

TAHUN = 2015
LONG= 120.0 ~

**** ARGUMEN MASA DALAM WAKTU PIAWAI MALAYSIA ****

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	1	.0	5	59	43.2	18	6	57.6
1.0	1	1.0	6	1	25.0	18	5	16.0
1.0	1	2.0	6	3	6.8	18	3	34.4
1.0	1	3.0	6	4	48.6	18	1	52.8
1.0	1	4.0	6	6	30.6	18	0	11.0
1.0	1	5.0	6	8	12.8	17	58	29.0
1.0	1	6.0	6	9	55.2	17	56	46.8
1.0	1	7.0	6	11	38.0	17	55	4.2
4.0	1	.0	6	1	7.0	18	8	20.5
4.0	1	1.0	6	2	47.4	18	6	40.3
4.0	1	2.0	6	4	27.8	18	5	.2
4.0	1	3.0	6	6	8.2	18	3	20.0
4.0	1	4.0	6	7	48.8	18	1	39.7
4.0	1	5.0	6	9	29.6	17	59	59.2
4.0	1	6.0	6	11	10.6	17	58	18.4
4.0	1	7.0	6	12	52.0	17	56	37.3
7.0	1	.0	6	2	27.2	18	9	39.6
7.0	1	1.0	6	4	5.9	18	8	1.2
7.0	1	2.0	6	5	44.6	18	6	22.9
7.0	1	3.0	6	7	23.3	18	4	44.5
7.0	1	4.0	6	9	2.2	18	3	5.9
7.0	1	5.0	6	10	41.2	18	1	27.2
7.0	1	6.0	6	12	20.5	17	59	48.2
7.0	1	7.0	6	14	.1	17	58	9.0
10.0	1	.0	6	3	43.3	18	10	54.4
10.0	1	1.0	6	5	19.9	18	9	18.1
10.0	1	2.0	6	6	56.6	18	7	41.8
10.0	1	3.0	6	8	33.3	18	6	5.5
10.0	1	4.0	6	10	10.1	18	4	29.1
10.0	1	5.0	6	11	47.1	18	2	52.4
10.0	1	6.0	6	13	24.3	18	1	15.6
10.0	1	7.0	6	15	1.9	17	59	38.4
13.0	1	.0	6	4	54.5	18	12	4.2
13.0	1	1.0	6	6	28.8	18	10	30.3
13.0	1	2.0	6	8	3.2	18	8	56.4
13.0	1	3.0	6	9	37.5	18	7	22.4
13.0	1	4.0	6	11	12.0	18	5	48.4
13.0	1	5.0	6	12	46.6	18	4	14.2
13.0	1	6.0	6	14	21.5	18	2	39.7
13.0	1	7.0	6	15	56.7	18	1	5.0

16.0	1	.0	6 6 .4	18 13 8.5
16.0	1	1.0	6 7 32.1	18 11 37.2
16.0	1	2.0	6 9 3.8	18 10 6.0
16.0	1	3.0	6 10 35.5	18 8 34.7
16.0	1	4.0	6 12 7.4	18 7 3.3
16.0	1	5.0	6 13 39.4	18 5 31.8
16.0	1	6.0	6 15 11.6	18 4 .0
16.0	1	7.0	6 16 44.1	18 2 28.0

19.0	1	.0	6 7 .3	18 14 6.7
19.0	1	1.0	6 8 29.1	18 12 38.4
19.0	1	2.0	6 9 57.9	18 11 10.1
19.0	1	3.0	6 11 26.8	18 9 41.7
19.0	1	4.0	6 12 55.7	18 8 13.3
19.0	1	5.0	6 14 24.8	18 6 44.7
19.0	1	6.0	6 15 54.2	18 5 15.9
19.0	1	7.0	6 17 23.8	18 3 46.8

22.0	1	.0	6 7 53.7	18 14 58.3
22.0	1	1.0	6 9 19.4	18 13 33.2
22.0	1	2.0	6 10 45.1	18 12 8.1
22.0	1	3.0	6 12 10.8	18 10 42.9
22.0	1	4.0	6 13 36.6	18 9 17.6
22.0	1	5.0	6 15 2.6	18 7 52.2
22.0	1	6.0	6 16 28.8	18 6 26.6
22.0	1	7.0	6 17 55.2	18 5 .7

25.0	1	.0	6 8 40.3	18 15 43.0
25.0	1	1.0	6 10 2.6	18 14 21.2
25.0	1	2.0	6 11 24.9	18 12 59.5
25.0	1	3.0	6 12 47.2	18 11 37.8
25.0	1	4.0	6 14 9.7	18 10 15.9
25.0	1	5.0	6 15 32.2	18 8 53.9
25.0	1	6.0	6 16 55.0	18 7 31.7
25.0	1	7.0	6 18 18.0	18 6 9.3

28.0	1	.0	6 9 19.5	18 16 20.3
28.0	1	1.0	6 10 38.2	18 15 2.2
28.0	1	2.0	6 11 57.0	18 13 44.1
28.0	1	3.0	6 13 15.7	18 12 25.9
28.0	1	4.0	6 14 34.6	18 11 7.7
28.0	1	5.0	6 15 53.6	18 9 49.3
28.0	1	6.0	6 17 12.7	18 8 30.8
28.0	1	7.0	6 18 32.1	18 7 12.0

31.0	1	.0	6 9 51.3	18 16 50.2
31.0	1	1.0	6 11 6.2	18 15 35.8
31.0	1	2.0	6 12 21.2	18 14 21.5
31.0	1	3.0	6 13 36.2	18 13 7.2
31.0	1	4.0	6 14 51.3	18 11 52.8
31.0	1	5.0	6 16 6.4	18 10 38.2
31.0	1	6.0	6 17 21.8	18 9 23.5
31.0	1	7.0	6 18 37.4	18 8 8.6

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	2	.0	6	10	.2	18	16	58.5
1.0	2	1.0	6	11	13.9	18	15	45.4
1.0	2	2.0	6	12	27.5	18	14	32.4
1.0	2	3.0	6	13	41.2	18	13	19.4
1.0	2	4.0	6	14	55.0	18	12	6.3
1.0	2	5.0	6	16	8.9	18	10	53.1
1.0	2	6.0	6	17	22.9	18	9	39.7
1.0	2	7.0	6	18	37.2	18	8	26.1
4.0	2	.0	6	10	22.0	18	17	18.4
4.0	2	1.0	6	11	31.7	18	16	9.4
4.0	2	2.0	6	12	41.4	18	15	.4
4.0	2	3.0	6	13	51.1	18	13	51.4
4.0	2	4.0	6	15	.8	18	12	42.4
4.0	2	5.0	6	16	10.7	18	11	33.2
4.0	2	6.0	6	17	20.7	18	10	23.9
4.0	2	7.0	6	18	30.9	18	9	14.3
7.0	2	.0	6	10	36.6	18	17	31.1
7.0	2	1.0	6	11	42.1	18	16	26.3
7.0	2	2.0	6	12	47.7	18	15	21.5
7.0	2	3.0	6	13	53.2	18	14	16.7
7.0	2	4.0	6	14	58.8	18	13	11.8
7.0	2	5.0	6	16	4.5	18	12	6.8
7.0	2	6.0	6	17	10.3	18	11	1.7
7.0	2	7.0	6	18	16.3	18	9	56.4
10.0	2	.0	6	10	44.1	18	17	36.7
10.0	2	1.0	6	11	45.3	18	16	36.2
10.0	2	2.0	6	12	46.5	18	15	35.7
10.0	2	3.0	6	13	47.8	18	14	35.2
10.0	2	4.0	6	14	49.0	18	13	34.7
10.0	2	5.0	6	15	50.4	18	12	34.0
10.0	2	6.0	6	16	51.9	18	11	33.3
10.0	2	7.0	6	17	53.6	18	10	32.4
13.0	2	.0	6	10	44.7	18	17	35.6
13.0	2	1.0	6	11	41.5	18	16	39.5
13.0	2	2.0	6	12	38.3	18	15	43.4
13.0	2	3.0	6	13	35.1	18	14	47.4
13.0	2	4.0	6	14	32.0	18	13	51.3
13.0	2	5.0	6	15	28.9	18	12	55.1
13.0	2	6.0	6	16	25.9	18	11	58.8
13.0	2	7.0	6	17	23.1	18	11	2.4
16.0	2	.0	6	10	38.6	18	17	27.9
16.0	2	1.0	6	11	31.0	18	16	36.4
16.0	2	2.0	6	12	23.2	18	15	44.8
16.0	2	3.0	6	13	15.5	18	14	53.3
16.0	2	4.0	6	14	7.8	18	14	1.8
16.0	2	5.0	6	15	.2	18	13	10.2
16.0	2	6.0	6	15	52.7	18	12	18.5
16.0	2	7.0	6	16	45.3	18	11	26.6

