8 - 20.5																				
12 01 + 11.9 - 20.4																				
12 18 + 12.0 - 20.3																				
12 36 + 12.1 - 20.2																				
12 54 + 12.2 - 20.1																				
13 14 + 12.3 - 20.0																				
13 34 + 12.4 - 19.9																				
13 55 + 12.5 - 19.8																				
14 17 + 12.6 - 19.7																				
14 41 + 12.7 - 19.6																				
15 05 + 12.8 - 19.5																				
15 31 + 12.9 - 19.4																				
15 59 + 13.0 - 19.3																				
16 27 + 13.1 - 19.2																				
16 58 + 13.2 - 19.1																				
17 30 + 13.3 - 19.0																				
18 05 + 13.4 - 18.9																				
18 41 + 13.5 - 18.8																				
19 20 + 13.6 - 18.7																				
20 02 + 13.7 - 18.6																				
20 46 + 13.8 - 18.5																				
21 34 + 13.9 - 18.4																				
22 25 + 14.0 - 18.3																				
23 20 + 14.1 - 18.2																				
24 20 + 14.2 - 18.1																				
25 24 + 14.3 - 18.0																				
26 34 + 14.4 - 17.9																				
27 50 + 14.5 - 17.8																				
29 13 + 14.6 - 17.7																				
30 44 + 14.7 - 17.6																				
32 24 + 14.8 - 17.5																				
34 15 + 14.9 - 17.4																				
36 17 + 15.0 - 17.3																				
38 34 + 15.1 - 17.2																				
41 06 + 15.2 - 17.1																				
43 56 + 15.3 - 17.0																				
47 07 + 15.4 - 16.9																				
50 43 + 15.5 - 16.8																				
54 46 + 15.6 - 16.7																				
59 21 + 15.7 - 16.6																				
64 28 + 15.8 - 16.5																				
70 10 + 15.9 - 16.4																				
76 24 + 16.0 - 16.3																				
83 05 + 16.1 - 16.2																				
90 00																				
9 39 + 10.6 - 21.2																				
9 50 + 10.7 - 21.1																				
10 02 + 10.8 - 21.0																				
10 14 + 10.9 - 20.9																				
10 27 + 11.0 - 20.8																				
10 40 + 11.1 - 20.7																				
10 53 + 11.2 - 20.6																				
11 07 + 11.3 - 20.5																				
11 22 + 11.4 - 20.4																				
11 37 + 11.5 - 20.3																				
11 53 + 11.6 - 20.2																				
12 10 + 11.7 - 20.1																				
12 27 + 11.8 - 20.0																				
12 45 + 11.9 - 19.9																				
13 04 + 12.0 - 19.8																				
13 24 + 12.1 - 19.7																				
13 44 + 12.2 - 19.6																				
14 06 + 12.3 - 19.5																				
14 29 + 12.4 - 19.4																				
14 53 + 12.5 - 19.3																				
15 18 + 12.6 - 19.2																				
15 45 + 12.7 - 19.1																				
16 13 + 12.8 - 19.0																				
16 43 + 12.9 - 18.9																				
17 14 + 13.0 - 18.8																				
17 47 + 13.1 - 18.7																				
18 23 + 13.2 - 18.6																				
19 00 + 13.3 - 18.5																				
19 41 + 13.4 - 18.4																				
20 24 + 13.5 - 18.3																				
21 10 + 13.6 - 18.2																				
21 59 + 13.7 - 18.1																				
22 52 + 13.8 - 18.0																				
23 49 + 13.9 - 17.9																				
24 51 + 14.0 - 17.8																				
25 58 + 14.1 - 17.7																				
27 11 + 14.2 - 17.6																				
28 31 + 14.3 - 17.5																				
29 58 + 14.4 - 17.4																				
31 33 + 14.5 - 17.3																				
33 18 + 14.6 - 17.2																				
35 15 + 14.7 - 17.1																				
37 24 + 14.8 - 17.0																				
39 48 + 14.9 - 16.9																				
