

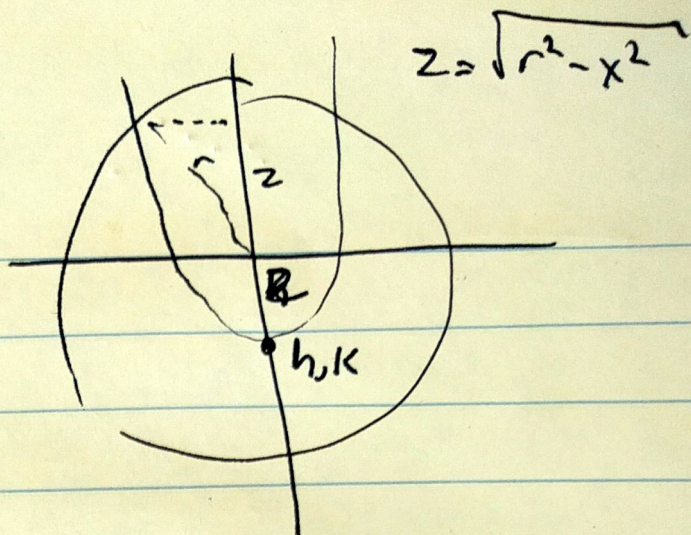
$$y = a(x-h)^2 + k$$

$$y = ax^2 - T_b$$



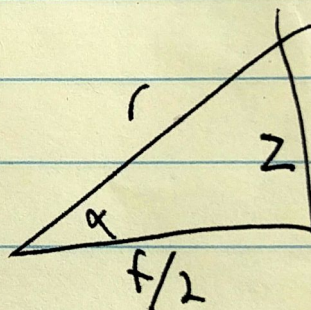
$$\sqrt{r^2 - (f/2)^2} = a(f/2)^2 - T_b$$

$$a = \frac{\sqrt{r^2 - (f/2)^2} + T_b}{(f/2)^2}$$



$$h = 0$$

$$k = -T_b$$



$$\cos \alpha = \frac{f/2}{r}$$