19.0	2	.0	6 10	26.3	18 17	14.0
19.0	2	1.0	6 11	14.0	18 16	27.1
19.0	2	2.0	6 12	1.6	18 15	40.2
19.0	2	3.0	6 12	49.3	18 14	53.3
19.0	2	4.0	6 13	37.0	18 14	6.4
19.0	2	5.0	6 14	24.7	18 13	19.4
19.0	2	6.0	6 15	12.5	18 12	32.4
19.0	2	7.0	6 16	.5	18 11	45.3

22.0	2	.0	6 10	7.8	18 16	54.0
22.0	2	1.0	6 10	50.8	18 16	11.8
22.0	2	2.0	6 11	33.7	18 15	29.6
22.0	2	3.0	6 12	16.7	18 14	47.5
22.0	2	4.0	6 12	59.7	18 14	5.3
22.0	2	5.0	6 13	42.7	18 13	23.1
22.0	2	6.0	6 14	25.8	18 12	40.8
22.0	2	7.0	6 15	8.9	18 11	58.4

25.0	2	.0	6 9	43.4	18 16	28.3
25.0	2	1.0	6 10	21.6	18 15	50.9
25.0	2	2.0	6 10	59.8	18 15	13.5
25.0	2	3.0	6 11	38.0	18 14	36.1
25.0	2	4.0	6 12	16.2	18 13	58.7
25.0	2	5.0	6 12	54.4	18 13	21.3
25.0	2	6.0	6 13	32.7	18 12	43.9
25.0	2	7.0	6 14	11.1	18 12	6.3

28.0	2	.0	6 9	13.6	18 15	57.3
28.0	2	1.0	6 9	47.0	18 15	24.7
28.0	2	2.0	6 10	20.4	18 14	52.2
28.0	2	3.0	6 10	53.7	18 14	19.6
28.0	2	4.0	6 11	27.1	18 13	47.1
28.0	2	5.0	6 12	.4	18 13	14.5
28.0	2	6.0	6 12	33.9	18 12	41.9
28.0	2	7.0	6 13	7.3	18 12	9.3

TARIKH		LATITUD		WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s	
1.0	3	.0	6	9	2.5	18	15	45.9	
1.0	3	1.0	6	9	34.3	18	15	14.9	
1.0	3	2.0	6	10	6.1	18	14	44.0	
1.0	3	3.0	6	10	37.8	18	14	13.1	
1.0	3	4.0	6	11	9.5	18	13	42.1	
1.0	3	5.0	6	11	41.3	18	13	11.2	
1.0	3	6.0	6	12	13.0	18	12	40.2	
1.0	3	7.0	6	12	44.9	18	12	9.2	
4.0	3	.0	6	8	26.2	18	15	8.6	
4.0	3	1.0	6	8	53.1	18	14	42.5	
4.0	3	2.0	6	9	20.0	18	14	16.4	
4.0	3	3.0	6	9	46.8	18	13	50.4	
4.0	3	4.0	6	10	13.6	18	13	24.4	
4.0	3	5.0	6	10	40.5	18	12	58.4	
4.0	3	6.0	6	11	7.3	18	12	32.4	
4.0	3	7.0	6	11	34.2	18	12	6.3	
7.0	3	.0	6	7	45.6	18	14	27.2	
7.0	3	1.0	6	8	7.6	18	14	6.1	
7.0	3	2.0	6	8	29.6	18	13	44.9	
7.0	3	3.0	6	8	51.5	18	13	23.8	
7.0	3	4.0	6	9	13.4	18	13	2.7	
7.0	3	5.0	6	9	35.3	18	12	41.7	
7.0	3	6.0	6	9	57.2	18	12	20.6	
7.0	3	7.0	6	10	19.1	18	11	59.5	
10.0	3	.0	6	7	1.4	18	13	42.4	
10.0	3	1.0	6	7	18.5	18	13	26.2	
10.0	3	2.0	6	7	35.5	18	13	10.0	
10.0	3	3.0	6	7	52.5	18	12	53.8	
10.0	3	4.0	6	8	9.4	18	12	37.7	
10.0	3	5.0	6	8	26.4	18	12	21.6	
10.0	3	6.0	6	8	43.3	18	12	5.6	
10.0	3	7.0	6	9	.2	18	11	49.5	
13.0	3	.0	6	6	14.3	18	12	54.7	
13.0	3	1.0	6	6	26.4	18	12	43.5	
13.0	3	2.0	6	6	38.4	18	12	32.2	
13.0	3	3.0	6	6	50.4	18	12	21.1	
13.0	3	4.0	6	7	2.4	18	12	9.9	
13.0	3	5.0	6	7	14.3	18	11	58.8	
13.0	3	6.0	6	7	26.2	18	11	47.8	
13.0	3	7.0	6	7	38.1	18	11	36.7	

16.0	3	.0	6	5	24.7	18	12	4.8
16.0	3	1.0	6	5	31.8	18	11	58.5
16.0	3	2.0	6	5	38.9	18	11	52.3
16.0	3	3.0	6	5	45.9	18	11	46.1
16.0	3	4.0	6	5	52.9	18	11	39.9
16.0	3	5.0	6	5	59.8	18	11	33.8
16.0	3	6.0	6	6	6.7	18	11	27.8
16.0	3	7.0	6	6	13.6	18	11	21.7

19.0	3	.0	6	4	33.2	18	11	13.2
19.0	3	1.0	6	4	35.3	18	11	11.8
19.0	3	2.0	6	4	37.4	18	11	10.6
19.0	3	3.0	6	4	39.5	18	11	9.3
19.0	3	4.0	6	4	41.5	18	11	8.2
19.0	3	5.0	6	4	43.4	18	11	7.1
19.0	3	6.0	6	4	45.3	18	11	6.1
19.0	3	7.0	6	4	47.1	18	11	5.1

22.0	3	.0	6	3	40.2	18	10	20.3
22.0	3	1.0	6	3	37.4	18	10	23.9
22.0	3	2.0	6	3	34.5	18	10	27.6
22.0	3	3.0	6	3	31.6	18	10	31.3
22.0	3	4.0	6	3	28.6	18	10	35.2
22.0	3	5.0	6	3	25.6	18	10	39.1
22.0	3	6.0	6	3	22.4	18	10	43.0
22.0	3	7.0	6	3	19.2	18	10	47.1

25.0	3	.0	6	2	46.3	18	9	26.5
25.0	3	1.0	6	2	38.5	18	9	35.1
25.0	3	2.0	6	2	30.7	18	9	43.7
25.0	3	3.0	6	2	22.8	18	9	52.4
25.0	3	4.0	6	2	14.8	18	10	1.2
25.0	3	5.0	6	2	6.8	18	10	10.1
25.0	3	6.0	6	1	58.6	18	10	19.1
25.0	3	7.0	6	1	50.4	18	10	28.2

28.0	3	.0	6	1	51.8	18	8	32.4
28.0	3	1.0	6	1	39.1	18	8	45.9
28.0	3	2.0	6	1	26.3	18	8	59.4
28.0	3	3.0	6	1	13.5	18	9	13.1
28.0	3	4.0	6	1	.5	18	9	26.9
28.0	3	5.0	6	0	47.5	18	9	40.7
28.0	3	6.0	6	0	34.4	18	9	54.6
28.0	3	7.0	6	0	21.2	18	10	8.7

31.0	3	.0	6	0	57.3	18	7	38.4
31.0	3	1.0	6	0	39.7	18	7	56.8
31.0	3	2.0	6	0	22.0	18	8	15.3
31.0	3	3.0	6	0	4.2	18	8	33.9
31.0	3	4.0	5	59	46.4	18	8	52.5
31.0	3	5.0	5	59	28.4	18	9	11.3
31.0	3	6.0	5	59	10.4	18	9	30.2
31.0	3	7.0	5	58	52.2	18	9	49.2

