Calculating Great Circle Courses/Distances (or Reducing Sextant Sights)

DATA INPUTS

Meridian Angle (MA) = _____° ___ E/W

$Lat_{Destination}$ or (Declination of GP) = _____° ___ N/S

$Latitude_{Assumed\ Position(AP)}$ of Vessel = _____° ___ N/S

(Enter all angles with decimal fractions rather than minutes)

MA must be < 90° for these equations to work.

~~~~~~

1. Sin(MA) X Cos(Lat_{dest}) = Sin(R) = R°

_____°

2. Sin(Lat_{dest}) ÷ Cos(R) = Sin(LatQ) = Latitude of Q°

_____° ____ N/S

Q has same sign as $Lat_{Destination}$.

3. LatAP ~ LatQ = diffLat

~ = _____°

4. Cos(R) X Cos(diffLat) = Sin(Hc) = Hc°

_____°

5. Sin(R) ÷ Cos(Hc) = **Sin(Z)** = Azimuth

___ _____° ___ N/S E/W

Use **N** if Destination (or GP) is N of AP

Use **E** if Destination (or GP) is E of AP

$Course_{360}$ = _____°

Distance = (90°- Hc) * 60

90.0°

-_____°

_____° X 60 = _____
~~~~~~

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