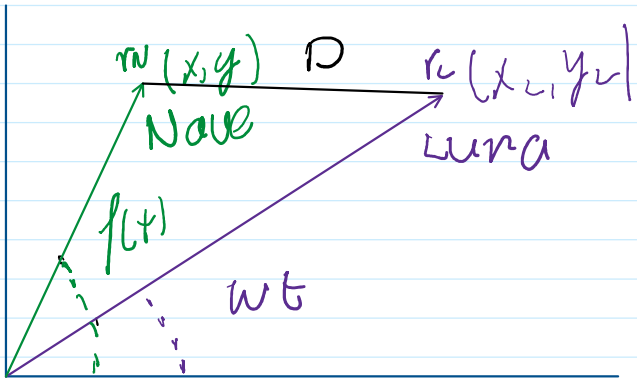

$$R = |r_N - r_L|$$

$$R = \sqrt{(x_N - x_L)^2 + (y_N - y_L)^2}$$

$$x = r\cos\theta \qquad y = r\sin\theta$$

$$R^2 = (r_N\cos f - r_L\cos(wt))^2 + (r_N\sin f - r_L\sin(wt))^2$$

$$R^2 = r_N^2\cos f^2 - r_N r_L\cos(wt)\cos f + r_L^2\cos(wt)^2$$

$$+ r_N^2\sin f^2 - r_N r_L\sin(wt)\sin(f) + r_L^2\sin(wt)^2$$

$$R^2 = r_N^2(\cos f^2 + \sin f^2) + r_L^2(\cos(wt)^2 + \sin(wt)^2)$$

$$-2 r_N r_L(\sin(wt)\sin(f) + \cos(wt)\cos f)$$

$$\cos(wt - f)$$

$$R^2 = r_N^2 + r_L^2 - 2 r_N r_L\cos(wt - f)$$

r_L = posicion luna $\simeq$ constante $= d$

$r_N(t)$:= posicion nave en t

$r_N(t) :=$ posicion nave en t

$$R = \sqrt{r^2(t) + d^2 - 2\,r(t)\,d\,\cos(\omega t - \rho)}$$