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	4	.0	6	0	39.2	18	7	20.5
1.0	4	1.0	6	0	20.0	18	7	40.6
1.0	4	2.0	6	0	.7	18	8	.7
1.0	4	3.0	5	59	41.3	18	8	20.9
1.0	4	4.0	5	59	21.8	18	8	41.2
1.0	4	5.0	5	59	2.2	18	9	1.6
1.0	4	6.0	5	58	42.5	18	9	22.1
1.0	4	7.0	5	58	22.6	18	9	42.8
4.0	4	.0	5	59	45.6	18	6	27.7
4.0	4	1.0	5	59	21.5	18	6	52.6
4.0	4	2.0	5	58	57.3	18	7	17.5
4.0	4	3.0	5	58	33.1	18	7	42.6
4.0	4	4.0	5	58	8.7	18	8	7.8
4.0	4	5.0	5	57	44.2	18	8	33.1
4.0	4	6.0	5	57	19.6	18	8	58.5
4.0	4	7.0	5	56	54.8	18	9	24.1
7.0	4	.0	5	58	53.3	18	5	36.3
7.0	4	1.0	5	58	24.4	18	6	6.0
7.0	4	2.0	5	57	55.5	18	6	35.8
7.0	4	3.0	5	57	26.4	18	7	5.7
7.0	4	4.0	5	56	57.2	18	7	35.7
7.0	4	5.0	5	56	27.9	18	8	5.8
7.0	4	6.0	5	55	58.4	18	8	36.1
7.0	4	7.0	5	55	28.7	18	9	6.6
10.0	4	.0	5	58	3.1	18	4	47.1
10.0	4	1.0	5	57	29.4	18	5	21.5
10.0	4	2.0	5	56	55.6	18	5	56.1
10.0	4	3.0	5	56	21.8	18	6	30.7
10.0	4	4.0	5	55	47.8	18	7	5.5
10.0	4	5.0	5	55	13.7	18	7	40.4
10.0	4	6.0	5	54	39.4	18	8	15.5
10.0	4	7.0	5	54	4.9	18	8	50.8
13.0	4	.0	5	57	15.3	18	4	.4
13.0	4	1.0	5	56	36.9	18	4	39.6
13.0	4	2.0	5	55	58.4	18	5	18.8
13.0	4	3.0	5	55	19.9	18	5	58.2
13.0	4	4.0	5	54	41.2	18	6	37.7
13.0	4	5.0	5	54	2.3	18	7	17.3
13.0	4	6.0	5	53	23.2	18	7	57.1
13.0	4	7.0	5	52	44.0	18	8	37.2

16.0	4	.0	5 56	30.4	18	3	16.9
16.0	4	1.0	5 55	47.4	18	4	.7
16.0	4	2.0	5 55	4.3	18	4	44.5
16.0	4	3.0	5 54	21.1	18	5	28.5
16.0	4	4.0	5 53	37.7	18	6	12.7
16.0	4	5.0	5 52	54.2	18	6	57.0
16.0	4	6.0	5 52	10.5	18	7	41.5
16.0	4	7.0	5 51	26.5	18	8	26.2

19.0	4	.0	5 55	48.9	18	2	36.8
19.0	4	1.0	5 55	1.4	18	3	25.1
19.0	4	2.0	5 54	13.7	18	4	13.5
19.0	4	3.0	5 53	25.9	18	5	2.1
19.0	4	4.0	5 52	38.0	18	5	50.8
19.0	4	5.0	5 51	49.8	18	6	39.7
19.0	4	6.0	5 51	1.5	18	7	28.8
19.0	4	7.0	5 50	12.9	18	8	18.1

22.0	4	.0	5 55	11.0	18	2	.4
22.0	4	1.0	5 54	19.0	18	2	53.2
22.0	4	2.0	5 53	26.8	18	3	46.1
22.0	4	3.0	5 52	34.6	18	4	39.1
22.0	4	4.0	5 51	42.1	18	5	32.2
22.0	4	5.0	5 50	49.5	18	6	25.6
22.0	4	6.0	5 49	56.6	18	7	19.2
22.0	4	7.0	5 49	3.5	18	8	13.1

25.0	4	.0	5 54	36.9	18	1	27.9
25.0	4	1.0	5 53	40.5	18	2	25.1
25.0	4	2.0	5 52	44.0	18	3	22.3
25.0	4	3.0	5 51	47.4	18	4	19.7
25.0	4	4.0	5 50	50.5	18	5	17.2
25.0	4	5.0	5 49	53.5	18	6	15.0
25.0	4	6.0	5 48	56.2	18	7	13.0
25.0	4	7.0	5 47	58.7	18	8	11.3

28.0	4	.0	5 54	7.0	18	0	59.7
28.0	4	1.0	5 53	6.3	18	2	1.0
28.0	4	2.0	5 52	5.5	18	3	2.5
28.0	4	3.0	5 51	4.6	18	4	4.1
28.0	4	4.0	5 50	3.5	18	5	5.9
28.0	4	5.0	5 49	2.2	18	6	8.0
28.0	4	6.0	5 48	.6	18	7	10.3
28.0	4	7.0	5 46	58.7	18	8	12.9

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	5	.0	5	53	41.4	18	0	35.9
1.0	5	1.0	5	52	36.6	18	1	41.4
1.0	5	2.0	5	51	31.7	18	2	47.0
1.0	5	3.0	5	50	26.6	18	3	52.7
1.0	5	4.0	5	49	21.4	18	4	58.7
1.0	5	5.0	5	48	15.9	18	6	4.8
1.0	5	6.0	5	47	10.1	18	7	11.3
1.0	5	7.0	5	46	4.0	18	8	18.1
4.0	5	.0	5	53	20.6	18	0	16.8
4.0	5	1.0	5	52	11.8	18	1	26.3
4.0	5	2.0	5	51	2.9	18	2	35.9
4.0	5	3.0	5	49	53.8	18	3	45.6
4.0	5	4.0	5	48	44.5	18	4	55.6
4.0	5	5.0	5	47	35.0	18	6	5.8
4.0	5	6.0	5	46	25.1	18	7	16.2
4.0	5	7.0	5	45	15.0	18	8	27.1
7.0	5	.0	5	53	4.7	18	0	2.8
7.0	5	1.0	5	51	52.1	18	1	16.1
7.0	5	2.0	5	50	39.3	18	2	29.5
7.0	5	3.0	5	49	26.3	18	3	43.1
7.0	5	4.0	5	48	13.2	18	4	56.9
7.0	5	5.0	5	46	59.7	18	6	10.9
7.0	5	6.0	5	45	46.0	18	7	25.3
7.0	5	7.0	5	44	31.9	18	8	40.0
10.0	5	.0	5	52	54.1	17	59	54.0
10.0	5	1.0	5	51	37.7	18	1	10.9
10.0	5	2.0	5	50	21.2	18	2	28.0
10.0	5	3.0	5	49	4.5	18	3	45.3
10.0	5	4.0	5	47	47.7	18	5	2.8
10.0	5	5.0	5	46	30.5	18	6	20.5
10.0	5	6.0	5	45	13.0	18	7	38.6
10.0	5	7.0	5	43	55.2	18	8	57.0
13.0	5	.0	5	52	48.7	17	59	50.4
13.0	5	1.0	5	51	28.8	18	1	10.9
13.0	5	2.0	5	50	8.8	18	2	31.5
13.0	5	3.0	5	48	48.6	18	3	52.3
13.0	5	4.0	5	47	28.2	18	5	13.3
13.0	5	5.0	5	46	7.5	18	6	34.5
13.0	5	6.0	5	44	46.4	18	7	56.1
13.0	5	7.0	5	43	25.0	18	9	18.1

16.0	5	.0	5 52 48.7	17 59 52.2
16.0	5	1.0	5 51 25.5	18 1 16.0
16.0	5	2.0	5 50 2.1	18 2 39.9
16.0	5	3.0	5 48 38.5	18 4 4.0
16.0	5	4.0	5 47 14.8	18 5 28.3
16.0	5	5.0	5 45 50.7	18 6 52.9
16.0	5	6.0	5 44 26.3	18 8 17.9
16.0	5	7.0	5 43 1.5	18 9 43.2

19.0	5	.0	5 52 53.8	17 59 59.1
19.0	5	1.0	5 51 27.5	18 1 26.0
19.0	5	2.0	5 50 1.0	18 2 53.0
19.0	5	3.0	5 48 34.3	18 4 20.2
19.0	5	4.0	5 47 7.3	18 5 47.6
19.0	5	5.0	5 45 40.1	18 7 15.4
19.0	5	6.0	5 44 12.5	18 8 43.5
19.0	5	7.0	5 42 44.5	18 10 12.0

22.0	5	.0	5 53 3.9	18 0 10.8
22.0	5	1.0	5 51 34.6	18 1 40.6
22.0	5	2.0	5 50 5.2	18 3 10.5
22.0	5	3.0	5 48 35.5	18 4 40.6
22.0	5	4.0	5 47 5.7	18 6 10.9
22.0	5	5.0	5 45 35.5	18 7 41.6
22.0	5	6.0	5 44 4.9	18 9 12.6
22.0	5	7.0	5 42 33.9	18 10 44.1

