TELESCOPE FORMULA WHEEL

The unknowns are at the wheel's center
The outer sections each provide two
  equations that can be used to find the
  associated unknowns.
For instance, **F = M * E**, and **P = D / M**.

D is the **Diameter** of the objective lens
F is the **Focal length** of the objective
R is the focal **Ratio** of the objective
E is the **Eyepiece** focal length
M is the **Magnification** of the system
P is the exit **Pupil** diameter
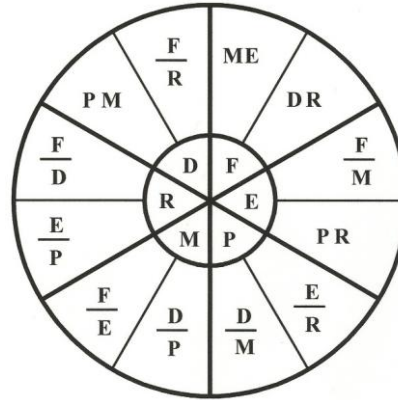
POLAR ALIGNMENT OF EQUATORIAL MOUNT BY STAR DRIFT:
Select two stars, each about 45* above the horizon: One in the east or west and
one near the meridian. Roughly align mount toward north pole. Point the telescope
at the stars as noted, observing which direction it drifts after each adjustment.
ALIGN AZIMUTH FIRST:
IF MERIDIAN STAR DRIFTS NORTH THEN AZIMUTH TOO WEST
IF MERIDIAN STAR DRIFTS SOUTH THEN AZIMUTH TOO EAST
THEN ALIGN ALTITUDE:
IF EAST STAR DRIFTS SOUTH THEN ALTITUDE TOO LOW
IF EAST STAR DRIFTS NORTH THEN ALTITUDE TOO HIGH
IF WEST STAR DRIFTS NORTH THEN ALTITUDE TOO LOW
IF WEST STAR DRIFTS SOUTH THEN ALTITUDE TOO HIGH

High visibility version for low light conditions:

IF M * DRIFT N THEN AZ TOO W

IF M * DRIFT S THEN AZ TOO E

IF   E * DRIFT S THEN ALT TOO L

IF   E * DRIFT N THEN ALT TOO HI

IF W * DRIFT N THEN ALT TOO L

IF W * DRIFT S THEN ALT TOO HI