

1) $y = \frac{1}{16}x^2$

opens: upvertex (0,0)

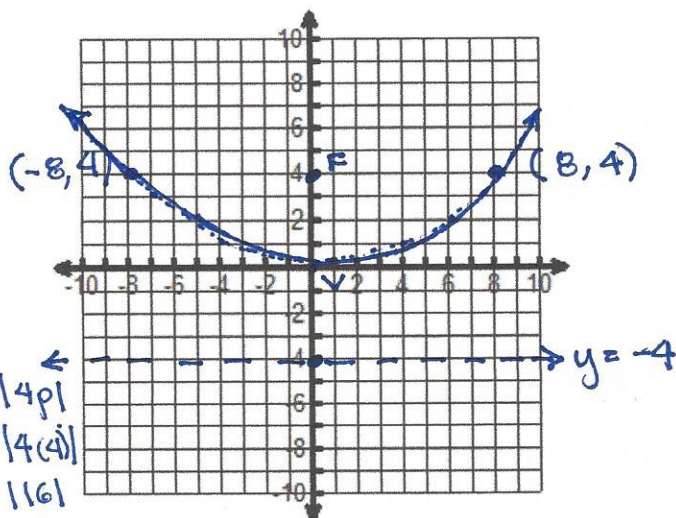
$p = \underline{4}$

focus (h, k+p) = (0, 4)directrix $y = k - p = -4$ axis of symmetry $x = h$ or $x = 0$ endpoints of latus rectum (-8, 4), (8, 4)To solve for p :

$\frac{1}{16} = \frac{1}{4p}$

or $\frac{16}{4} = \frac{4p}{4}$
 $4 = p \checkmark$

Length of LR = $|4p|$
 $= |4(4)|$
 $= |16|$
 $= 16$



2) $x = -\frac{1}{8}y^2$

opens: leftvertex (0,0)

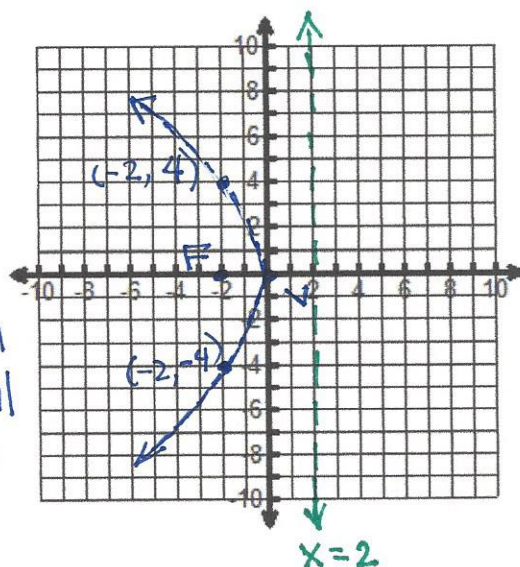
$p = \underline{-2}$

focus (h+p, k) = (-2, 0)directrix $x = h - p$ or $x = 2$ axis of symmetry $y = 0$ endpoints of latus rectum (-2, -4), (-2, 4)To solve for p :

$-\frac{1}{8} = \frac{1}{4p}$

or $-8 = 4p$
 $-2 = p$

Length of LR = $|4p|$
 $= |4(-2)|$
 $= |-8|$
 $= 8$



3) $x = \frac{1}{12}(y+1)^2 - 2$

opens: rightvertex (h, k) = (-2, -1)

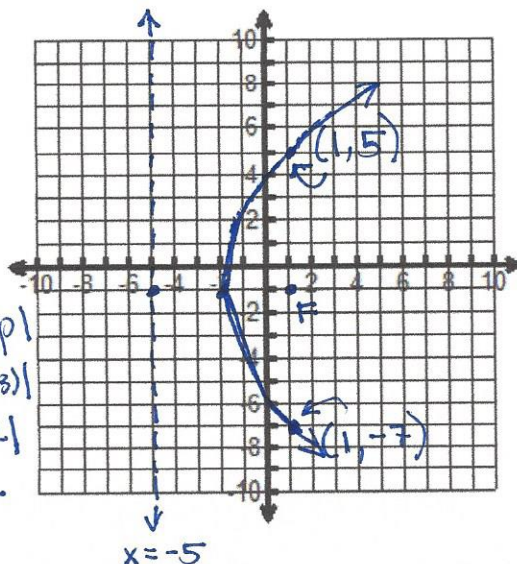
$p = \underline{3}$

focus (h+p, k) or (1, -1)directrix $x = h - p$ or $x = -5$ axis of symmetry $y = k$ or $y = -1$ endpoints of latus rectum (1, -7), (1, 5)To solve for p :

