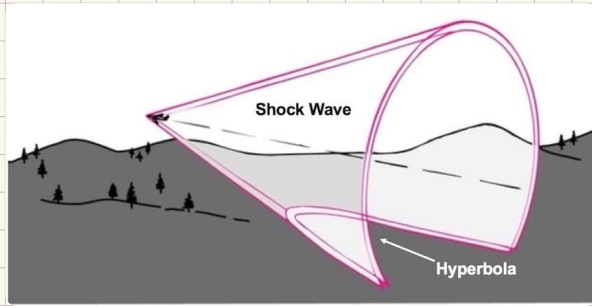
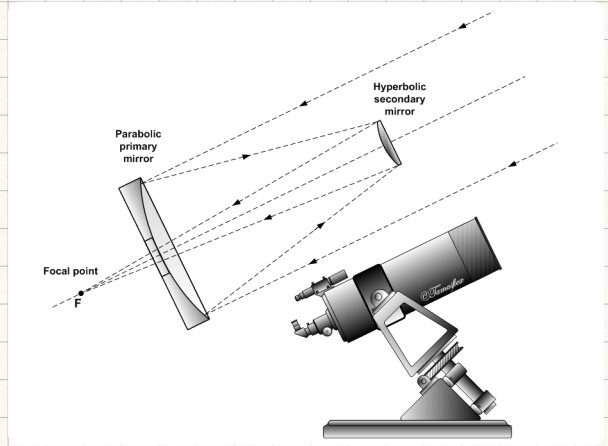
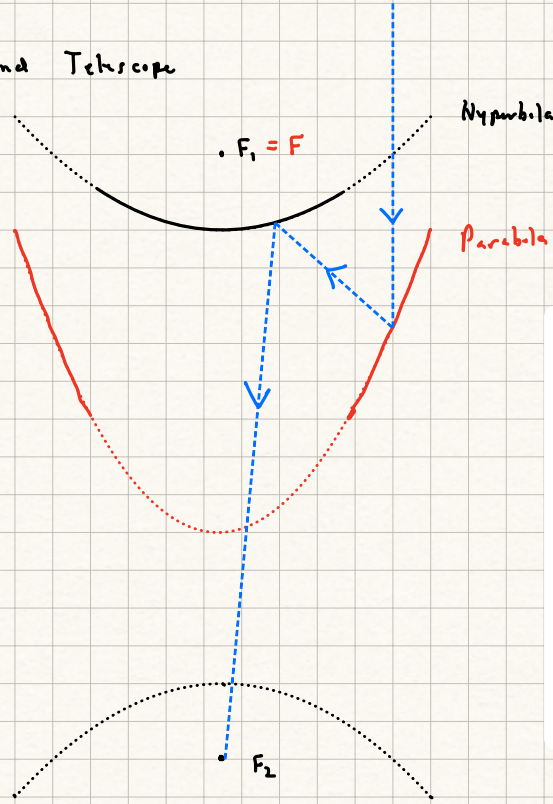


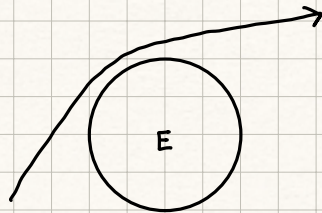
- Sonic Boom



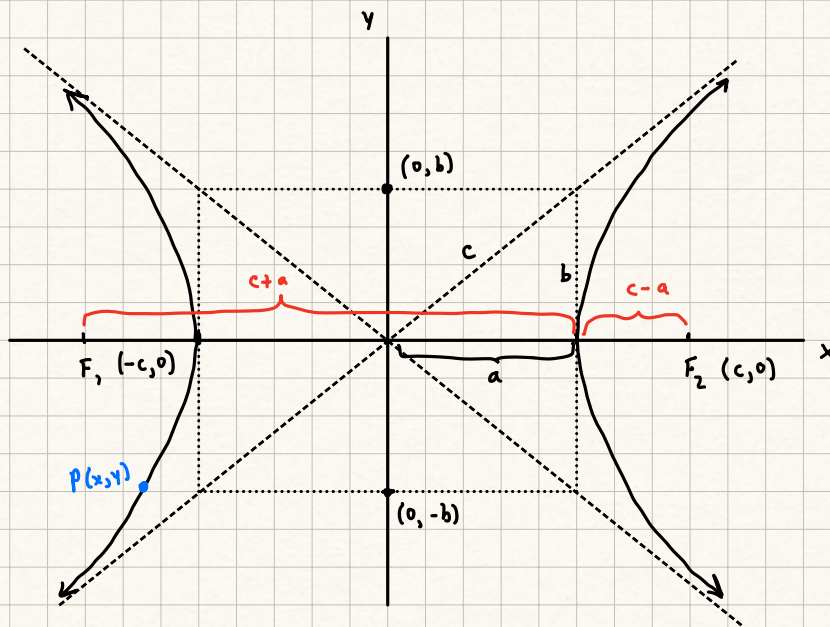
- Cassegrain Telescope



- Newton -



2. Analytic Geometry -



$$\text{Difference} = c + a - (c - a) = 2a = \text{constant}$$

$$c^2 = a^2 + b^2$$

$$d(P, F_2) - d(P, F_1) = C$$

$$\sqrt{(x-c)^2 + y^2} - \sqrt{(x+c)^2 + y^2} = 2a$$

⋮

$$b^2 = c^2 - a^2$$

⋮

$$\boxed{\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1} \rightarrow$$

$$y = \pm \sqrt{b^2 \left(\frac{x^2}{a^2} - 1 \right)}$$

$$= \pm \sqrt{\frac{b^2}{a^2} (x^2 - a^2)}$$

$$= \pm \frac{b}{a} \sqrt{x^2 - a^2}$$

$$\approx \pm \frac{b}{a} \sqrt{x^2} = \pm \frac{b}{a} x$$

6. Eccentricity - $e := \frac{c}{a}$