42 28 + 15.0 - 16.8																				
45 29 + 15.1 - 16.7																				
48 52 + 15.2 - 16.6																				
52 41 + 15.3 - 16.5																				
56 59 + 15.4 - 16.4																				
61 50 + 15.5 - 16.3																				
67 15 + 15.6 - 16.2																				
73 14 + 15.7 - 16.1																				
79 42 + 15.8 - 16.0																				
86 31 + 15.9 - 15.9																				
90 00																				
9 55 - 5.3																				
10 07 - 5.2																				
10 20 - 5.1																				
10 32 - 5.0																				
10 46 - 4.9																				
10 59 - 4.8																				
11 14 - 4.7																				
11 29 - 4.6																				
11 44 - 4.5																				
12 00 - 4.4																				
12 17 - 4.3																				
12 35 - 4.2																				
12 53 - 4.1																				
13 12 - 4.0																				
13 32 - 3.9																				
13 53 - 3.8																				
14 16 - 3.7																				
14 39 - 3.6																				
15 03 - 3.5																				
15 29 - 3.4																				
15 56 - 3.3																				
16 25 - 3.2																				
16 55 - 3.1																				
17 27 - 3.0																				
18 01 - 2.9																				
18 37 - 2.8																				
19 16 - 2.7																				
19 56 - 2.6																				
20 40 - 2.5																				
21 27 - 2.4																				
22 17 - 2.3																				
23 11 - 2.2																				
24 09 - 2.1																				
25 12 - 2.0																				
26 20 - 1.9																				
27 34 - 1.8																				
28 54 - 1.7																				
30 22 - 1.6																				
31 58 - 1.5																				
33 43 - 1.4																				
35 38 - 1.3																				
37 45 - 1.2																				
40 06 - 1.1																				
42 42 - 1.0																				
45 34 - 0.9																				
48 45 - 0.8																				
52 16 - 0.7																				
56 09 - 0.6																				
60 26 - 0.5																				
65 06 - 0.4																				
70 09 - 0.3																				
75 32 - 0.2																				
81 12 - 0.1																				
87 03 0.0																				
90 00 0.0																				
2.4 - 2.8																				
2.6 - 2.9																				
2.8 - 3.0																				
3.0 - 3.1																				
3.2 - 3.2																				
3.4 - 3.3																				
3.6 - 3.4																				
3.8 - 3.5																				
4.0 - 3.6																				
4.3 - 3.7																				
4.5 - 3.8																				
4.7 - 3.9																				
5.0 - 4.0																				
5.2 - 4.1																				
5.5 - 4.2																				
5.8 - 4.3																				
6.1 - 4.4																				
6.3 - 4.5																				
6.6 - 4.6																				
6.9 - 4.7																				
7.2 - 4.8																				
7.5 - 4.9																				
7.9 - 5.0																				
8.2 - 5.1																				
8.5 - 5.2																				
8.8 - 5.3																				
9.2 - 5.4																				
9.5 - 5.5																				
9.9 - 5.6																				
10.3 - 5.7																				
10.6 - 5.8																				
11.0 - 5.9																				
11.4 - 6.0																				
11.8 - 6.1																				
12.2 - 6.2																				
12.6 - 6.3																				
13.0 - 6.4																				
13.4 - 6.5																				
13.8 - 6.6																				
14.2 - 6.7																				
14.7 - 6.8																				
15.1 - 6.9																				
15.5 - 7.0																				
16.0 - 7.1																				
16.5 - 7.2																				