$\frac{1}{12} = \frac{1}{4p}$

or $\frac{12}{4} = \frac{4p}{4}$
 $3 = p$

Length of LR = $|4p|$
 $= |4(3)|$
 $= |12|$
 $= 12$



$$4) y = -\frac{1}{10}(x-3)^2 + 4$$

opens: down

$$p = -2.5$$

vertex (h, k) or $(3, 4)$

focus $(h, k+p)$ or $(3, 1.5)$

directrix $y = k - p$ or $y = 6.5$

axis of symmetry $x = h$ or $x = 3$

endpoints of latus rectum $(-2, 1.5)$, $(8, 1.5)$

To solve for p :

$$-\frac{1}{10} = \frac{1}{4p}$$

$$\text{or } \frac{-10}{4} = \frac{4p}{4}$$

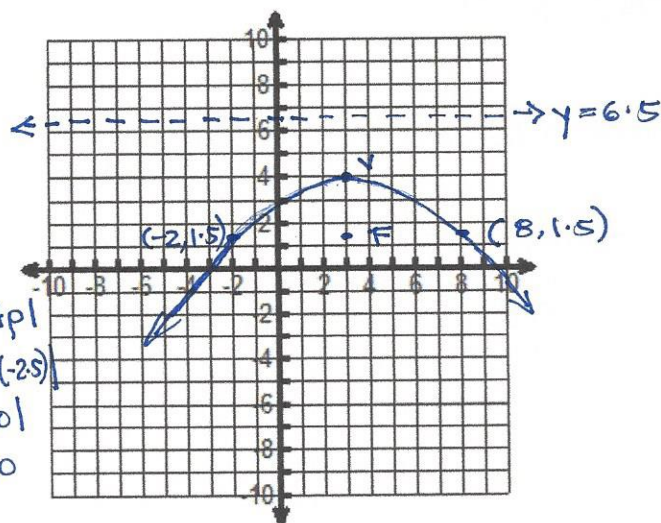
$$-2.5 = p$$

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

$$= |4(-2.5)|$$

$$= |-10|$$

$$= 10$$



$$5) x = -\frac{1}{12}(y+2)^2 + 6$$

opens: left

$$p = -3$$

vertex (h, k) or $(6, -2)$

focus $(h+p, k)$ or $(3, -2)$

directrix $x = h - p$ or $x = 9$

axis of symmetry $y = k$ or $y = -2$

endpoints of latus rectum $(3, -8)$, $(3, 4)$

To solve for p :

$$-\frac{1}{12} = \frac{1}{4p}$$

$$\text{or } \frac{-12}{4} = \frac{4p}{4}$$

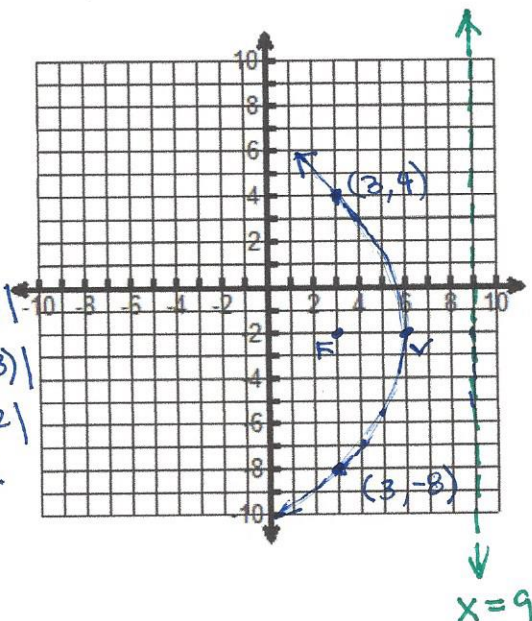
$$-3 = p$$

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

$$= |4(-3)|$$

$$= |-12|$$

$$= 12$$



$$6) y = \frac{1}{10}(x+4)^2 - 7$$

opens: up

$$p = 2.5$$

vertex (h, k) or $(-4, -7)$

focus $(h, k+p)$ or $(-4, -4.5)$

directrix $y = k - p$ or $y = -9.5$

axis of symmetry $x = -4$

endpoints of latus rectum $(-9, -4.5)$, $(1, -4.5)$

To solve for p :