25.0	5	.0	5 53 18.6	18 0 27.1
25.0	5	1.0	5 51 46.6	18 1 59.5
25.0	5	2.0	5 50 14.5	18 3 32.1
25.0	5	3.0	5 48 42.1	18 5 4.8
25.0	5	4.0	5 47 9.5	18 6 37.9
25.0	5	5.0	5 45 36.6	18 8 11.2
25.0	5	6.0	5 44 3.3	18 9 44.9
25.0	5	7.0	5 42 29.6	18 11 19.1

28.0	5	.0	5 53 37.7	18 0 47.6
28.0	5	1.0	5 52 3.2	18 2 22.4
28.0	5	2.0	5 50 28.6	18 3 57.4
28.0	5	3.0	5 48 53.8	18 5 32.6
28.0	5	4.0	5 47 18.8	18 7 8.0
28.0	5	5.0	5 45 43.4	18 8 43.8
28.0	5	6.0	5 44 7.6	18 10 20.0
28.0	5	7.0	5 42 31.4	18 11 56.6

31.0	5	.0	5 54 .8	18 1 12.1
31.0	5	1.0	5 52 24.1	18 2 49.0
31.0	5	2.0	5 50 47.3	18 4 26.2
31.0	5	3.0	5 49 10.3	18 6 3.5
31.0	5	4.0	5 47 33.0	18 7 41.1
31.0	5	5.0	5 45 55.4	18 9 19.1
31.0	5	6.0	5 44 17.4	18 10 57.4
31.0	5	7.0	5 42 39.0	18 12 36.2

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	6	.0	5	54	9.3	18	1	21.0
1.0	6	1.0	5	52	32.0	18	2	58.7
1.0	6	2.0	5	50	54.5	18	4	36.5
1.0	6	3.0	5	49	16.8	18	6	14.5
1.0	6	4.0	5	47	38.9	18	7	52.7
1.0	6	5.0	5	46	.6	18	9	31.4
1.0	6	6.0	5	44	21.9	18	11	10.4
1.0	6	7.0	5	42	42.8	18	12	49.9
4.0	6	.0	5	54	37.3	18	1	50.2
4.0	6	1.0	5	52	58.1	18	3	29.6
4.0	6	2.0	5	51	18.8	18	5	9.2
4.0	6	3.0	5	49	39.3	18	6	49.0
4.0	6	4.0	5	47	59.5	18	8	29.1
4.0	6	5.0	5	46	19.4	18	10	9.5
4.0	6	6.0	5	44	38.8	18	11	50.4
4.0	6	7.0	5	42	57.8	18	13	31.7
7.0	6	.0	5	55	8.6	18	2	22.4
7.0	6	1.0	5	53	27.9	18	4	3.4
7.0	6	2.0	5	51	47.0	18	5	44.5
7.0	6	3.0	5	50	5.9	18	7	25.8
7.0	6	4.0	5	48	24.5	18	9	7.4
7.0	6	5.0	5	46	42.8	18	10	49.4
7.0	6	6.0	5	45	.7	18	12	31.8
7.0	6	7.0	5	43	18.1	18	14	14.6
10.0	6	.0	5	55	42.7	18	2	57.4
10.0	6	1.0	5	54	.7	18	4	39.6
10.0	6	2.0	5	52	18.6	18	6	21.9
10.0	6	3.0	5	50	36.2	18	8	4.5
10.0	6	4.0	5	48	53.6	18	9	47.3
10.0	6	5.0	5	47	10.6	18	11	30.5
10.0	6	6.0	5	45	27.2	18	13	14.1
10.0	6	7.0	5	43	43.2	18	14	58.2
13.0	6	.0	5	56	19.2	18	3	34.5
13.0	6	1.0	5	54	36.3	18	5	17.6
13.0	6	2.0	5	52	53.1	18	7	.9
13.0	6	3.0	5	51	9.8	18	8	44.4
13.0	6	4.0	5	49	26.2	18	10	28.1
13.0	6	5.0	5	47	42.2	18	12	12.2
13.0	6	6.0	5	45	57.8	18	13	56.8
13.0	6	7.0	5	44	12.9	18	15	41.8

16.0	6	.0	5 56 57.4	18 4 13.1
16.0	6	1.0	5 55 13.8	18 5 56.9
16.0	6	2.0	5 53 30.0	18 7 40.7
16.0	6	3.0	5 51 46.0	18 9 24.8
16.0	6	4.0	5 50 1.7	18 11 9.2
16.0	6	5.0	5 48 17.0	18 12 54.0
16.0	6	6.0	5 46 31.9	18 14 39.2
16.0	6	7.0	5 44 46.3	18 16 24.8

19.0	6	.0	5 57 36.6	18 4 52.5
19.0	6	1.0	5 55 52.6	18 6 36.6
19.0	6	2.0	5 54 8.4	18 8 20.8
19.0	6	3.0	5 52 24.0	18 10 5.2
19.0	6	4.0	5 50 39.3	18 11 49.9
19.0	6	5.0	5 48 54.3	18 13 34.9
19.0	6	6.0	5 47 8.8	18 15 20.4
19.0	6	7.0	5 45 22.9	18 17 6.4

22.0	6	.0	5 58 15.9	18 5 31.9
22.0	6	1.0	5 56 31.9	18 7 15.9
22.0	6	2.0	5 54 47.6	18 9 .2
22.0	6	3.0	5 53 3.2	18 10 44.6
22.0	6	4.0	5 51 18.5	18 12 29.3
22.0	6	5.0	5 49 33.4	18 14 14.4
22.0	6	6.0	5 47 47.8	18 15 59.9
22.0	6	7.0	5 46 1.8	18 17 45.9

25.0	6	.0	5 58 54.8	18 6 10.6
25.0	6	1.0	5 57 11.0	18 7 54.4
25.0	6	2.0	5 55 27.0	18 9 38.3
25.0	6	3.0	5 53 42.8	18 11 22.4
25.0	6	4.0	5 51 58.3	18 13 6.8
25.0	6	5.0	5 50 13.5	18 14 51.6
25.0	6	6.0	5 48 28.2	18 16 36.8
25.0	6	7.0	5 46 42.5	18 18 22.5

28.0	6	.0	5 59 32.6	18 6 48.0
28.0	6	1.0	5 57 49.3	18 8 31.1
28.0	6	2.0	5 56 5.9	18 10 14.4
28.0	6	3.0	5 54 22.3	18 11 57.9
28.0	6	4.0	5 52 38.3	18 13 41.7
28.0	6	5.0	5 50 54.1	18 15 25.9
28.0	6	6.0	5 49 9.3	18 17 10.5
28.0	6	7.0	5 47 24.1	18 18 55.6

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	7	.0	6	0	8.6	18	7	23.5
1.0	7	1.0	5	58	26.2	18	9	5.7
1.0	7	2.0	5	56	43.7	18	10	48.1
1.0	7	3.0	5	55	.9	18	12	30.7
1.0	7	4.0	5	53	17.8	18	14	13.6
1.0	7	5.0	5	51	34.4	18	15	56.8
1.0	7	6.0	5	49	50.6	18	17	40.5
1.0	7	7.0	5	48	6.2	18	19	24.6
4.0	7	.0	6	0	42.5	18	7	56.5
4.0	7	1.0	5	59	1.2	18	9	37.6
4.0	7	2.0	5	57	19.8	18	11	18.8
4.0	7	3.0	5	55	38.2	18	13	.2
4.0	7	4.0	5	53	56.3	18	14	41.8
4.0	7	5.0	5	52	14.1	18	16	23.9
4.0	7	6.0	5	50	31.4	18	18	6.3
4.0	7	7.0	5	48	48.2	18	19	49.2
7.0	7	.0	6	1	13.7	18	8	26.8
7.0	7	1.0	5	59	33.9	18	10	6.3
7.0	7	2.0	5	57	53.9	18	11	46.0
7.0	7	3.0	5	56	13.7	18	13	25.9
7.0	7	4.0	5	54	33.3	18	15	6.1
7.0	7	5.0	5	52	52.5	18	16	46.6
7.0	7	6.0	5	51	11.3	18	18	27.5
7.0	7	7.0	5	49	29.6	18	20	9.0
10.0	7	.0	6	1	41.8	18	8	53.7
10.0	7	1.0	6	0	3.7	18	10	31.5
10.0	7	2.0	5	58	25.4	18	12	9.4
10.0	7	3.0	5	56	47.0	18	13	47.6
10.0	7	4.0	5	55	8.3	18	15	26.0
10.0	7	5.0	5	53	29.2	18	17	4.7
10.0	7	6.0	5	51	49.8	18	18	43.8
10.0	7	7.0	5	50	9.8	18	20	23.4
13.0	7	.0	6	2	6.3	18	9	17.0
13.0	7	1.0	6	0	30.2	18	10	52.7
13.0	7	2.0	5	58	53.9	18	12	28.6
13.0	7	3.0	5	57	17.5	18	14	4.7
13.0	7	4.0	5	55	40.8	18	15	41.0
13.0	7	5.0	5	54	3.8	18	17	17.7
13.0	7	6.0	5	52	26.3	18	18	54.8
13.0	7	7.0	5	50	48.4	18	20	32.3