16.9 - 7.3																				
17.4 - 7.4																				
17.9 - 7.5																				
18.4 - 7.6																				
18.8 - 7.7																				
19.3 - 7.8																				
19.8 - 7.9																				
20.4 - 8.0																				
20.9 - 8.1																				
21.4																				
8.0																				
8.6																				
9.2																				
9.8																				
10.5																				
11.2																				
11.9																				
12.6																				
13.3																				
14.1																				
14.9																				
15.7																				
16.5																				
17.4																				
18.3																				
19.1																				
20.1																				
21.0																				
22.0																				
22.9																				
23.9																				
24.9																				
26.0																				
27.1																				
28.1																				
29.2																				
30.4																				
31.5																				
32.7																				
33.9																				
35.1																				
36.3																				
37.6																				
38.9																				
40.1																				
41.5																				
42.8																				
44.2																				
45.5																				
46.9																				
48.4																				
49.8																				
51.3																				
52.8																				
54.3																				
55.8																				
57.4																				
58.9																				
60.5																				
62.1																				
63.8																				
65.4																				
67.1																				
68.8																				
70.5																				
1.0 - 1.8																				
1.5 - 2.2																				
2.0 - 2.5																				
2.5 - 2.8																				
3.0 - 3.0																				
Ver tábu																				
m /																				
20 - 7.9																				
22 - 8.3																				
24 - 8.6																				
26 - 9.0																				
28 - 9.3																				
30 - 9.6																				
32 - 10.0																				
34 - 10.3																				
36 - 10.6																				
38 - 10.8																				
40 - 11.1																				
42 - 11.4																				
44 - 11.7																				
46 - 11.9																				
48 - 12.2																				
Pés /																				
2 - 1.4																				
4 - 1.9																				
6 - 2.4																				
8 - 2.7																				
10 - 3.1																				
Ver tábu																				
Pés /																				
70 - 8.1																				
75 - 8.4																				
80 - 8.7																				

TU	SOL		LUA				Lat.	CREP		SOL Nascer	LUA - Nascer				
	AHG	Dec	AHG	v	Dec	d Ph		Naut.	Civil		21	22	23	24	
															h m
S E X T A F E I R A	00	176 34.4 S10 49.8	205 22.7 10.5	S21	46.2	4.7	55.3	N 72	05 46	07 04	08 17	09 27	09 06	08 54	08 45
	01	191 34.4 48.9	219 52.2 10.6	21	41.5	4.8	55.3	N 70	05 47	06 58	08 03	09 27	09 06	08 54	08 45
	02	206 34.5 48.0	234 21.8 10.6	21	36.7	4.9	55.2	68	05 48	06 52	07 51	09 27	09 06	08 54	08 45
	03	221 34.6 47.1	248 51.4 10.7	21	31.8	5.0	55.2	66	05 49	06 48	07 41	08 37	08 37	08 36	08 34
	04	236 34.6 46.2	263 21.1 10.7	21	26.8	5.1	55.2	64	05 49	06 44	07 33	08 05	08 16	08 21	08 24
	05	251 34.7 45.3	277 50.8 10.8	21	21.7	5.2	55.2	62	05 49	06 41	07 26	07 42	07 58	08 09	08 16
	06	266 34.8 S10 44.4	292 20.6 10.8	S21	16.5	5.3	55.2	60	05 49	06 38	07 20	07 23	07 44	07 58	08 09
	07	281 34.8 43.5	306 50.4 10.9	21	11.2	5.4	55.1	N 58	05 49	06 35	07 15	07 07	07 31	07 49	08 02
