

Warm-up 5: Parabolas

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

$$y^2 - 16y + \underline{64} = 4x - 48 + \underline{64}$$

$$\left(\frac{-16}{2}\right)^2 = (-8)^2 = 64$$

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

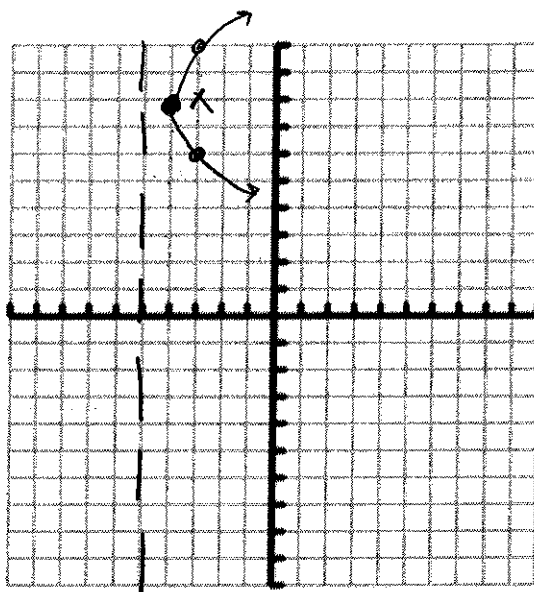
$$\boxed{(y - 8)^2 = 4(x + 4)} \quad \curvearrowright$$

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

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

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

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



$$4p = 4$$

$$p = 1$$