16.0	7	.0	6 2	26.7	18 9	36.0
16.0	7	1.0	6 0	52.8	18 11	9.5
16.0	7	2.0	5 59	18.9	18 12	43.0
16.0	7	3.0	5 57	44.7	18 14	16.8
16.0	7	4.0	5 56	10.2	18 15	50.8
16.0	7	5.0	5 54	35.5	18 17	25.2
16.0	7	6.0	5 53	.3	18 18	59.9
16.0	7	7.0	5 51	24.7	18 20	35.1

19.0	7	.0	6 2	42.5	18 9	50.4
19.0	7	1.0	6 1	11.2	18 11	21.3
19.0	7	2.0	5 59	39.7	18 12	52.3
19.0	7	3.0	5 58	8.0	18 14	23.5
19.0	7	4.0	5 56	36.1	18 15	55.0
19.0	7	5.0	5 55	3.9	18 17	26.8
19.0	7	6.0	5 53	31.3	18 18	59.0
19.0	7	7.0	5 51	58.2	18 20	31.6

22.0	7	.0	6 2	53.4	18 9	59.6
22.0	7	1.0	6 1	24.8	18 11	27.8
22.0	7	2.0	5 59	56.1	18 12	56.0
22.0	7	3.0	5 58	27.1	18 14	24.5
22.0	7	4.0	5 56	58.0	18 15	53.2
22.0	7	5.0	5 55	28.5	18 17	22.2
22.0	7	6.0	5 53	58.6	18 18	51.5
22.0	7	7.0	5 52	28.4	18 20	21.3

25.0	7	.0	6 2	59.0	18 10	3.6
25.0	7	1.0	6 1	33.4	18 11	28.7
25.0	7	2.0	6 0	7.6	18 12	54.0
25.0	7	3.0	5 58	41.6	18 14	19.4
25.0	7	4.0	5 57	15.4	18 15	45.1
25.0	7	5.0	5 55	48.9	18 17	11.1
25.0	7	6.0	5 54	22.1	18 18	37.4
25.0	7	7.0	5 52	54.8	18 20	4.2

28.0	7	.0	6 2	59.2	18 10	2.0
28.0	7	1.0	6 1	36.7	18 11	23.9
28.0	7	2.0	6 0	14.1	18 12	46.0
28.0	7	3.0	5 58	51.3	18 14	8.3
28.0	7	4.0	5 57	28.3	18 15	30.7
28.0	7	5.0	5 56	4.9	18 16	53.5
28.0	7	6.0	5 54	41.3	18 18	16.6
28.0	7	7.0	5 53	17.2	18 19	40.1

31.0	7	.0	6 2	53.8	18 9	54.8
31.0	7	1.0	6 1	34.7	18 11	13.4
31.0	7	2.0	6 0	15.4	18 12	32.1
31.0	7	3.0	5 58	56.0	18 13	51.0
31.0	7	4.0	5 57	36.3	18 15	10.0
31.0	7	5.0	5 56	16.4	18 16	29.4
31.0	7	6.0	5 54	56.1	18 17	49.1
31.0	7	7.0	5 53	35.5	18 19	9.1

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
H	B	~	MATAHARI			MATAHARI		
			j	m	s	j	m	s
1.0	8	.0	6	2	50.8	18	9	51.2
1.0	8	1.0	6	1	32.8	18	11	8.6
1.0	8	2.0	6	0	14.7	18	12	26.2
1.0	8	3.0	5	58	56.5	18	13	43.8
1.0	8	4.0	5	57	38.0	18	15	1.8
1.0	8	5.0	5	56	19.2	18	16	19.9
1.0	8	6.0	5	55	.1	18	17	38.4
1.0	8	7.0	5	53	40.6	18	18	57.3
4.0	8	.0	6	2	38.2	18	9	36.8
4.0	8	1.0	6	1	23.8	18	10	50.6
4.0	8	2.0	6	0	9.3	18	12	4.5
4.0	8	3.0	5	58	54.6	18	13	18.6
4.0	8	4.0	5	57	39.7	18	14	32.9
4.0	8	5.0	5	56	24.6	18	15	47.4
4.0	8	6.0	5	55	9.1	18	17	2.2
4.0	8	7.0	5	53	53.3	18	18	17.4
7.0	8	.0	6	2	20.3	18	9	17.1
7.0	8	1.0	6	1	9.7	18	10	27.2
7.0	8	2.0	5	59	58.9	18	11	37.3
7.0	8	3.0	5	58	48.0	18	12	47.6
7.0	8	4.0	5	57	36.9	18	13	58.1
7.0	8	5.0	5	56	25.5	18	15	8.8
7.0	8	6.0	5	55	13.8	18	16	19.8
7.0	8	7.0	5	54	1.8	18	17	31.2
10.0	8	.0	6	1	57.3	18	8	52.3
10.0	8	1.0	6	0	50.6	18	9	58.4
10.0	8	2.0	5	59	43.7	18	11	4.6
10.0	8	3.0	5	58	36.7	18	12	11.0
10.0	8	4.0	5	57	29.5	18	13	17.5
10.0	8	5.0	5	56	22.0	18	14	24.3
10.0	8	6.0	5	55	14.3	18	15	31.4
10.0	8	7.0	5	54	6.2	18	16	38.8
13.0	8	.0	6	1	29.2	18	8	22.5
13.0	8	1.0	6	0	26.5	18	9	24.5
13.0	8	2.0	5	59	23.7	18	10	26.7
13.0	8	3.0	5	58	20.7	18	11	29.0
13.0	8	4.0	5	57	17.5	18	12	31.5
13.0	8	5.0	5	56	14.1	18	13	34.2
13.0	8	6.0	5	55	10.5	18	14	37.1
13.0	8	7.0	5	54	6.5	18	15	40.4

16.0	8	.0	6 0 56.2	18 7 47.8
16.0	8	1.0	5 59 57.6	18 8 45.6
16.0	8	2.0	5 58 58.9	18 9 43.6
16.0	8	3.0	5 58 .1	18 10 41.7
16.0	8	4.0	5 57 1.1	18 11 40.0
16.0	8	5.0	5 56 1.9	18 12 38.5
16.0	8	6.0	5 55 2.4	18 13 37.3
16.0	8	7.0	5 54 2.7	18 14 36.3
19.0	8	.0	6 0 18.3	18 7 8.3
19.0	8	1.0	5 59 24.0	18 8 1.9
19.0	8	2.0	5 58 29.6	18 8 55.6
19.0	8	3.0	5 57 35.1	18 9 49.4
19.0	8	4.0	5 56 40.4	18 10 43.4
19.0	8	5.0	5 55 45.4	18 11 37.6
19.0	8	6.0	5 54 50.3	18 12 32.0
19.0	8	7.0	5 53 54.9	18 13 26.7
22.0	8	.0	5 59 35.9	18 6 24.4
22.0	8	1.0	5 58 46.0	18 7 13.6
22.0	8	2.0	5 57 55.9	18 8 2.9
22.0	8	3.0	5 57 5.8	18 8 52.3
22.0	8	4.0	5 56 15.4	18 9 41.9
22.0	8	5.0	5 55 24.9	18 10 31.7
22.0	8	6.0	5 54 34.2	18 11 21.7
22.0	8	7.0	5 53 43.2	18 12 11.9
25.0	8	.0	5 58 49.2	18 5 36.2
25.0	8	1.0	5 58 3.7	18 6 21.0
25.0	8	2.0	5 57 18.1	18 7 5.8
25.0	8	3.0	5 56 32.4	18 7 50.8
25.0	8	4.0	5 55 46.6	18 8 35.9
25.0	8	5.0	5 55 .5	18 9 21.2
25.0	8	6.0	5 54 14.3	18 10 6.6
25.0	8	7.0	5 53 27.8	18 10 52.4
28.0	8	.0	5 57 58.6	18 4 44.3
28.0	8	1.0	5 57 17.7	18 5 24.5
28.0	8	2.0	5 56 36.6	18 6 4.8
28.0	8	3.0	5 55 55.4	18 6 45.2
28.0	8	4.0	5 55 14.1	18 7 25.7
28.0	8	5.0	5 54 32.6	18 8 6.5
28.0	8	6.0	5 53 51.0	18 8 47.4
28.0	8	7.0	5 53 9.1	18 9 28.5
31.0	8	.0	5 57 4.6	18 3 49.1
31.0	8	1.0	5 56 28.2	18 4 24.7
31.0	8	2.0	5 55 51.8	18 5 .3
31.0	8	3.0	5 55 15.2	18 5 36.1
31.0	8	4.0	5 54 38.5	18 6 12.0
31.0	8	5.0	5 54 1.7	18 6 48.1
31.0	8	6.0	5 53 24.7	18 7 24.4
31.0	8	7.0	5 52 47.4	18 8 .8