	08	296 34.9 42.6	321 20.3 11.0	21	05.8	5.5	55.1	56	05 49	06 32	07 10	06 54	07 21	07 41	07 57
	09	311 35.0 41.7	335 50.3 11.0	21	00.3	5.6	55.1	54	05 49	06 30	07 06	06 42	07 11	07 33	07 52
	10	326 35.0 40.8	350 20.3 11.1	20	54.7	5.7	55.1	52	05 49	06 28	07 02	06 32	07 02	07 27	07 47
	11	341 35.1 39.9	4 50.4 11.1	20	49.0	5.8	55.1	50	05 48	06 26	06 59	06 23	06 55	07 21	07 43
	12	356 35.2 S10 39.0	19 20.5 11.2	S20	43.2	5.9	55.1	45	05 47	06 21	06 51	06 03	06 38	07 08	07 34
	13	11 35.3 38.1	33 50.7 11.3	20	37.3	6.0	55.0	N 40	05 45	06 17	06 44	05 47	06 25	06 58	07 26
	14	26 35.3 37.2	48 21.0 11.3	20	31.3	6.1	55.0	35	05 44	06 13	06 39	05 34	06 14	06 49	07 20
	15	41 35.4 36.3	62 51.3 11.3	20	25.2	6.1	55.0	30	05 42	06 10	06 34	05 22	06 03	06 41	07 14
	16	56 35.5 35.4	77 21.6 11.5	20	19.1	6.3	55.0	20	05 37	06 03	06 25	05 02	05 46	06 27	07 04
	17	71 35.5 34.4	91 52.1 11.5	20	12.8	6.4	55.0	N 10	05 32	05 56	06 18	04 44	05 31	06 15	06 55
	18	86 35.6 S10 33.5	106 22.6 11.5	S20	06.4	6.5	55.0	0	05 25	05 49	06 10	04 28	05 17	06 03	06 47
	19	101 35.7 32.6	120 53.1 11.6	19	59.9	6.5	54.9	S 10	05 16	05 41	06 03	04 12	05 03	05 52	06 39
	20	116 35.8 31.7	135 23.7 11.7	19	53.4	6.7	54.9	20	05 06	05 32	05 55	03 54	04 47	05 39	06 30
	21	131 35.8 30.8	149 54.4 11.7	19	46.7	6.7	54.9	30	04 52	05 21	05 45	03 34	04 30	05 25	06 20
	22	146 35.9 29.9	164 25.1 11.8	19	40.0	6.8	54.9	35	04 43	05 14	05 40	03 22	04 20	05 17	06 14
23	161 36.0 29.0	178 55.9 11.9	19	33.2	7.0	54.9	40	04 32	05 06	05 34	03 08	04 08	05 08	06 07	
22	00	176 36.0 S10 28.1	193 26.8 11.9	S19	26.2	7.0	54.9	45	04 18	04 56	05 26	02 52	03 54	04 57	05 59
01	191 36.1 27.2	207 57.7 12.0	19	19.2	7.1	54.9	S 50	04 01	04 43	05 18	02 32	03 37	04 43	05 50	
02	206 36.2 26.3	222 28.7 12.0	19	12.1	7.1	54.8	52	03 52	04 37	05 14	02 22	03 29	04 37	05 45	
03	221 36.3 25.4	236 59.7 12.1	19	05.0	7.3	54.8	54	03 42	04 31	05 09	02 12	03 20	04 30	05 41	
04	236 36.3 24.5	251 30.8 12.2	18	57.7	7.3	54.8	56	03 31	04 23	05 04	02 00	03 10	04 23	05 35	
05	251 36.4 23.6	266 02.0 12.2	18	50.4	7.5	54.8	58	03 18	04 15	04 59	01 46	02 58	04 14	05 29	
06	266 36.5 S10 22.7	280 33.2 12.3	S18	42.9	7.5	54.8	S 60	03 02	04 05	04 52	01 29	02 45	04 04	05 22	
07	281 36.6 21.8	295 04.5 12.4	18	35.4	7.6	54.8	Lat.	SOL	CREP	LUA - Pôr	21	22	23	24	
08	296 36.6 20.8	309 35.9 12.4	18	27.8	7.7	54.8	Pôr	Pôr	Civil	Naut.	h m	h m	h m	h m	
09	311 36.7 19.9	324 07.3 12.4	18	20.1	7.7	54.7	N 72	16 12	17 25	18 44	12 02	13 23	14 58	17 00	
10	326 36.8 19.0	338 38.7 12.6	18	12.4	7.9	54.7	N 70	16 26	17 31	18 42	12 51	14 31	16 06	17 38	
11	341 36.9 18.1	353 10.3 12.5	18	04.5	7.9	54.7	68	16 38	17 36	18 41	13 22	15 02	16 20	17 46	
12	356 36.9 S10 17.2	7 41.8 12.7	S17	56.6	8.0	54.7	66	16 47	17 41	18 40	12 51	14 31	16 06	17 38	
13	11 37.0 16.3	22 13.5 12.7	17	48.6	8.1	54.7	64	16 55	17 44	18 40	13 22	15 02	16 20	17 46	
14	26 37.1 15.4	36 45.2 12.8	17	40.5	8.1	54.7	62	17 02	17 48	18 39	13 46	15 08	16 32	17 53	
15	41 37.2 14.5	51 17.0 12.8	17	32.4	8.2	54.7	60	17 08	17 51	18 39	14 04	15 22	16 41	18 00	
16	56 37.3 13.6	65 48.8 12.9	17	24.2	8.3	54.6	N 58	17 13	17 53	18 39	14 19	15 34	16 50	18 05	
17	71 37.3 12.7	80 20.7 13.0	17	15.9	8.4	54.6	56	17 18	17 56	18 39	14 32	15 44	16 57	18 10	
18	86 37.4 S10 11.7	94 52.7 13.0	S17	07.5	8.4	54.6	54	17 22	17 58	18 39	14 44	15 53	17 04	18 14	
19	101 37.5 10.8	109 24.7 13.1	16	59.1	8.6	54.6	52	17 26	18 00	18 39	14 54	16 01	17 10	18 18	
20	116 37.6 09.9	123 56.8 13.1	16	50.5	8.5	54.6	50	17 29	18 02	18 40	15 03	16 09	17 15	18 22	
21	131 37.6 09.0	138 28.9 13.2	16	42.0	8.7	54.6	45	17 37	18 07	18 41	15 21	16 24	17 27	18 29	