$$\frac{1}{10} = \frac{1}{4p}$$

$$\text{or } \frac{10}{4} = \frac{4p}{4}$$

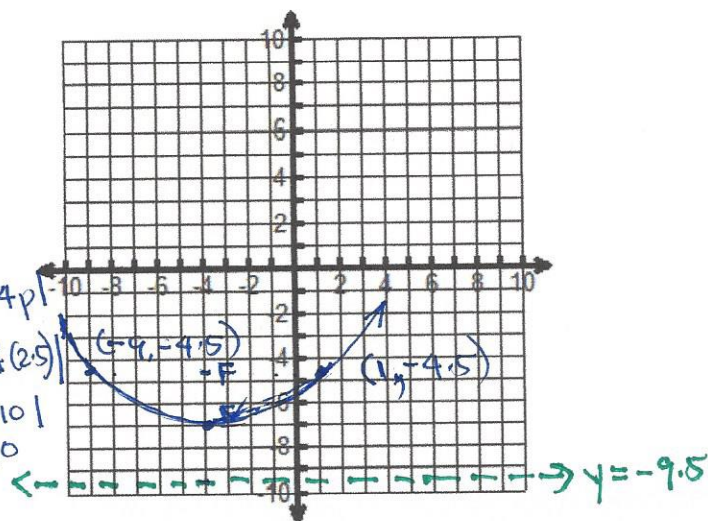
$$2.5 = p$$

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

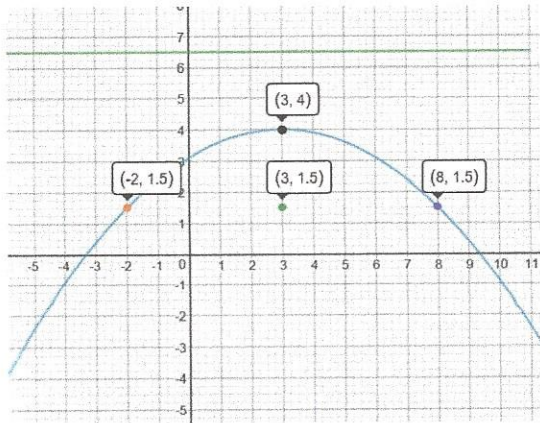
$$= |4(2.5)|$$

$$= |10|$$

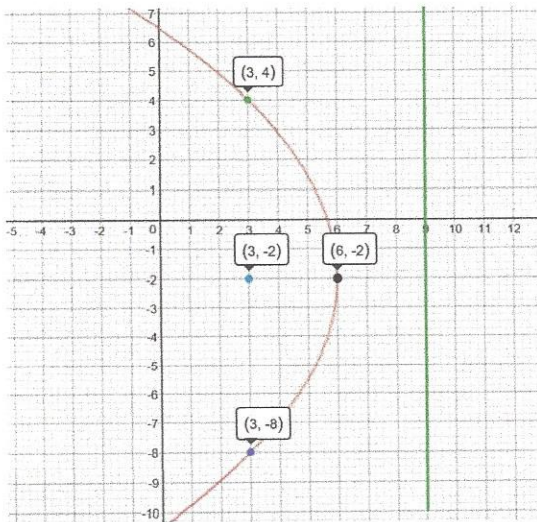
$$= 10$$



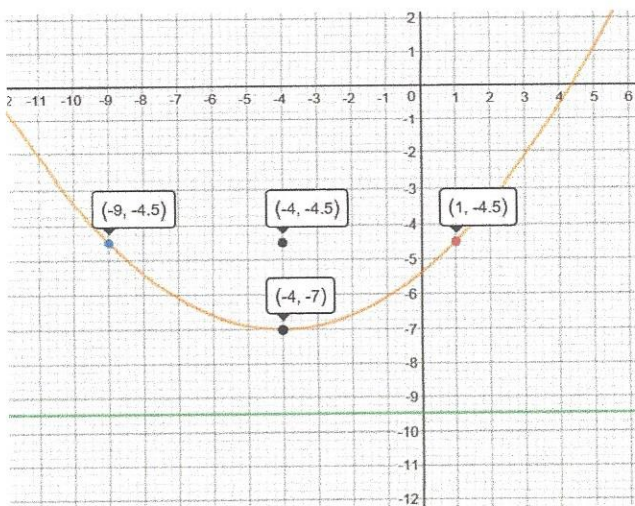
$$y = -\frac{1}{10}(x - 3)^2 + 4$$



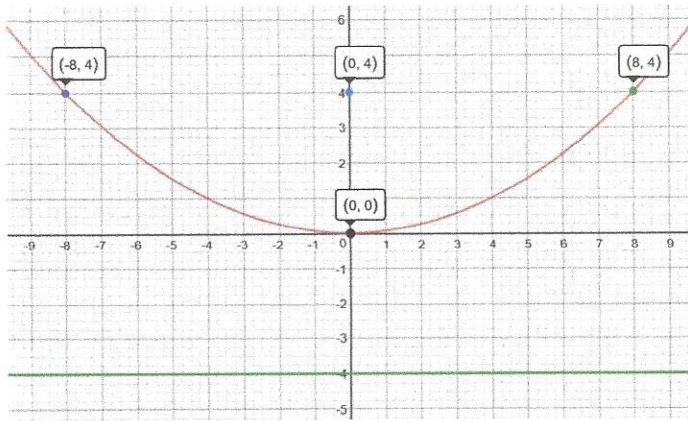
$$x = -\frac{1}{12}(y + 2)^2 + 6$$



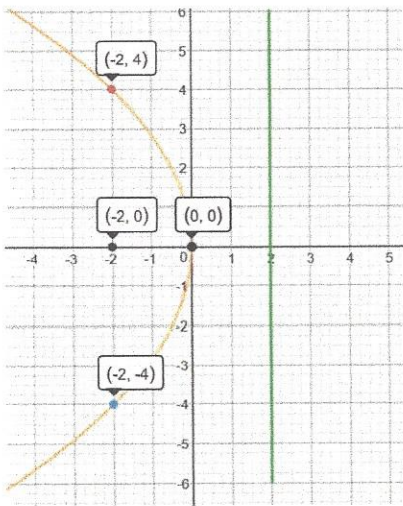
$$y = \frac{1}{10}(x + 4)^2 - 7$$



$$y = \frac{1}{16}x^2$$



$$x = -\frac{1}{8}y^2$$



$$x = \frac{1}{12}(y + 1)^2 - 2$$