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	9	.0	5	56	45.9	18	3	30.0
1.0	9	1.0	5	56	11.1	18	4	4.1
1.0	9	2.0	5	55	36.2	18	4	38.2
1.0	9	3.0	5	55	1.2	18	5	12.4
1.0	9	4.0	5	54	26.1	18	5	46.8
1.0	9	5.0	5	53	50.8	18	6	21.3
1.0	9	6.0	5	53	15.3	18	6	56.0
1.0	9	7.0	5	52	39.7	18	7	30.8
4.0	9	.0	5	55	48.2	18	2	31.3
4.0	9	1.0	5	55	18.1	18	3	.6
4.0	9	2.0	5	54	47.9	18	3	30.1
4.0	9	3.0	5	54	17.5	18	3	59.6
4.0	9	4.0	5	53	47.1	18	4	29.2
4.0	9	5.0	5	53	16.5	18	4	59.0
4.0	9	6.0	5	52	45.8	18	5	29.0
4.0	9	7.0	5	52	14.9	18	5	59.1
7.0	9	.0	5	54	48.4	18	1	30.5
7.0	9	1.0	5	54	23.0	18	1	55.1
7.0	9	2.0	5	53	57.5	18	2	19.8
7.0	9	3.0	5	53	31.9	18	2	44.6
7.0	9	4.0	5	53	6.2	18	3	9.5
7.0	9	5.0	5	52	40.4	18	3	34.5
7.0	9	6.0	5	52	14.5	18	3	59.6
7.0	9	7.0	5	51	48.4	18	4	24.9
10.0	9	.0	5	53	46.8	18	0	28.2
10.0	9	1.0	5	53	26.2	18	0	48.1
10.0	9	2.0	5	53	5.5	18	1	8.0
10.0	9	3.0	5	52	44.7	18	1	27.9
10.0	9	4.0	5	52	23.8	18	1	48.0
10.0	9	5.0	5	52	2.8	18	2	8.2
10.0	9	6.0	5	51	41.7	18	2	28.5
10.0	9	7.0	5	51	20.4	18	2	49.0
13.0	9	.0	5	52	44.0	17	59	24.9
13.0	9	1.0	5	52	28.2	17	59	39.9
13.0	9	2.0	5	52	12.4	17	59	54.9
13.0	9	3.0	5	51	56.4	18	0	10.1
13.0	9	4.0	5	51	40.3	18	0	25.3
13.0	9	5.0	5	51	24.2	18	0	40.7
13.0	9	6.0	5	51	7.9	18	0	56.1
13.0	9	7.0	5	50	51.5	18	1	11.7

16.0	9	.0	5 51 40.4	17 58 20.8
16.0	9	1.0	5 51 29.5	17 58 31.0
16.0	9	2.0	5 51 18.4	17 58 41.2
16.0	9	3.0	5 51 7.3	17 58 51.5
16.0	9	4.0	5 50 56.2	17 59 1.9
16.0	9	5.0	5 50 44.9	17 59 12.3
16.0	9	6.0	5 50 33.5	17 59 22.9
16.0	9	7.0	5 50 22.0	17 59 33.5

19.0	9	.0	5 50 36.5	17 57 16.6
19.0	9	1.0	5 50 30.4	17 57 21.9
19.0	9	2.0	5 50 24.2	17 57 27.2
19.0	9	3.0	5 50 18.0	17 57 32.6
19.0	9	4.0	5 50 11.7	17 57 38.1
19.0	9	5.0	5 50 5.3	17 57 43.7
19.0	9	6.0	5 49 58.9	17 57 49.3
19.0	9	7.0	5 49 52.3	17 57 55.0

22.0	9	.0	5 49 32.7	17 56 12.7
22.0	9	1.0	5 49 31.4	17 56 13.1
22.0	9	2.0	5 49 30.2	17 56 13.5
22.0	9	3.0	5 49 28.8	17 56 14.0
22.0	9	4.0	5 49 27.4	17 56 14.6
22.0	9	5.0	5 49 26.0	17 56 15.3
22.0	9	6.0	5 49 24.4	17 56 16.0
22.0	9	7.0	5 49 22.8	17 56 16.7

25.0	9	.0	5 48 29.5	17 55 9.5
25.0	9	1.0	5 48 33.2	17 55 5.0
25.0	9	2.0	5 48 36.8	17 55 .6
25.0	9	3.0	5 48 40.3	17 54 56.2
25.0	9	4.0	5 48 43.9	17 54 51.9
25.0	9	5.0	5 48 47.3	17 54 47.6
25.0	9	6.0	5 48 50.7	17 54 43.4
25.0	9	7.0	5 48 54.1	17 54 39.2

28.0	9	.0	5 47 27.5	17 54 7.8
28.0	9	1.0	5 47 36.1	17 53 58.4
28.0	9	2.0	5 47 44.6	17 53 49.1
28.0	9	3.0	5 47 53.1	17 53 39.8
28.0	9	4.0	5 48 1.5	17 53 30.6
28.0	9	5.0	5 48 9.9	17 53 21.4
28.0	9	6.0	5 48 18.3	17 53 12.2
28.0	9	7.0	5 48 26.6	17 53 3.1

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	10	.0	5	46	27.5	17	53	8.2
1.0	10	1.0	5	46	41.0	17	52	53.9
1.0	10	2.0	5	46	54.4	17	52	39.7
1.0	10	3.0	5	47	7.8	17	52	25.5
1.0	10	4.0	5	47	21.1	17	52	11.4
1.0	10	5.0	5	47	34.4	17	51	57.3
1.0	10	6.0	5	47	47.7	17	51	43.1
1.0	10	7.0	5	48	1.0	17	51	29.1
4.0	10	.0	5	45	30.1	17	52	11.4
4.0	10	1.0	5	45	48.5	17	51	52.2
4.0	10	2.0	5	46	6.8	17	51	33.1
4.0	10	3.0	5	46	25.0	17	51	14.0
4.0	10	4.0	5	46	43.3	17	50	55.0
4.0	10	5.0	5	47	1.5	17	50	35.9
4.0	10	6.0	5	47	19.7	17	50	16.9
4.0	10	7.0	5	47	37.9	17	49	57.9
7.0	10	.0	5	44	35.9	17	51	17.8
7.0	10	1.0	5	44	59.1	17	50	53.8
7.0	10	2.0	5	45	22.3	17	50	29.9
7.0	10	3.0	5	45	45.4	17	50	5.9
7.0	10	4.0	5	46	8.5	17	49	42.0
7.0	10	5.0	5	46	31.6	17	49	18.1
7.0	10	6.0	5	46	54.7	17	48	54.1
7.0	10	7.0	5	47	17.9	17	48	30.2
10.0	10	.0	5	43	45.4	17	50	28.2
10.0	10	1.0	5	44	13.4	17	49	59.3
10.0	10	2.0	5	44	41.4	17	49	30.5
10.0	10	3.0	5	45	9.4	17	49	1.7
10.0	10	4.0	5	45	37.4	17	48	33.0
10.0	10	5.0	5	46	5.3	17	48	4.2
10.0	10	6.0	5	46	33.3	17	47	35.4
10.0	10	7.0	5	47	1.4	17	47	6.5
13.0	10	.0	5	42	59.0	17	49	42.8
13.0	10	1.0	5	43	31.8	17	49	9.2
13.0	10	2.0	5	44	4.7	17	48	35.6
13.0	10	3.0	5	44	37.4	17	48	2.0
13.0	10	4.0	5	45	10.2	17	47	28.4
13.0	10	5.0	5	45	43.0	17	46	54.8
13.0	10	6.0	5	46	15.9	17	46	21.1
13.0	10	7.0	5	46	48.8	17	45	47.4