22	146 37.7 08.1	153 01.1 13.2	16	33.3	8.7	54.6	N 40	17 43	18 11	18 42	15 37	16 37	17 36	18 35	
23	161 37.8 07.2	167 33.3 13.3	16	24.6	8.8	54.6	35	17 49	18 14	18 44	15 50	16 47	17 45	18 41	
23	00	176 37.9 S10 06.3	182 05.6 13.4	S16	15.8	8.9	54.5	30	17 54	18 18	18 46	16 01	16 57	17 52	18 46
01	191 38.0 05.4	196 38.0 13.4	16	06.9	8.9	54.5	20	18 02	18 24	18 50	16 20	17 13	18 04	18 54	
02	206 38.0 04.4	211 10.4 13.5	15	58.0	9.0	54.5	N 10	18 10	18 31	18 56	16 36	17 27	18 15	19 01	
03	221 38.1 03.5	225 42.9 13.6	15	49.0	9.1	54.5	0	18 17	18 38	19 02	16 52	17 39	18 25	19 08	
04	236 38.2 02.6	240 15.5 13.6	15	39.9	9.1	54.5	S 10	18 24	18 46	19 11	17 07	17 52	18 34	19 14	
05	251 38.3 01.7	254 48.1 13.6	15	30.8	9.2	54.5	20	18 32	18 55	19 21	17 24	18 06	18 45	19 21	
06	266 38.4 S10 00.8	269 20.7 13.7	S15	21.6	9.2	54.5	30	18 41	19 06	19 35	17 42	18 22	18 57	19 29	
07	281 38.4 9 59.9	283 53.4 13.8	15	12.4	9.3	54.5	35	18 47	19 13	19 44	17 53	18 31	19 04	19 34	
08	296 38.5 59.0	298 26.2 13.8	15	03.1	9.4	54.4	40	18 53	19 21	19 54	18 06	18 41	19 11	19 39	
09	311 38.6 58.0	312 59.0 13.9	14	53.7	9.4	54.4	45	19 00	19 30	20 08	18 20	18 53	19 20	19 45	
10	326 38.7 57.1	327 31.9 13.9	14	44.3	9.5	54.4	S 50	19 08	19 43	20 25	18 38	19 07	19 31	19 52	
11	341 38.8 56.2	342 04.8 14.0	14	34.8	9.6	54.4	52	19 12	19 48	20 33	18 46	19 14	19 36	19 55	
12	356 38.9 S 9 55.3	356 37.8 14.1	S14	25.2	9.6	54.4	54	19 17	19 55	20 43	18 56	19 21	19 42	19 59	
13	11 38.9 54.4	11 10.9 14.0	14	15.6	9.6	54.4	56	19 22	20 02	20 54	19 06	19 30	19 48	20 02	
14	26 39.0 53.5	25 43.9 14.2	14	06.0	9.8	54.4	58	19 27	20 10	21 06	19 18	19 39	19 55	20 07	
15	41 39.1 52.5	40 17.1 14.2	13	56.2	9.7	54.4	S 60	19 33	20 20	21 22	19 32	19 50	20 02	20 12	
16	56 39.2 51.6	54 50.3 14.3	13	46.5	9.9	54.4	Dia	ET	(-)	Pass	Pass Merid	Idade	Fase		
17	71 39.3 50.7	69 23.6 14.3	13	36.6	9.8	54.3	00h	12h	Merid	Sup	Inf	d	%		
18	86 39.4 S 9 49.8	83 56.9 14.3	S13	26.8	10.0	54.3	21	13 43	13 39	12 14	10 40	23 04	28 4		
19	101 39.4 48.9	98 30.2 14.4	13	16.8	10.0	54.3	22	13 36	13 32	12 14	11 28	23 51	29 1		
20	116 39.5 48.0	113 03.6 14.5	13	06.8	10.0	54.3	23	13 29							

m 48	SOL PLANETAS			LUA	v ou Corr. d			m 49	SOL PLANETAS			LUA	v ou Corr. d						
	s	o	l		o	l	o		l	s	o		l	o	l	o	l	o	l
00	12 00-0	12 02-0	11 27-2	0-0	0-0	6-0	4-9	12-0	9-7	00	12 15-0	12 17-0	11 41-5	0-0	0-0	6-0	5-0	12-0	9-9
01	12 00-3	12 02-2	11 27-4	0-1	0-1	6-1	4-9	12-1	9-8	01	12 15-3	12 17-3	11 41-8	0-1	0-1	6-1	5-0	12-1	10-0
02	12 00-5	12 02-5	11 27-7	0-2	0-2	6-2	5-0	12-2	9-9	02	12 15-5	12 17-5	11 42-0	0-2	0-2	6-2	5-1	12-2	10-1
03	12 00-8	12 02-7	11 27-9	0-3	0-2	6-3	5-1	12-3	9-9	03	12 15-8	12 17-8	11 42-2	0-3	0-2	6-3	5-2	12-3	10-1
04	12 01-0	12 03-0	11 28-2	0-4	0-3	6-4	5-2	12-4	10-0	04	12 16-0	12 18-0	11 42-5	0-4	0-3	6-4	5-3	12-4	10-2
05	12 01-3	12 03-2	11 28-4	0-5	0-4	6-5	5-3	12-5	10-1	05	12 16-3	12 18-3	11 42-7	0-5	0-4	6-5	5-4	12-5	10-3
06	12 01-5	12 03-5	11 28-6	0-6	0-5	6-6	5-3	12-6	10-2	06	12 16-5	12 18-5	11 42-9	0-6	0-5	6-6	5-4	12-6	10-4
07	12 01-8	12 03-7	11 28-9	0-7	0-6	6-7	5-4	12-7	10-3	07	12 16-8	12 18-8	11 43-2	0-7	0-6	6-7	5-5	12-7	10-5
08	12 02-0	12 04-0	11 29-1	0-8	0-6	6-8	5-5	12-8	10-3	08	12 17-0	12 19-0	11 43-4	0-8	0-7	6-8	5-6	12-8	10-6
09	12 02-3	12 04-2	11 29-3	0-9	0-7	6-9	5-6	12-9	10-4	09	12 17-3	12 19-3	11 43-7	0-9	0-7	6-9	5-7	12-9	10-6
10	12 02-5	12 04-5	11 29-6	1-0	0-8	7-0	5-7	13-0	10-5	10	12 17-5	12 19-5	11 43-9	1-0	0-8	7-0	5-8	13-0	10-7
11	12 02-8	12 04-7	11 29-8	1-1	0-9	7-1	5-7	13-1	10-6	11	12 17-8	12 19-8	11 44-1	1-1	0-9	7-1	5-9	13-1	10-8
