

Warm-up 5: Parabolas

$$y^2 - 16y - 4x + 48 = 0$$

$$y^2 - 16y + 64 = 4x - 48 + 64$$

$$(y-8)^2 = 4x + 16$$

$$(y-8)^2 = 4(x+4)$$

$$\left(\frac{-16}{2}\right)^2 = 64$$

y^2 , pos $4p$



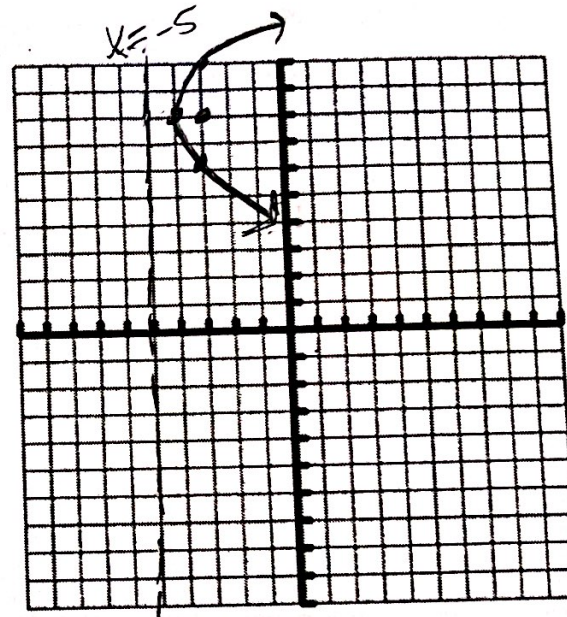
$$\text{vertex} = \underline{(-4, 8)}$$

$$\text{focus} = \underline{(-3, 8)}$$

$$\text{directrix} = \underline{x = -5}$$

$$\text{ends of LR} = \underline{(-3, 6) (-3, 10)}$$

$$\text{Length of LR} = |4p| = |4| = 4$$



$$4p = 4$$

$$p = 1$$