

Extra credit-

1. The vertex of the parabola is in between focus and the directrix.

$$2. x^2 - y^2 = 1 \rightarrow (1)$$

$$y^2 - x^2 = -1 \rightarrow (2)$$

$$(1) + (2)$$

$$0 = 0$$

there is no solution.

$$3. \text{problem No: 9} \Rightarrow 25y^2 - 16x^2 = 400$$

this equation having 2 asymptote.

$$\text{at } y = \pm \left(\frac{4x}{5} \right)$$

4. Yes. They have to stop the fire.