16.0	10	.0	5 42 17.2	17 49 2.2
16.0	10	1.0	5 42 54.8	17 48 23.8
16.0	10	2.0	5 43 32.4	17 47 45.4
16.0	10	3.0	5 44 9.9	17 47 7.1
16.0	10	4.0	5 44 47.5	17 46 28.7
16.0	10	5.0	5 45 25.1	17 45 50.3
16.0	10	6.0	5 46 2.7	17 45 11.9
16.0	10	7.0	5 46 40.5	17 44 33.4
19.0	10	.0	5 41 40.4	17 48 26.7
19.0	10	1.0	5 42 22.7	17 47 43.6
19.0	10	2.0	5 43 5.0	17 47 .5
19.0	10	3.0	5 43 47.3	17 46 17.4
19.0	10	4.0	5 44 29.5	17 45 34.4
19.0	10	5.0	5 45 11.9	17 44 51.3
19.0	10	6.0	5 45 54.3	17 44 8.1
19.0	10	7.0	5 46 36.8	17 43 24.8
20.0	10	.0	5 41 29.3	17 48 16.0
20.0	10	1.0	5 42 13.2	17 47 31.4
20.0	10	2.0	5 42 57.0	17 46 46.8
20.0	10	3.0	5 43 40.8	17 46 2.2
20.0	10	4.0	5 44 24.7	17 45 17.5
20.0	10	5.0	5 45 8.6	17 44 32.9
20.0	10	6.0	5 45 52.5	17 43 48.1
20.0	10	7.0	5 46 36.6	17 43 3.3
21.0	10	.0	5 41 18.8	17 48 6.0
21.0	10	1.0	5 42 4.2	17 47 19.8
21.0	10	2.0	5 42 49.6	17 46 33.7
21.0	10	3.0	5 43 35.0	17 45 47.5
21.0	10	4.0	5 44 20.4	17 45 1.3
21.0	10	5.0	5 45 5.8	17 44 15.1
21.0	10	6.0	5 45 51.4	17 43 28.8
21.0	10	7.0	5 46 37.0	17 42 42.4
22.0	10	.0	5 41 8.9	17 47 56.7
22.0	10	1.0	5 41 55.9	17 47 8.9
22.0	10	2.0	5 42 42.8	17 46 21.2
22.0	10	3.0	5 43 29.8	17 45 33.5
22.0	10	4.0	5 44 16.7	17 44 45.8
22.0	10	5.0	5 45 3.7	17 43 58.1
22.0	10	6.0	5 45 50.8	17 43 10.2
22.0	10	7.0	5 46 38.0	17 42 22.2
23.0	10	.0	5 40 59.7	17 47 48.0
23.0	10	1.0	5 41 48.2	17 46 58.7
23.0	10	2.0	5 42 36.7	17 46 9.5
23.0	10	3.0	5 43 25.2	17 45 20.3
23.0	10	4.0	5 44 13.6	17 44 31.0
23.0	10	5.0	5 45 2.2	17 43 41.7
23.0	10	6.0	5 45 50.8	17 42 52.3
23.0	10	7.0	5 46 39.5	17 42 2.8
24.0	10	.0	5 40 51.2	17 47 39.9
24.0	10	1.0	5 41 41.2	17 46 49.1

24.0	10	2.0	5 42 31.2	17 45 58.4
24.0	10	3.0	5 43 21.2	17 45 7.7
24.0	10	4.0	5 44 11.2	17 44 16.9
24.0	10	5.0	5 45 1.3	17 43 26.1
24.0	10	6.0	5 45 51.4	17 42 35.1
24.0	10	7.0	5 46 41.7	17 41 44.1
25.0	10	.0	5 40 43.3	17 47 32.6
25.0	10	1.0	5 41 34.9	17 46 40.3
25.0	10	2.0	5 42 26.4	17 45 48.0
25.0	10	3.0	5 43 17.9	17 44 55.8
25.0	10	4.0	5 44 9.4	17 44 3.5
25.0	10	5.0	5 45 1.0	17 43 11.2
25.0	10	6.0	5 45 52.7	17 42 18.7
25.0	10	7.0	5 46 44.5	17 41 26.1
26.0	10	.0	5 40 36.2	17 47 26.0
26.0	10	1.0	5 41 29.2	17 46 32.2
26.0	10	2.0	5 42 22.2	17 45 38.4
26.0	10	3.0	5 43 15.2	17 44 44.7
26.0	10	4.0	5 44 8.2	17 43 50.9
26.0	10	5.0	5 45 1.3	17 42 57.0
26.0	10	6.0	5 45 54.6	17 42 3.1
26.0	10	7.0	5 46 47.9	17 41 9.0
27.0	10	.0	5 40 29.7	17 47 20.0
27.0	10	1.0	5 41 24.2	17 46 24.8
27.0	10	2.0	5 42 18.7	17 45 29.5
27.0	10	3.0	5 43 13.2	17 44 34.3
27.0	10	4.0	5 44 7.8	17 43 39.0
27.0	10	5.0	5 45 2.4	17 42 43.7
27.0	10	6.0	5 45 57.1	17 41 48.2
27.0	10	7.0	5 46 51.9	17 40 52.6
28.0	10	.0	5 40 24.0	17 47 14.9
28.0	10	1.0	5 41 20.0	17 46 18.1
28.0	10	2.0	5 42 16.0	17 45 21.4
28.0	10	3.0	5 43 12.0	17 44 24.7
28.0	10	4.0	5 44 8.0	17 43 27.9
28.0	10	5.0	5 45 4.1	17 42 31.1
28.0	10	6.0	5 46 .3	17 41 34.1
28.0	10	7.0	5 46 56.7	17 40 37.0
29.0	10	.0	5 40 19.0	17 47 10.5
29.0	10	1.0	5 41 16.5	17 46 12.3
29.0	10	2.0	5 42 14.0	17 45 14.1
29.0	10	3.0	5 43 11.4	17 44 15.9
29.0	10	4.0	5 44 8.9	17 43 17.7
29.0	10	5.0	5 45 6.5	17 42 19.3
29.0	10	6.0	5 46 4.2	17 41 20.9
29.0	10	7.0	5 47 2.0	17 40 22.3
30.0	10	.0	5 40 14.8	17 47 6.9
30.0	10	1.0	5 41 13.8	17 46 7.2
30.0	10	2.0	5 42 12.7	17 45 7.6
30.0	10	3.0	5 43 11.6	17 44 7.9
30.0	10	4.0	5 44 10.6	17 43 8.2

30.0	10	5.0	5 45 9.6	17 42 8.4
30.0	10	6.0	5 46 8.8	17 41 8.5
30.0	10	7.0	5 47 8.1	17 40 8.5
31.0	10	.0	5 40 11.4	17 47 4.0
31.0	10	1.0	5 41 11.8	17 46 2.9
31.0	10	2.0	5 42 12.2	17 45 1.8
31.0	10	3.0	5 43 12.5	17 44 .8
31.0	10	4.0	5 44 13.0	17 42 59.6
31.0	10	5.0	5 45 13.5	17 41 58.4
31.0	10	6.0	5 46 14.1	17 40 57.0
31.0	10	7.0	5 47 14.9	17 39 55.5

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	11	.0	5 40	8.8		17 47	2.0	
1.0	11	1.0	5 41	10.6		17 45	59.5	
1.0	11	2.0	5 42	12.4		17 44	57.0	
1.0	11	3.0	5 43	14.2		17 43	54.4	
1.0	11	4.0	5 44	16.1		17 42	51.9	
1.0	11	5.0	5 45	18.0		17 41	49.2	
1.0	11	6.0	5 46	20.1		17 40	46.4	
1.0	11	7.0	5 47	22.4		17 39	43.4	
4.0	11	.0	5 40	5.9		17 47	.9	
4.0	11	1.0	5 41	11.9		17 45	54.1	
4.0	11	2.0	5 42	17.9		17 44	47.4	
4.0	11	3.0	5 43	24.0		17 43	40.7	
4.0	11	4.0	5 44	30.1		17 42	33.9	
4.0	11	5.0	5 45	36.3		17 41	27.0	
4.0	11	6.0	5 46	42.6		17 40	20.0	
4.0	11	7.0	5 47	49.1		17 39	12.7	
7.0	11	.0	5 40	10.4		17 47	7.3	
7.0	11	1.0	5 41	20.6		17 45	56.5	
7.0	11	2.0	5 42	30.7		17 44	45.7	
7.0	11	3.0	5 43	40.8		17 43	34.9	
7.0	11	4.0	5 44	51.0		17 42	24.0	
7.0	11	5.0	5 46	1.4		17 41	13.1	
7.0	11	6.0	5 47	11.8		17 40	1.9	
7.0	11	7.0	5 48	22.5		17 38	50.6	
10.0	11	.0	5 40	22.6		17 47	21.4	
10.0	11	1.0	5 41	36.7		17 46	6.7	
10.0	11	2.0	5 42	50.8		17 44	52.0	
10.0	11	3.0	5 44	4.9		17 43	37.3	
10.0	11	4.0	5 45	19.0		17 42	22.5	
10.0	11	5.0	5 46	33.3		17 41	7.5	
10.0	11	6.0	5 47	47.8		17 39	52.4	
10.0	11	7.0	5 49	2.4		17 38	37.1	