12	12 03-0	12 05-0	11 30-1	1-2	1-0	7-2	5-8	13-2	10-7	12	12 18-0	12 20-0	11 44-4	1-2	1-0	7-2	5-9	13-2	10-9
13	12 03-3	12 05-2	11 30-3	1-3	1-1	7-3	5-9	13-3	10-8	13	12 18-3	12 20-3	11 44-6	1-3	1-1	7-3	6-0	13-3	11-0
14	12 03-5	12 05-5	11 30-5	1-4	1-1	7-4	6-0	13-4	10-8	14	12 18-5	12 20-5	11 44-9	1-4	1-2	7-4	6-1	13-4	11-1
15	12 03-8	12 05-7	11 30-8	1-5	1-2	7-5	6-1	13-5	10-9	15	12 18-8	12 20-8	11 45-1	1-5	1-2	7-5	6-2	13-5	11-1
16	12 04-0	12 06-0	11 31-0	1-6	1-3	7-6	6-1	13-6	11-0	16	12 19-0	12 21-0	11 45-3	1-6	1-3	7-6	6-3	13-6	11-2
17	12 04-3	12 06-2	11 31-3	1-7	1-4	7-7	6-2	13-7	11-1	17	12 19-3	12 21-3	11 45-6	1-7	1-4	7-7	6-4	13-7	11-3
18	12 04-5	12 06-5	11 31-5	1-8	1-5	7-8	6-3	13-8	11-2	18	12 19-5	12 21-5	11 45-8	1-8	1-5	7-8	6-4	13-8	11-4
19	12 04-8	12 06-7	11 31-7	1-9	1-5	7-9	6-4	13-9	11-2	19	12 19-8	12 21-8	11 46-1	1-9	1-6	7-9	6-5	13-9	11-5
20	12 05-0	12 07-0	11 32-0	2-0	1-6	8-0	6-5	14-0	11-3	20	12 20-0	12 22-0	11 46-3	2-0	1-7	8-0	6-6	14-0	11-6
21	12 05-3	12 07-2	11 32-2	2-1	1-7	8-1	6-5	14-1	11-4	21	12 20-3	12 22-3	11 46-5	2-1	1-7	8-1	6-7	14-1	11-6
22	12 05-5	12 07-5	11 32-4	2-2	1-8	8-2	6-6	14-2	11-5	22	12 20-5	12 22-5	11 46-8	2-2	1-8	8-2	6-8	14-2	11-7
23	12 05-8	12 07-7	11 32-7	2-3	1-9	8-3	6-7	14-3	11-6	23	12 20-8	12 22-8	11 47-0	2-3	1-9	8-3	6-8	14-3	11-8
24	12 06-0	12 08-0	11 32-9	2-4	1-9	8-4	6-8	14-4	11-6	24	12 21-0	12 23-0	11 47-2	2-4	2-0	8-4	6-9	14-4	11-9
25	12 06-3	12 08-2	11 33-2	2-5	2-0	8-5	6-9	14-5	11-7	25	12 21-3	12 23-3	11 47-5	2-5	2-1	8-5	7-0	14-5	12-0
26	12 06-5	12 08-5	11 33-4	2-6	2-1	8-6	7-0	14-6	11-8	26	12 21-5	12 23-5	11 47-7	2-6	2-1	8-6	7-1	14-6	12-0
27	12 06-8	12 08-7	11 33-6	2-7	2-2	8-7	7-0	14-7	11-9	27	12 21-8	12 23-8	11 48-0	2-7	2-2	8-7	7-2	14-7	12-1
28	12 07-0	12 09-0	11 33-9	2-8	2-3	8-8	7-1	14-8	12-0	28	12 22-0	12 24-0	11 48-2	2-8	2-3	8-8	7-3	14-8	12-2
29	12 07-3	12 09-2	11 34-1	2-9	2-3	8-9	7-2	14-9	12-0	29	12 22-3	12 24-3	11 48-4	2-9	2-4	8-9	7-3	14-9	12-3
30	12 07-5	12 09-5	11 34-4	3-0	2-4	9-0	7-3	15-0	12-1	30	12 22-5	12 24-5	11 48-7	3-0	2-5	9-0	7-4	15-0	12-4
31	12 07-8	12 09-7	11 34-6	3-1	2-5	9-1	7-4	15-1	12-2	31	12 22-8	12 24-8	11 48-9	3-1	2-6	9-1	7-5	15-1	12-5
32	12 08-0	12 10-0	11 34-8	3-2	2-6	9-2	7-4	15-2	12-3	32	12 23-0	12 25-0	11 49-2	3-2	2-6	9-2	7-6	15-2	12-5
33	12 08-3	12 10-2	11 35-1	3-3	2-7	9-3	7-5	15-3	12-4	33	12 23-3	12 25-3	11 49-4	3-3	2-7	9-3	7-7	15-3	12-6
34	12 08-5	12 10-5	11 35-3	3-4	2-7	9-4	7-6	15-4	12-4	34	12 23-5	12 25-5	11 49-6	3-4	2-8	9-4	7-8	15-4	12-7
35	12 08-8	12 10-7	11 35-6	3-5	2-8	9-5	7-7	15-5	12-5	35	12 23-8	12 25-8	11 49-9	3-5	2-9	9-5	7-8	15-5	12-8
36	12 09-0	12 11-0	11 35-8	3-6	2-9	9-6	7-8	15-6	12-6	36	12 24-0	12 26-0	11 50-1	3-6	3-0	9-6	7-9	15-6	12-9
37	12 09-3	12 11-2	11 36-0	3-7	3-0	9-7	7-8	15-7	12-7	37	12 24-3	12 26-3	11 50-3	3-7	3-1	9-7	8-0	15-7	13-0
38	12 09-5	12 11-5	11 36-3	3-8	3-1	9-8	7-9	15-8	12-8	38	12 24-5	12 26-5	11 50-6	3-8	3-1	9-8	8-1	15-8	13-0
39	12 09-8	12 11-7	11 36-5	3-9	3-2	9-9	8-0	15-9	12-9	39	12 24-8	12 26-8	11 50-8	3-9	3-2	9-9	8-2	15-9	13-1
40	12 10-0	12 12-0	11 36-7	4-0	3-2	10-0	8-1	16-0	12-9	40	12 25-0	12 27-0	11 51-1	4-0	3-3	10-0	8-3	16-0	13-2
41	12 10-3	12 12-2	11 37-0	4-1	3-3	10-1	8-2	16-1	13-0	41	12 25-3	12 27-3	11 51-3	4-1	3-4	10-1	8-3	16-1	13-3
42	12 10-5	12 12-5	11 37-2	4-2	3-4	10-2	8-2	16-2	13-1	42	12 25-5	12 27-5	11 51-5	4-2	3-5	10-2	8-4	16-2	13-4
43	12 10-8	12 12-8	11 37-5	4-3	3-5	10-3	8-3	16-3	13-2	43	12 25-8	12 27-8	11 51-8	4-3	3-5	10-3	8-5	16-3	13-4
44	12 11-0	12 13-0	11 37-7	4-4	3-6	10-4	8-4	16-4	13-3	44	12 26-0	12 28-0	11 52-0	4-4	3-6	10-4	8-6	16-4	13-5
