$$\sin \omega = e \sin L$$

Corollary 2 Sec.

Again let fall the perpendicular MP – MP = y

MQ = AP = x = radius of curvature of parallel of Latitude.

FP = AF – AP = $ae - x$

Radius of Paral.

F'P = $ae + x$

The base is to the sum of the sides as the difference of the sides is to the difference of the segments of the base

viz: $ae : a = (a - r) : x$; $\left(\frac{ae}{a} = \frac{a-r}{x}\right)$

$$x = \frac{a(a-r)}{ae} = \frac{a-r}{e}$$

$$AN = AF - NF = ae - er = e(a - r)$$

$$NP = AP - AN = x - e(a-r) = \frac{a-r}{e} - e(a-r)$$

Rad of Lat. $= (a-r)\left(\frac{1}{e} - e\right) = (a-r)\left(\frac{1-e^2}{e}\right)$

$$\text{Cot: } L = \frac{NP}{MP} = \frac{(a-r)(1-e^2)}{ye}$$

$$\text{Cot: } l = \frac{AP}{MP} = \frac{a-r}{ye} \quad ; \quad \frac{\text{Cot: } l}{\text{Cot: } L} = \frac{1}{1-e^2} \quad ; \quad \text{Cot } l = \text{Cot } L \left(\frac{1}{1-e^2}\right)$$

$$y^2 = MP^2 = MF^2 - FP^2 = r^2 - (ae - x)^2 \left(ae - \frac{a-r}{e}\right)^2$$

$$= NP^2 \tan^2 L = \frac{(a-r)^2(1-e^2)^2}{e^2} \tan^2 L = r^2 - \left(\frac{r - a(1-e^2)}{e}\right)^2$$

$$= \frac{r^2(1-e^2) + 2ar(1-e^2) - a^2(1-e^2)^2}{e^2}$$

$$\tan^2 L (r^2 + 2ar - a^2)(1-e^2) = (a-r)^2 (1-e^2) \tan^2 L$$

$$= a^2 e^2 - (a-r)^2$$

$$a^2 e^2 = (a-r)^2 \left[1 + (1-e^2) \tan^2 L\right]$$

$$a^2 e^2 \cos^2 L = (a-r)^2 \left[\cos^2 L + (1-e^2) \sin^2 L\right]$$

$$ae = (a-r)^2 (1 - e^2 \sin^2 L) = (a-r)^2 H^2$$

$$ae \cos L = (a-r) H$$

$$a - r = \frac{ae \cos L}{H} \qquad R = \frac{H}{a \sin 1''}$$

Z' or Z

$$x = \frac{a \cos L}{H} = RP = \frac{\cos L}{R \sin 1''}$$