

Celestial Navigation

Estimation of Sun GHA & Dec.

Name: _____

1 ZT of 17 36 DR L $27^{\circ} 15.2' N$
 Observation 20-Aug $\lambda 038^{\circ} 22.4' E$

7 ZT of 00 54 DR L $21^{\circ} 25.9' N$
 Observation 11-Apr $\lambda 019^{\circ} 06.6' W$

CT 02 24 49	ZT 17 36	20-Aug
CE 11 34 s	ZD _____	GMT
GMT		

CT 01 51 22	ZT 00 54	11-Apr
CE 2 27 s	ZD _____	GMT
GMT		

GHA _____ Dec. _____

GHA _____ Dec. _____

2 ZT of 07 17 DR L $21^{\circ} 42.0' N$
 Observation 16-Sep $\lambda 056^{\circ} 42.3' W$

8 ZT of 13 32 DR L $24^{\circ} 12.2' N$
 Observation 29-May $\lambda 172^{\circ} 09.0' W$

CT 11 18 39	ZT 07 17	16-Sep
CE 1 59 f	ZD _____	GMT
GMT		

CT 00 41 19	ZT 13 32	29-May
CE 9 33 f	ZD _____	GMT
GMT		

GHA _____ Dec. _____

GHA _____ Dec. _____

3 ZT of 13 53 DR L $20^{\circ} 49.7' N$
 Observation 16-Mar $\lambda 138^{\circ} 52.3' W$

9 ZT of 19 35 DR L $25^{\circ} 14.8' N$
 Observation 14-Jun $\lambda 164^{\circ} 36.0' W$

CT 10 43 30	ZT 13 53	16-Mar
CE 9 35 s	ZD _____	GMT
GMT		

CT 06 30 30	ZT 19 35	14-Jun
CE 4 33 s	ZD _____	GMT
GMT		

GHA _____ Dec. _____

GHA _____ Dec. _____

4 ZT of 06 08 DR L $23^{\circ} 29.7' N$
 Observation 15-Sep $\lambda 059^{\circ} 50.4' E$

10 ZT of 06 31 DR L $25^{\circ} 27.9' N$
 Observation 30-Apr $\lambda 005^{\circ} 41.4' E$

CT 01 57 27	ZT 06 08	15-Sep
CE 10 24 s	ZD _____	GMT
GMT		

CT 06 19 42	ZT 06 31	30-Apr
CE 11 21 s	ZD _____	GMT
GMT		

GHA _____ Dec. _____

GHA _____ Dec. _____

5 ZT of 09 49 DR L $29^{\circ} 15.7' N$
 Observation 4-Feb $\lambda 075^{\circ} 07.3' E$

11 ZT of 09 47 DR L $26^{\circ} 45.5' S$
 Observation 20-May $\lambda 162^{\circ} 22.8' E$

CT 04 42 41	ZT 09 49	4-Feb
CE 6 16 s	ZD _____	GMT
GMT		

CT 10 56 19	ZT 09 47	20-May
CE 9 22 f	ZD _____	GMT
GMT		

GHA _____ Dec. _____

GHA _____ Dec. _____

6 ZT of 07 26 DR L $25^{\circ} 25.2' N$
 Observation 20-Mar $\lambda 055^{\circ} 51.6' W$

12 ZT of 15 38 DR L $26^{\circ} 37.4' N$
 Observation 20-Jan $\lambda 074^{\circ} 48.6' E$

CT 11 33 55	ZT 07 26	20-Mar
CE 7 46 f	ZD _____	GMT
GMT		

CT 10 27 33	ZT 15 38	20-Jan
CE 10 20 s	ZD _____	GMT
GMT		

GHA _____ Dec. _____

GHA _____ Dec. _____

1	ZT of Observation	17 36 20-Aug	DR L λ	27° 15.2' N 038° 22.4' E	7	ZT of Observation	00 54 11-Apr	DR L λ	21° 25.9' N 019° 06.6' W
	CT 02 24 49 CE 11 34 s GMT 14 36 23	ZT 17 36 ZD -3 GMT 14 36 20-Aug			CT 01 51 22 CE 2 27 s GMT 01 53 49	ZT 00 54 ZD +1 GMT 01 54 11-Apr			
	GHA ~30°	Dec. ~N 12°			GHA ~195°	Dec. ~N 12°			
2	ZT of Observation	07 17 16-Sep	DR L λ	21° 42.0' N 056° 42.3' W	8	ZT of Observation	13 32 29-May	DR L λ	24° 12.2' N 172° 09.0' W
	CT 11 18 39 CE 1 59 f GMT 11 16 40	ZT 07 17 ZD +4 GMT 11 17 16-Sep			CT 00 41 19 CE 9 33 f GMT 00 31 46	ZT 13 32 ZD +11 GMT 00 32 30-May			
	GHA ~345°	Dec. ~0°			GHA ~180°	Dec. ~N 20°			
3	ZT of Observation	13 53 16-Mar	DR L λ	20° 49.7' N 138° 52.3' W	9	ZT of Observation	19 35 14-Jun	DR L λ	25° 14.8' N 164° 36.0' W
	CT 10 43 30 CE 9 35 s GMT 22 53 05	ZT 13 53 ZD +9 GMT 22 53 16-Mar			CT 06 30 30 CE 4 33 s GMT 06 35 02	ZT 19 35 ZD +11 GMT 06 35 15-Jun			
	GHA ~150°	Dec. ~0°			GHA ~270°	Dec. ~N 23°			
4	ZT of Observation	06 08 15-Sep	DR L λ	23° 29.7' N 059° 50.4' E	10	ZT of Observation	06 31 30-Apr	DR L λ	25° 27.9' N 005° 41.4' E
	CT 01 57 27 CE 10 24 s GMT 02 07 51	ZT 06 08 ZD -4 GMT 02 08 15-Sep			CT 06 19 42 CE 11 21 s GMT 06 31 03	ZT 06 31 ZD 0 GMT 06 31 30-Apr			
	GHA ~210°	Dec. ~0°			GHA ~270°	Dec. ~N 12°			
5	ZT of Observation	09 49 4-Feb	DR L λ	29° 15.7' N 075° 07.3' E	11	ZT of Observation	09 47 20-May	DR L λ	26° 45.5' S 162° 22.8' E
	CT 04 42 41 CE 6 16 s GMT 04 48 57	ZT 09 49 ZD -5 GMT 04 49 4-Feb			CT 10 56 19 CE 9 22 f GMT 22 46 57	ZT 09 47 ZD -11 GMT 22 47 19-May			
	GHA ~240°	Dec. ~S 20°			GHA ~150°	Dec. ~N 20°			
6	ZT of Observation	07 26 20-Mar	DR L λ	25° 25.2' N 055° 51.6' W	12	ZT of Observation	15 38 20-Jan	DR L λ	26° 37.4' N 074° 48.6' E
	CT 11 33 55 CE 7 46 f GMT 11 26 10	ZT 07 26 ZD +4 GMT 11 26 20-Mar			CT 10 27 33 CE 10 20 s GMT 10 37 53	ZT 15 38 ZD -5 GMT 10 38 20-Jan			
	GHA ~345°	Dec. ~0°			GHA ~330°	Dec. ~S 20°			