45	12 11-3	12 13-3	11 37-9	4-5	3-6	10-5	8-5	16-5	13-3	45	12 26-3	12 28-3	11 52-3	4-5	3-7	10-5	8-7	16-5	13-6
46	12 11-5	12 13-5	11 38-2	4-6	3-7	10-6	8-6	16-6	13-4	46	12 26-5	12 28-5	11 52-5	4-6	3-8	10-6	8-7	16-6	13-7
47	12 11-8	12 13-8	11 38-4	4-7	3-8	10-7	8-6	16-7	13-5	47	12 26-8	12 28-8	11 52-7	4-7	3-9	10-7	8-8	16-7	13-8
48	12 12-0	12 14-0	11 38-7	4-8	3-9	10-8	8-7	16-8	13-6	48	12 27-0	12 29-0	11 53-0	4-8	4-0	10-8	8-9	16-8	13-9
49	12 12-3	12 14-3	11 38-9	4-9	4-0	10-9	8-8	16-9	13-7	49	12 27-3	12 29-3	11 53-2	4-9	4-0	10-9	9-0	16-9	13-9
50	12 12-5	12 14-5	11 39-1	5-0	4-0	11-0	8-9	17-0	13-7	50	12 27-5	12 29-5	11 53-4	5-0	4-1	11-0	9-1	17-0	14-0
51	12 12-8	12 14-8	11 39-4	5-1	4-1	11-1	9-0	17-1	13-8	51	12 27-8	12 29-8	11 53-7	5-1	4-2	11-1	9-2	17-1	14-1
52	12 13-0	12 15-0	11 39-6	5-2	4-2	11-2	9-1	17-2	13-9	52	12 28-0	12 30-0	11 53-9	5-2	4-3	11-2	9-2	17-2	14-2
53	12 13-3	12 15-3	11 39-8	5-3	4-3	11-3	9-1	17-3	14-0	53	12 28-3	12 30-3	11 54-2	5-3	4-4	11-3	9-3	17-3	14-3
54	12 13-5	12 15-5	11 40-1	5-4	4-4	11-4	9-2	17-4	14-1	54	12 28-5	12 30-5	11 54-4	5-4	4-5	11-4	9-4	17-4	14-4
55	12 13-8	12 15-8	11 40-3	5-5	4-4	11-5	9-3	17-5	14-1	55	12 28-8	12 30-8	11 54-6	5-5	4-5	11-5	9-5	17-5	14-4
56	12 14-0	12 16-0	11 40-6	5-6	4-5	11-6	9-4	17-6	14-2	56	12 29-0	12 31-1	11 54-9	5-6	4-6	11-6	9-6	17-6	14-5
57	12 14-3	12 16-3	11 40-8	5-7	4-6	11-7	9-5	17-7	14-3	57	12 29-3	12 31-3	11 55-1	5-7	4-7	11-7	9-7	17-7	14-6
58	12 14-5	12 16-5	11 41-0	5-8	4-7	11-8	9-5	17-8	14-4	58	12 29-5	12 31-6	11 55-4	5-8	4-8	11-8	9-7	17-8	14-7
59	12 14-8	12 16-8	11 41-3	5-9	4-8	11-9	9-6	17-9	14-5	59	12 29-8	12 31-8	11 55-6	5-9	4-9	11-9	9-8	17-9	14-8
60	12 15-0	12 17-0	11 41-5	6-0	4-9	12-0	9-7	18-0	14-6	60	12 30-0	12 32-1	11 55-8	6-0	5-0	12-0	9-9	18-0	14-9

CONVERSÃO DE ARCO EM TEMPO

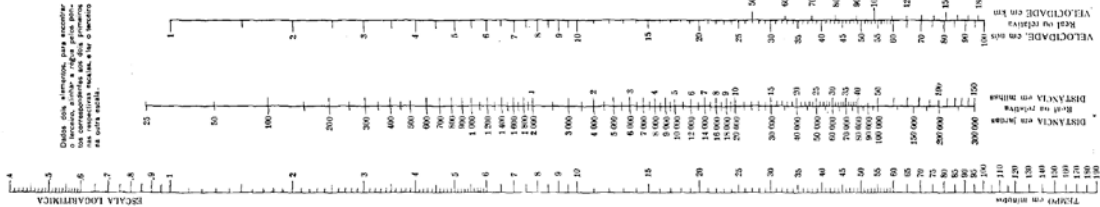
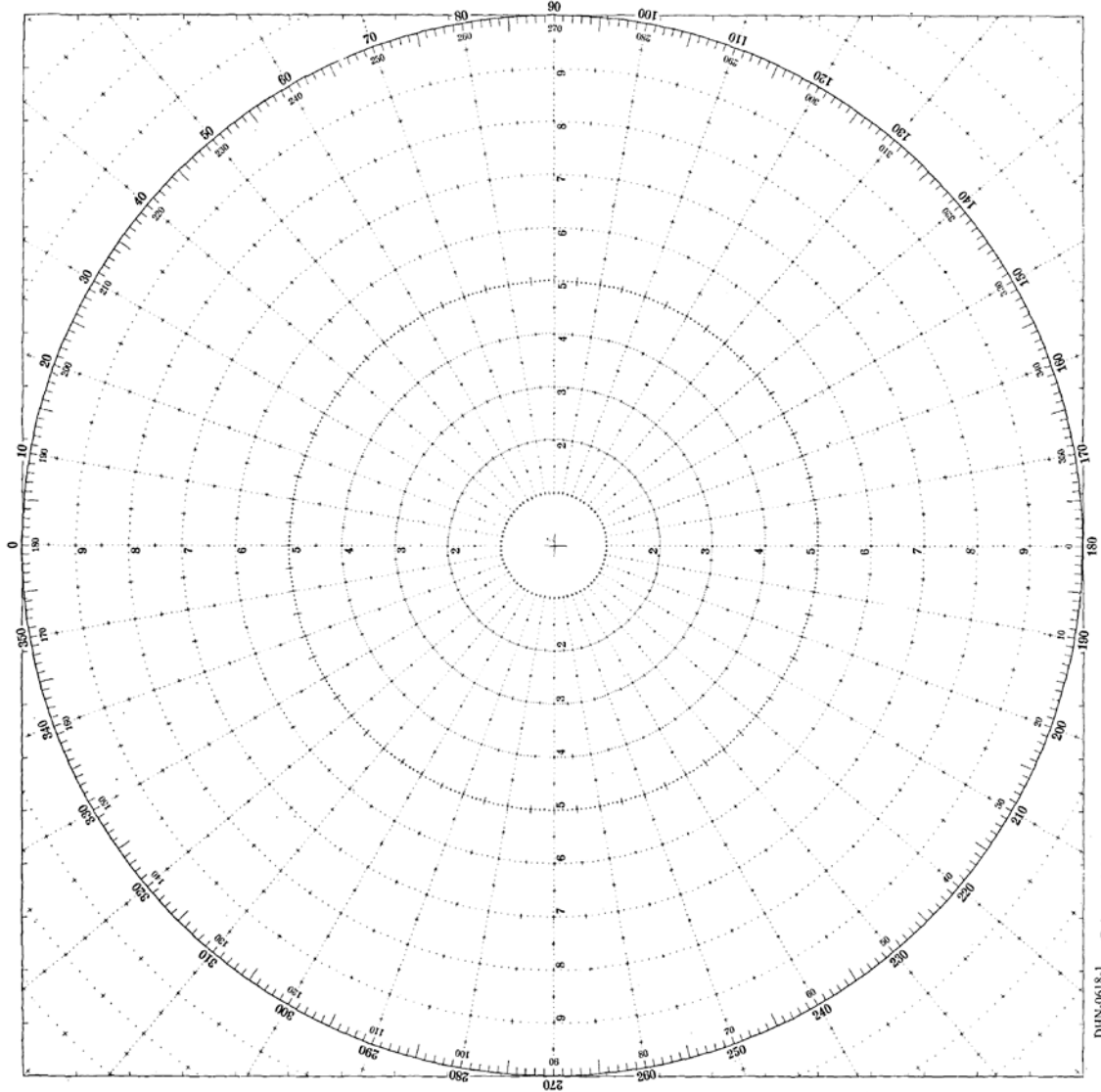
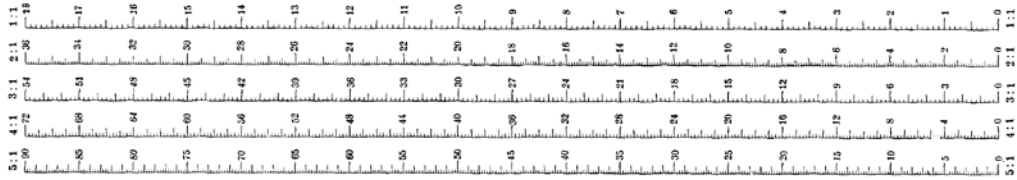
0°-59°		60°-119°		120°-179°		180°-239°		240°-299°		300°-359°			0'00	0'25	0'50	0'75
°	h m	°	h m	°	h m	°	h m	°	h m	°	h m	r	m s	m s	m s	m s
0	0 00	60	4 00	120	8 00	180	12 00	240	16 00	300	20 00	0	0 00	0 01	0 02	0 03
1	0 04	61	4 04	121	8 04	181	12 04	241	16 04	301	20 04	1	0 04	0 05	0 06	0 07
2	0 08	62	4 08	122	8 08	182	12 08	242	16 08	302	20 08	2	0 08	0 09	0 10	0 11
3	0 12	63	4 12	123	8 12	183	12 12	243	16 12	303	20 12	3	0 12	0 13	0 14	0 15
4	0 16	64	4 16	124	8 16	184	12 16	244	16 16	304	20 16	4	0 16	0 17	0 18	0 19
5	0 20	65	4 20	125	8 20	185	12 20	245	16 20	305	20 20	5	0 20	0 21	0 22	0 23
6	0 24	66	4 24	126	8 24	186	12 24	246	16 24	306	20 24	6	0 24	0 25	0 26	0 27
7	0 28	67	4 28	127	8 28	187	12 28	247	16 28	307	20 28	7	0 28	0 29	0 30	0 31
8	0 32	68	4 32	128	8 32	188	12 32	248	16 32	308	20 32	8	0 32	0 33	0 34	0 35
9	0 36	69	4 36	129	8 36	189	12 36	249	16 36	309	20 36	9	0 36	0 37	0 38	0 39
10	0 40	70	4 40	130	8 40	190	12 40	250	16 40	310	20 40	10	0 40	0 41	0 42	0 43
11	0 44	71	4 44	131	8 44	191	12 44	251	16 44	311	20 44	11	0 44	0 45	0 46	0 47
12	0 48	72	4 48	132	8 48	192	12 48	252	16 48	312	20 48	12	0 48	0 49	0 50	0 51
13	0 52	73	4 52	133	8 52	193	12 52	253	16 52	313	20 52	13	0 52	0 53	0 54	0 55
14	0 56	74	4 56	134	8 56	194	12 56	254	16 56	314	20 56	14	0 56	0 57	0 58	0 59
15	1 00	75	5 00	135	9 00	195	13 00	255	17 00	315	21 00	15	1 00	1 01	1 02	1 03
16	1 04	76	5 04	136	9 04	196	13 04	256	17 04	316	21 04	16	1 04	1 05	1 06	1 07
17	1 08	77	5 08	137	9 08	197	13 08	257	17 08	317	21 08	17	1 08	1 09	1 10	1 11
18	1 12	78	5 12	138	9 12	198	13 12	258	17 12	318	21 12	18	1 12	1 13	1 14	1 15
19	1 16	79	5 16	139	9 16	199	13 16	259	17 16	319	21 16	19	1 16	1 17	1 18	1 19
