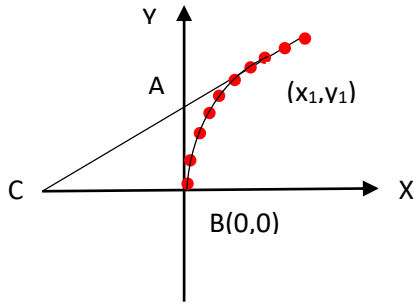


Target to Parabola



$$AB = ?$$

$$BC = ?$$

Given $y^2 = 2px \Rightarrow y \cdot y = px + px$

$$A = ?$$

$$A \begin{cases} y_1 y = px_1 + px \\ x = 0 \end{cases}$$

$$y_1 y = px_1 \Rightarrow y = \frac{px_1}{y_1}$$

$$y_1^2 = 2px_1$$

$$px_1 = \frac{y_1^2}{2}$$

$$y = \frac{\frac{y_1^2}{2}}{y_1} = \frac{y_1}{2} \quad A \left(0, \frac{y_1}{2} \right)$$

$$C \begin{cases} y = 0 \\ y \cdot y = px_1 + px \end{cases}$$

$$0 = px_1 + px$$

$$x = -x_1 \quad C(-x_1, 0)$$

Find the equation of parabola passing through G (2,3)

$$y^2 = 2px \quad 3^2 = 2p \cdot 2 \quad \Rightarrow p = \frac{9}{4}$$

$$y^2 = 2 \cdot \frac{9}{4} x \quad y^2 = \frac{9x}{2}$$