13.0	11	.0	5 40 42.5	17 47 43.2
13.0	11	1.0	5 42 .4	17 46 24.7
13.0	11	2.0	5 43 18.2	17 45 6.3
13.0	11	3.0	5 44 36.1	17 43 47.8
13.0	11	4.0	5 45 54.1	17 42 29.2
13.0	11	5.0	5 47 12.1	17 41 10.5
13.0	11	6.0	5 48 30.4	17 39 51.7
13.0	11	7.0	5 49 48.9	17 38 32.6

16.0	11	.0	5 41 10.0	17 48 12.6
16.0	11	1.0	5 42 31.4	17 46 50.5
16.0	11	2.0	5 43 52.9	17 45 28.5
16.0	11	3.0	5 45 14.3	17 44 6.5
16.0	11	4.0	5 46 35.9	17 42 44.3
16.0	11	5.0	5 47 57.6	17 41 22.1
16.0	11	6.0	5 49 19.5	17 39 59.6
16.0	11	7.0	5 50 41.6	17 38 36.9

19.0	11	.0	5 41 44.9	17 48 49.3
19.0	11	1.0	5 43 9.7	17 47 23.9
19.0	11	2.0	5 44 34.6	17 45 58.6
19.0	11	3.0	5 45 59.4	17 44 33.1
19.0	11	4.0	5 47 24.4	17 43 7.6
19.0	11	5.0	5 48 49.5	17 41 42.0
19.0	11	6.0	5 50 14.8	17 40 16.1
19.0	11	7.0	5 51 40.4	17 38 50.0

22.0	11	.0	5 42 27.0	17 49 33.2
22.0	11	1.0	5 43 55.1	17 48 4.7
22.0	11	2.0	5 45 23.0	17 46 36.2
22.0	11	3.0	5 46 51.1	17 45 7.7
22.0	11	4.0	5 48 19.2	17 43 39.0
22.0	11	5.0	5 49 47.5	17 42 10.2
22.0	11	6.0	5 51 16.0	17 40 41.2
22.0	11	7.0	5 52 44.8	17 39 11.9

25.0	11	.0	5 43 16.2	17 50 24.1
25.0	11	1.0	5 44 47.2	17 48 52.7
25.0	11	2.0	5 46 18.1	17 47 21.3
25.0	11	3.0	5 47 49.1	17 45 49.9
25.0	11	4.0	5 49 20.1	17 44 18.4
25.0	11	5.0	5 50 51.4	17 42 46.7
25.0	11	6.0	5 52 22.9	17 41 14.7
25.0	11	7.0	5 53 54.6	17 39 42.5

28.0	11	.0	5 44 12.2	17 51 21.7
28.0	11	1.0	5 45 45.9	17 49 47.7
28.0	11	2.0	5 47 19.5	17 48 13.7
28.0	11	3.0	5 48 53.1	17 46 39.6
28.0	11	4.0	5 50 26.9	17 45 5.4
28.0	11	5.0	5 52 .8	17 43 31.1
28.0	11	6.0	5 53 35.0	17 41 56.5
28.0	11	7.0	5 55 9.4	17 40 21.6

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	12	.0	5	45	14.8	17	52	25.8
1.0	12	1.0	5	46	50.8	17	50	49.4
1.0	12	2.0	5	48	26.8	17	49	13.0
1.0	12	3.0	5	50	2.9	17	47	36.6
1.0	12	4.0	5	51	39.0	17	46	.0
1.0	12	5.0	5	53	15.4	17	44	23.3
1.0	12	6.0	5	54	52.0	17	42	46.3
1.0	12	7.0	5	56	28.9	17	41	9.1
4.0	12	.0	5	46	23.5	17	53	35.7
4.0	12	1.0	5	48	1.6	17	51	57.3
4.0	12	2.0	5	49	39.7	17	50	18.8
4.0	12	3.0	5	51	17.9	17	48	40.3
4.0	12	4.0	5	52	56.2	17	47	1.7
4.0	12	5.0	5	54	34.6	17	45	22.9
4.0	12	6.0	5	56	13.4	17	43	43.9
4.0	12	7.0	5	57	52.4	17	42	4.5
7.0	12	.0	5	47	37.6	17	54	51.0
7.0	12	1.0	5	49	17.5	17	53	10.8
7.0	12	2.0	5	50	57.5	17	51	30.6
7.0	12	3.0	5	52	37.4	17	49	50.3
7.0	12	4.0	5	54	17.5	17	48	10.0
7.0	12	5.0	5	55	57.8	17	46	29.4
7.0	12	6.0	5	57	38.4	17	44	48.6
7.0	12	7.0	5	59	19.2	17	43	7.4
10.0	12	.0	5	48	56.5	17	56	10.9
10.0	12	1.0	5	50	37.9	17	54	29.2
10.0	12	2.0	5	52	19.4	17	52	47.6
10.0	12	3.0	5	54	.8	17	51	5.9
10.0	12	4.0	5	55	42.4	17	49	24.1
10.0	12	5.0	5	57	24.2	17	47	42.1
10.0	12	6.0	5	59	6.3	17	45	59.8
10.0	12	7.0	6	0	48.6	17	44	17.2
13.0	12	.0	5	50	19.4	17	57	34.4
13.0	12	1.0	5	52	2.0	17	55	51.7
13.0	12	2.0	5	53	44.5	17	54	9.0
13.0	12	3.0	5	55	27.2	17	52	26.2
13.0	12	4.0	5	57	9.9	17	50	43.2
13.0	12	5.0	5	58	52.9	17	49	.1
13.0	12	6.0	6	0	36.1	17	47	16.7
13.0	12	7.0	6	2	19.7	17	45	33.0

16.0	12	.0	5 51	45.2	17 59	.8
16.0	12	1.0	5 53	28.6	17 57	17.3
16.0	12	2.0	5 55	12.0	17 55	33.8
16.0	12	3.0	5 56	55.5	17 53	50.2
16.0	12	4.0	5 58	39.1	17 52	6.6
16.0	12	5.0	6 0	22.9	17 50	22.7
16.0	12	6.0	6 2	6.9	17 48	38.5
16.0	12	7.0	6 3	51.3	17 46	54.0

19.0	12	.0	5 53	13.1	18 0	29.0
19.0	12	1.0	5 54	57.0	17 58	45.1
19.0	12	2.0	5 56	40.9	17 57	1.2
19.0	12	3.0	5 58	24.8	17 55	17.2
19.0	12	4.0	6 0	8.9	17 53	33.1
19.0	12	5.0	6 1	53.1	17 51	48.8
19.0	12	6.0	6 3	37.7	17 50	4.2
19.0	12	7.0	6 5	22.6	17 48	19.3

22.0	12	.0	5 54	42.1	18 1	58.1
22.0	12	1.0	5 56	26.2	18 0	14.1
22.0	12	2.0	5 58	10.2	17 58	30.1
22.0	12	3.0	5 59	54.2	17 56	46.1
22.0	12	4.0	6 1	38.4	17 55	1.9
22.0	12	5.0	6 3	22.8	17 53	17.5
22.0	12	6.0	6 5	7.5	17 51	32.9
22.0	12	7.0	6 6	52.5	17 49	47.9

25.0	12	.0	5 56	11.4	18 3	27.2
25.0	12	1.0	5 57	55.2	18 1	43.5
25.0	12	2.0	5 59	39.0	17 59	59.8
25.0	12	3.0	6 1	22.8	17 58	16.0
25.0	12	4.0	6 3	6.8	17 56	32.1
25.0	12	5.0	6 4	51.0	17 54	48.0
25.0	12	6.0	6 6	35.4	17 53	3.7
25.0	12	7.0	6 8	20.2	17 51	19.0

28.0	12	.0	5 57	40.2	18 4	55.6
28.0	12	1.0	5 59	23.4	18 3	12.5
28.0	12	2.0	6 1	6.6	18 1	29.4
28.0	12	3.0	6 2	49.8	17 59	46.3
28.0	12	4.0	6 4	33.2	17 58	3.0
28.0	12	5.0	6 6	16.8	17 56	19.6
28.0	12	6.0	6 8	.7	17 54	35.8
28.0	12	7.0	6 9	44.9	17 52	51.8

31.0	12	.0	5 59	7.6	18 6	22.4
31.0	12	1.0	6 0	49.9	18 4	40.2
31.0	12	2.0	6 2	32.2	18 2	58.2
31.0	12	3.0	6 4	14.5	18 1	16.0
31.0	12	4.0	6 5	57.0	17 59	33.7
31.0	12	5.0	6 7	39.6	17 57	51.3
31.0	12	6.0	6 9	22.5	17 56	8.5
31.0	12	7.0	6 11	5.8	17 54	25.5