20	1 20	80	5 20	140	9 20	200	13 20	260	17 20	320	21 20	20	1 20	1 21	1 22	1 23
21	1 24	81	5 24	141	9 24	201	13 24	261	17 24	321	21 24	21	1 24	1 25	1 26	1 27
22	1 28	82	5 28	142	9 28	202	13 28	262	17 28	322	21 28	22	1 28	1 29	1 30	1 31
23	1 32	83	5 32	143	9 32	203	13 32	263	17 32	323	21 32	23	1 32	1 33	1 34	1 35
24	1 36	84	5 36	144	9 36	204	13 36	264	17 36	324	21 36	24	1 36	1 37	1 38	1 39
25	1 40	85	5 40	145	9 40	205	13 40	265	17 40	325	21 40	25	1 40	1 41	1 42	1 43
26	1 44	86	5 44	146	9 44	206	13 44	266	17 44	326	21 44	26	1 44	1 45	1 46	1 47
27	1 48	87	5 48	147	9 48	207	13 48	267	17 48	327	21 48	27	1 48	1 49	1 50	1 51
28	1 52	88	5 52	148	9 52	208	13 52	268	17 52	328	21 52	28	1 52	1 53	1 54	1 55
29	1 56	89	5 56	149	9 56	209	13 56	269	17 56	329	21 56	29	1 56	1 57	1 58	1 59
30	2 00	90	6 00	150	10 00	210	14 00	270	18 00	330	22 00	30	2 00	2 01	2 02	2 03
31	2 04	91	6 04	151	10 04	211	14 04	271	18 04	331	22 04	31	2 04	2 05	2 06	2 07
32	2 08	92	6 08	152	10 08	212	14 08	272	18 08	332	22 08	32	2 08	2 09	2 10	2 11
33	2 12	93	6 12	153	10 12	213	14 12	273	18 12	333	22 12	33	2 12	2 13	2 14	2 15
34	2 16	94	6 16	154	10 16	214	14 16	274	18 16	334	22 16	34	2 16	2 17	2 18	2 19
35	2 20	95	6 20	155	10 20	215	14 20	275	18 20	335	22 20	35	2 20	2 21	2 22	2 23
36	2 24	96	6 24	156	10 24	216	14 24	276	18 24	336	22 24	36	2 24	2 25	2 26	2 27
37	2 28	97	6 28	157	10 28	217	14 28	277	18 28	337	22 28	37	2 28	2 29	2 30	2 31
38	2 32	98	6 32	158	10 32	218	14 32	278	18 32	338	22 32	38	2 32	2 33	2 34	2 35
39	2 36	99	6 36	159	10 36	219	14 36	279	18 36	339	22 36	39	2 36	2 37	2 38	2 39
40	2 40	100	6 40	160	10 40	220	14 40	280	18 40	340	22 40	40	2 40	2 41	2 42	2 43
41	2 44	101	6 44	161	10 44	221	14 44	281	18 44	341	22 44	41	2 44	2 45	2 46	2 47
42	2 48	102	6 48	162	10 48	222	14 48	282	18 48	342	22 48	42	2 48	2 49	2 50	2 51
43	2 52	103	6 52	163	10 52	223	14 52	283	18 52	343	22 52	43	2 52	2 53	2 54	2 55
44	2 56	104	6 56	164	10 56	224	14 56	284	18 56	344	22 56	44	2 56	2 57	2 58	2 59
45	3 00	105	7 00	165	11 00	225	15 00	285	19 00	345	23 00	45	3 00	3 01	3 02	3 03
46	3 04	106	7 04	166	11 04	226	15 04	286	19 04	346	23 04	46	3 04	3 05	3 06	3 07
47	3 08	107	7 08	167	11 08	227	15 08	287	19 08	347	23 08	47	3 08	3 09	3 10	3 11
48	3 12	108	7 12	168	11 12	228	15 12	288	19 12	348	23 12	48	3 12	3 13	3 14	3 15
49	3 16	109	7 16	169	11 16	229	15 16	289	19 16	349	23 16	49	3 16	3 17	3 18	3 19
50	3 20	110	7 20	170	11 20	230	15 20	290	19 20	350	23 20	50	3 20	3 21	3 22	3 23
51	3 24	111	7 24	171	11 24	231	15 24	291	19 24	351	23 24	51	3 24	3 25	3 26	3 27
52	3 28	112	7 28	172	11 28	232	15 28	292	19 28	352	23 28	52	3 28	3 29	3 30	3 31
53	3 32	113	7 32	173	11 32	233	15 32	293	19 32	353	23 32	53	3 32	3 33	3 34	3 35
54	3 36	114	7 36	174	11 36	234	15 36	294	19 36	354	23 36	54	3 36	3 37	3 38	3 39
55	3 40	115	7 40	175	11 40	235	15 40	295	19 40	355	23 40	55	3 40	3 41	3 42	3 43
56	3 44	116	7 44	176	11 44	236	15 44	296	19 44	356	23 44	56	3 44	3 45	3 46	3 47
57	3 48	117	7 48	177	11 48	237	15 48	297	19 48	357	23 48	57	3 48	3 49	3 50	3 51
58	3 52	118	7 52	178	11 52	238	15 52	298	19 52	358	23 52	58	3 52	3 53	3 54	3 55
59	3 56	119	7 56	179	11 56	239	15 56	299	19 56	359	23 56	59	3 56	3 57	3 58	3 59

A tábua acima destina-se à conversão de arco em tempo; sua principal aplicação nesse Almanaque é a conversão da longitude, cujo valor em horas, minutos e segundos é utilizado na fórmula que relaciona a HML com a TU: $TU = HML + \lambda$, sendo λ positivo para longitude W e negativo para longitude E.

ROSA DE MANOBRAS



ESCALAS



DHN.0618.1 (Reimpressão)
15.000-VI-2005

Folha em branco (rascunho)