

1. $y^2 = -2x$

$$(y-0)^2 = -2(x)$$

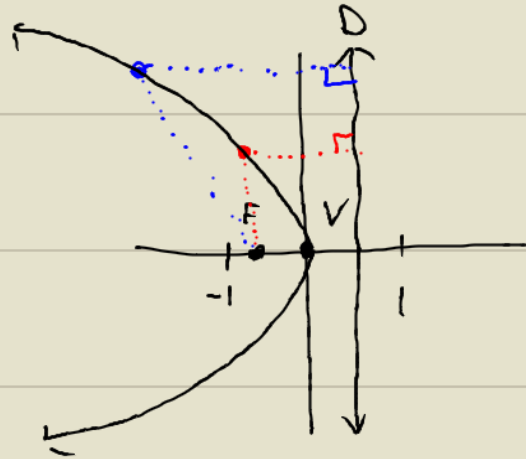
$$(y-0)^2 = 4\left(\frac{-2}{4}\right)(x-0)$$

\downarrow opp sign $k=0$ \downarrow $p=-\frac{1}{2}$ \downarrow opp sign $h=0$

VERTEX: (h,k)
 $= (0,0)$

Focus: $(h+p, k)$
 $(0-\frac{1}{2}, 0)$
 $(-\frac{1}{2}, 0)$

DIRECTRIX:
 $X=h-p$
 $X=0-(-\frac{1}{2})$
 $X=\frac{1}{2}$



(C)

2. $x^2 = -8y$

$$(x-0)^2 = -8(y)$$

$$(x-0)^2 = 4(-2)(y-0)$$

\downarrow $h=0$ \downarrow $p=-2$ \downarrow $k=0$

Focus: $(h, k+p)$
 $(0, 0+(-2))$
 $(0, -2)$

DIR: $y=k-p$
 $y=0-(-2)$
 $y=2$

3. $4y^2 + 2x = 0$

$$4y^2 = -2x$$

$$\frac{4y^2}{4} = \frac{-2x}{4}$$

$$y^2 = -\frac{1}{2}x$$

$$(y-0)^2 = -\frac{1}{2}(x-0)$$

$$(y-0)^2 = 4\left(\frac{-1/2}{4}\right)(x-0)$$

$$(y-0)^2 = 4\left(\frac{-1/2}{4 \cdot 2}\right)(x-0)$$

$$(y-0)^2 = 4\left(\frac{-1/8}{4}\right)(x-0)$$

\downarrow $k=0$ \downarrow $p=-\frac{1}{8}$ \downarrow $h=0$

Focus: $(h+p, k)$

$$(0-\frac{1}{8}, 0)$$

$$(-\frac{1}{8}, 0)$$

DIR: $X=h-p$

$$X=0-(-\frac{1}{8})$$

$$X=\frac{1}{8}$$