

Astro-Navigation Sight Reduction Form

Sextant			
Weather:	Temp:	Pressure:	Wind Speed & Dir.:

Name of Body		GHA (hours)		Sextant Alt.(Hs)	
DR/A Posn. Lat. Long.		GHA (m & s)		Index Corrn (IC)	
		SHA		Obs. Alt.	
Date		"v" increment		Dip (HE =)	
Chronometer Time		TOTAL GHA		App. Alt. (Ha)	
Chronometer Error		DR/Assumed Longitude		Total Correction	
GMT		LHA (W or E)		Refraction Correction	
Declination (hrs)		LHA "t" (decimal)		Add'l Corrn. (planets & moon) HP =	
d=	m & s	declination "		Temperature Corrn.	
Declination	N S	Latitude "			
Azimuth Angle (Z)		Hc (decimal/249)		True Alt. (Ho)	
True Azimuth (Zn)		"d" corrn (249)		Calc. Alt (Hc)	
		Hc corr. (249)		Intercept. a t	

$\sin Hc = (\sin L \sin d) + (\cos L \cos d \cos LHA)$
 $\cos a = (\cos b \cos c) + (\sin b \sin c \cos A)$
 \sum of sides > 360°

$\cos Z = \frac{\sin d - (\sin L \sin Hc)}{\cos L \cos Hc}$
 $\cos A = (-\cos B \cos C) + (\sin B \sin C \cos a)$
 \sum of angles > 180° and < 540°

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Robert Eno - Frobisher Bay

N. Latitude
 LHA > 180°.....Zn = Z
 LHA < 180°.....Zn = 360 - Z

S. Latitude
 LHA > 180°.....Zn = 180 - Z
 LHA < 180°.....Zn = 180 + Z

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$$\sin Hc = (\sin L \sin d) + (\cos L \cos d \cos LHA)$$

$$\cos a = (\cos b \cos c) + (\sin b \sin c \cos A) \quad \sum \text{ of sides } > 360^\circ$$

$$\cos Z = \frac{\sin d - (\sin L \sin Hc)}{\cos L \cos Hc}$$

$$\cos A = (-\cos B \cos C) + (\sin B \sin C \cos a) \quad \sum \text{ of angles } > 180^\circ \text{ and } < 540^\circ$$

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