Planet or Sun Sight Reduction Pro-Forma: Date : / / :

[ ]Venus [ ]Mars [ ]Jupiter [ ]Saturn [ ]Morning/ [ ]Evening

Sextant. Altitude: = ___°___´.__ LL/UL (if sun)

Index Error: (on/off) −/+ ___´.__ If it's on it's off
Dip: (ht = ____m/ft) − ___´.__
Apparent Altitude: = ___°___´.__

Pick corr^{n} for UL/LL if Sun, or separate 1 or 2 columns if planet

Alt. Corr^{n}:(UL&planets –) +/− ___´.__ LL sun +
Additional Corr^{n} Venus/Mars +__´.__ n/a if sun
True Altitude: ___°___´.__ (___.___°)

Goto Sight Reduction tables with Lat, DEC &LHA to get
Tabulated Alt Hc: ____°___´.__ Z: ____° d: ___´
d corr^{n} (for DEC ´) °___´.__ Zn: ____° see box

Tabulated Alt Hc:_ ___°___´.__ (___.___°)

True Altitude sext ___°___´.__ (___.___°)
Difference is Intercept: ___´.__ (. ___°) T/A
At bearing Zn from above

If True Altitude is biggest you are closer, (towards)

Now draw a line at Zn from Chosen position, step off intercept and draw your position line at 90°

To get Zn from Z note that

If in the Northern hemisphere and
if LHA>180° then Zn = Z otherwise Zn = 360° − Z

If in the southern hemisphere and
if LHA>180° then Zn = 180 − Z otherwise 180 + Z

$$\sin(Alt) = \sin(LAT).\sin(DEC) + \cos(LAT).\cos(DEC).\cos(LHA)$$

$$\cos(Z) = \{ \cos(LAT).\sin(DEC) - \sin(LAT).\cos(DEC).\cos(LHA) \} / \cos(Alt)$$

Use + for N and − for S for Lat or dec

Ships Time: ___d ___h ___m ___s
Time Zone: +/- ___h add if Z+ (West)
Ship's UT: ___d ___h___m___s

Sight time in UT: ___d ___h___m___s

Estimated Lat: ___°___´.__ N/S (+/−___.___°)

Chosen Latitude: ___ ° N/S (whole no. of °)

Estimated Long: ___°___´.__ E/W (___.___°)

From E tables for SUN: retrieve GHA, DEC and d

GHA at ____d ____h = _____° ___´_ v: +/−__´_
Inc for (____m) ____s = + __° ___´_
Planet corr^{n} for (v) = ___´_ not if sun
Final GHA for SUN = _____° ___´_
Chosen Long E/W +/− _____° ___´_
(If long E then G is least)
LHA for S.R tables = _____° (whole no. only)

DEC (tables) = ___° ___´_ N/S & d _.__´
Corr^{n} for DEC +/− __´_ increase/decrease

Final DEC = ___° ___´_ N/S (+/−___.___°)

If using Calculator use **EP** not CP so LHA is…

Final GHA for SUN = _____° ___´_
As decimals of degree = (____.___°)
Estimated Long. E/W +/−(____.___°)
(If East, Greenwich is least)
LHA for calculator = (____.___°)

From Calculator: (LHA & DEC above, **Estd** Lat)
Z = (____.___°); Zn=(____.___°) see left box
Calc Alt = (____.___°)
True Alt = (____.___°)
Difference (Intercept) = (_.___°)
Intercept in minutes = ___´.__ Towards/Away

Nb Plot from **Estimated Position**