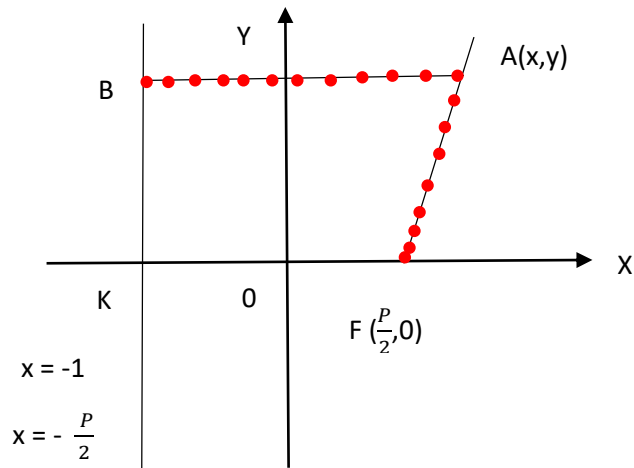


Parabola 3



Point A (x,y) on the parabola

$$OK = OF$$

$$-\frac{P}{2} = -1$$

$$\frac{P}{2} = 1$$

$$P = 2$$

The equation of parabola is

$$y^2 = 2px$$

$$P = 2$$

$$y^2 = 4x$$

Given  $AF = 5$

$$AB = AF = 5$$

Definition of Parabola

$$X - (-1) = 5$$

$$X + 1 = 5$$

$$X = 5 - 1 = 4 \Rightarrow A(x,y)$$

$$y^2 = 4x$$

$$x = 4$$

$$y^2 = 4 \cdot 4 = 16$$

$$y = -4$$

$$y = 4$$

$$A(4,4), 4 > 0$$

Prove that

$$AF = 5, \quad A(4,4)$$

$$(4 - 1)^2 + (4 + 0)^2 = (AF)^2$$

$$3^2 + 4^2 = AF^2$$

$$AF^2 = 25$$

$$AF = 5$$