NAO CONCISE SIGHT REDUCTION FORM

Date & UT of observation h m s	**Body**	**Estimated Latitude & Longitude** ° ′ ° ′

Step	**Calculate Altitude & Azimuth**	**Summary of Rules & Notes**
Assumed latitude	$Lat =$ °	Nearest estimated latitude, integral number of degrees.
Assumed longitude	$Long =$ ° ′	Choose *Long* so that *LHA* has integral number of degrees.
1. From the almanac:	$Dec =$ ° ′	Record the *Dec* for use in Step 3.
GHA Aries h	= ° ′	Needed if using *SHA*. Tabular value.
Increment m s	= ° ′	for minutes and seconds of time.
SHA	$SHA =$ ° ′	
$GHA = GHA\ Aries + SHA$	$GHA =$ ° ′	Remove multiples of 360°.
Assumed longitude	$Long =$ ° ′	West longitudes are negative.
$LHA = GHA + Long$	$LHA =$ °	Remove multiples of 360°.
2. Reduction table, 1st entry $(Lat, LHA) = ($ °, ° $)$ record A, B and Z_1.	$A =$ ° ′ $A° =$ °	nearest whole degree of A.
	$A' =$ ′	minutes part of A.
	$B =$ ° ′	B is minus if $90° < LHA < 270°$.
	$Z_1 =$ °	Z_1 has the same sign as B.
3. From step 1	$Dec =$ ° ′	*Dec* is minus if contrary to *Lat*.
$F = B + Dec$	$F =$ ° ′	Regard F as positive until step 7.
	$F° =$ °	nearest whole degree of F.
	$F' =$ ′	minutes part of F.
4. Reduction table, 2nd entry $(A°, F°) = ($ °, ° $)$ record H, P and Z_2.	$H =$ ° ′ $P° =$ °	nearest whole degree of P.
	$Z_2 =$ °	
5. Auxiliary table, 1st entry $(F', P°) = ($ ′, ° $)$ record $corr_1$	$corr_1 =$ ′	$corr_1$ is minus if $F < 90°$ & $F' > 29'$, or if $F > 90°$ & $F' < 30'$.
6. Auxiliary table, 2nd entry $(A', Z_2°) = ($ ′, ° $)$ record $corr_2$	$corr_2 =$ ′	$Z_2°$ nearest whole degree of Z_2. $corr_2$ is minus if $A' < 30'$.
7. Calculated altitude = $H_C = H + corr_1 + corr_2$	$H_C =$ ° ′	H_C is minus if F is negative, and object is below the horizon.
8. Azimuth, 1st component	$Z_1 =$ °	Z_1 has the same sign as B.
2nd component	$Z_2 =$ °	Z_2 is minus if $F > 90°$. If F is negative, $Z_2 = 180° - Z_2$
$Z = Z_1 + Z_2$	$Z =$ °	Ignore the sign of Z.
		N *Lat*: If $LHA > 180°$, $Z_n = Z$, or if $LHA < 180°$, $Z_n = 360° - Z$,
		S *Lat*: If $LHA > 180°$, $Z_n = 180° - Z$, or if $LHA < 180°$, $Z_n = 180° + Z$.
True azimuth	$Z_n =$ °	

For use with *The Nautical Almanac's* Concise Sight Reduction Tables pages 284-318.