

$$\text{Sin. } \theta = \sqrt{\text{sin. } l' \cdot \text{sin. } p \cdot \text{cos. } 2\frac{H}{2}}$$
$$\text{Sin. } \frac{z}{2} = \sqrt{\text{sin. } \left(\frac{l' + p}{2} + \theta\right) \cdot \text{sin. } \left(\frac{l' + p}{2} - \theta\right)}$$
$$\begin{array}{rcl} \frac{H}{2} \dots 2 \cos. 33 \ 19 \ 8 & = & 19^{\circ} 844028 \\ l' \dots \sin. 38 \ 58 \ 34 & = & 9^{\circ} 798588 \\ p \dots \sin. 89 \ 56 \ 56 & = & 9^{\circ} 000000 \\ \hline & & \sin. 64 \ 27 \ 45 \quad 19^{\circ} 642616 \\ & & \sin. 41 \ 30 \ 18 \quad 9^{\circ} 821308 \\ \hline \sin. 105 \ 58 \ 3 & = & 9^{\circ} 982913 \\ \sin. 22 \ 57 \ 27 & = & 9^{\circ} 591118 \\ \hline & & 19^{\circ} 574031 \\ \hline \sin. 37 \ 45 \ 40 & & 9^{\circ} 787015 \\ & & 2 \\ \hline & & 75 \ 31 \ 20 \\ \hline s \dots 14 \ 28 \ 40 \\ & & + \quad 3 \ 29 \\ \hline s \dots 14 \ 32 \ 9 \\ \hline \end{array}$$

To compute True and Approximate Altitude of $\mathcal{D}$, m' and m .

R. A. of M. ☉.	$\mathcal{D}$'s R. A.	Cor.	Cor.	$\mathcal{D}$'s N. P. D.	$\frac{1}{2}$ Hr. L.	In Arc.
H. M. S. 12 5 10.65 1 48.42 3.28	H. M. S. 15 15 26.19 40.6 15 16 6.79	121.8 40.6	" 92.01 2 18402 3.4	22 36 20 s. 3 4 22 39 24 112 39 24	H. M. S. 12 7 2.35 4 19 1.7 16 26 4.05 15 16 6.79 1 9 57.26	0 34 58.63 60 34 58 38 8 44 40

By Formulæ (1) and (2).

$$\begin{array}{rcl} 2 \cos. 8 \ 44 \ 40 & = & 19^{\circ} 989846 \\ \sin. 112 \ 39 \ 24 & = & 9^{\circ} 965122 \\ \sin. 38 \ 58 \ 34 & = & 9^{\circ} 798588 \\ \hline & & 75 \ 48 \ 59 \quad 19^{\circ} 753556 \\ \hline \sin. 48 \ 50 \ 59 & & 9^{\circ} 876778 \\ \hline \sin. 124 \ 39 \ 58 & & 9^{\circ} 915126 \\ \sin. 26 \ 58 \ 0 & & 9^{\circ} 656551 \\ \hline & & 19^{\circ} 571677 \\ \hline \sin. 37 \ 38 \ 28 & & 9^{\circ} 785838 \\ & & 2 \\ \hline & & 75 \ 16 \ 56 \\ \hline & & 14 \ 43 \ 4 \\ \hline \end{array}$$

$\mathcal{D}$'s S.D.	Cor.	Cor.	$\mathcal{D}$'s H. Px.	Px. in A. = H. Px. in Cos. App. Alt.	
				Px. nearly.	
14 47.5 6	— " .7 11.4	— 2.7 11.4	54 9.6 2.5	3240 = 3.510545 cos. m' = 9.985514	3240 = 3.510545 cos. = 9.987186
14 46.9 Aug. 3.6	798 6	108 297	54 7.1 Red. 6.7	3134 3.496059	3146 3.497731
14 50.5		3078 2.5	54 0.4		