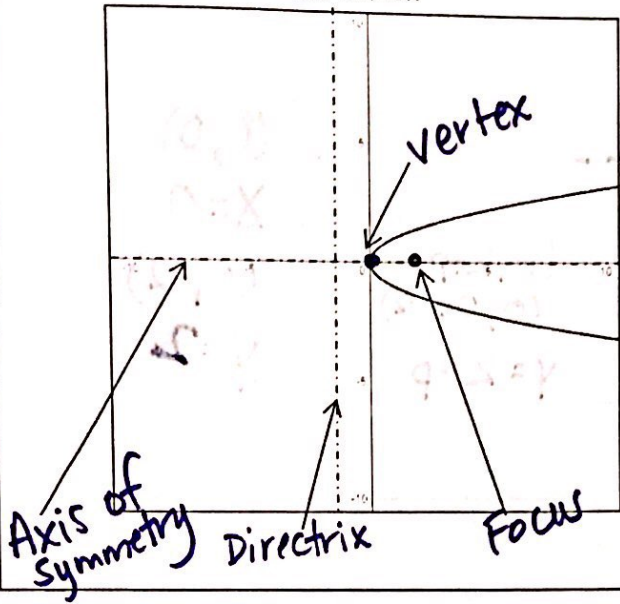
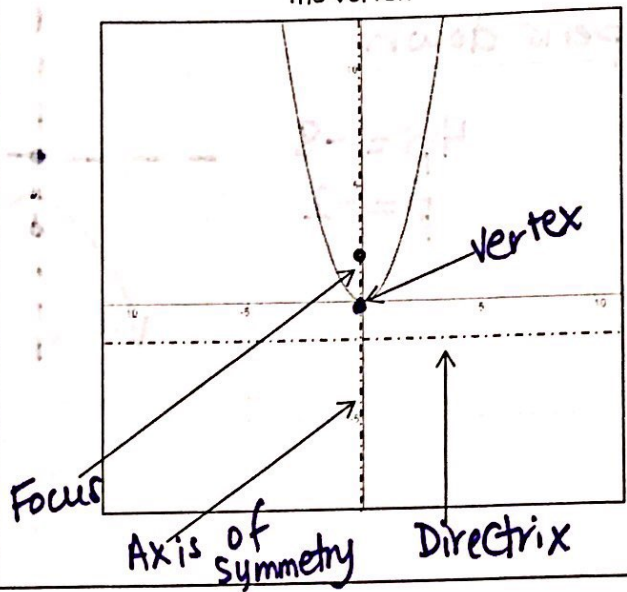


Parabola: Label the Diagram

Label the directrix, the axis of symmetry, the focus, and the vertex



Label the directrix, the axis of symmetry, the focus, and the vertex



Parabola: Equations that you need to know.

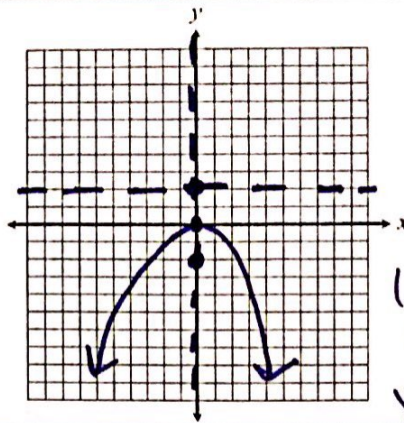
Parabola (opening left or opening right)		Parabola (opening up or opening down)	
Standard Form of the Equation	$(y-k)^2 = 4p(x-h)$	Standard Form of the Equation	$(x-h)^2 = 4p(y-k)$
Vertex	(h, k)	Vertex	(h, k)
Focus	$(h+p, k)$	Focus	$(h, k+p)$
Axis of Symmetry	$y = k$	Axis of Symmetry	$x = h$
Directrix	$x = h-p$	Directrix	$y = k-p$
Draw a sketch.		Draw a sketch.	

Directions: Graph each parabola. Identify the vertex, axis of symmetry, focus, and directrix.

1. $x^2 = -8y$

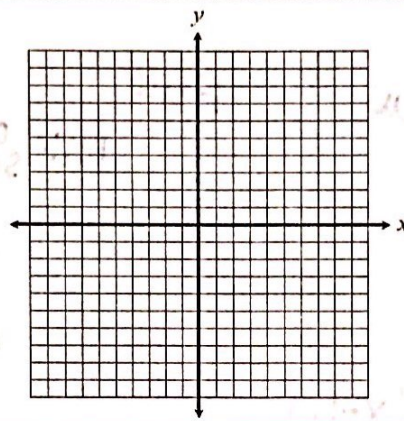
opens down

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



Vertex: (0, 0)
Axis of Sym: X = 0
Focus: (0, -2)
Directrix: Y = 2

2. $y^2 = 6x$

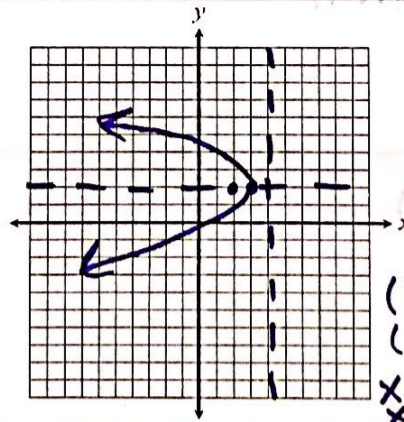


Vertex: _____
Axis of Sym: _____
Focus: _____
Directrix: _____

3. $(y - 2)^2 = -4(x - 3)$

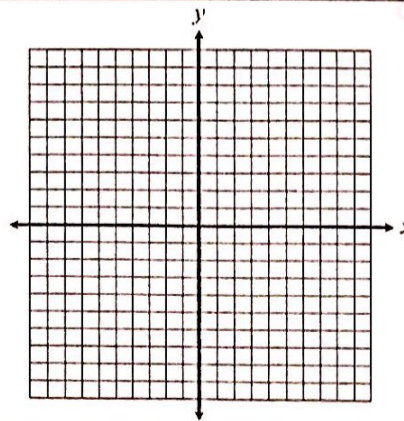
opens left

$4p = -4$
 $p = -1$



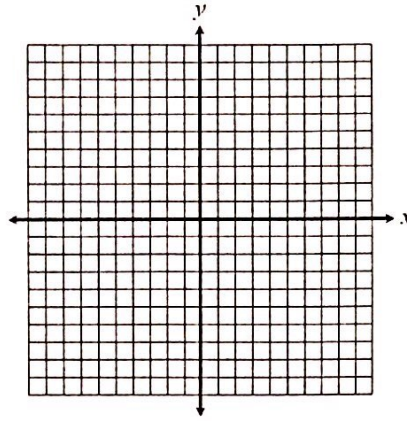
Vertex: (3, 2)
Axis of Sym: y = 2
Focus: (2, 2)
Directrix: X = 4

4. $(x + 1)^2 = 14(y + 2)$



Vertex: _____
Axis of Sym.: _____
Focus: _____
Directrix: _____

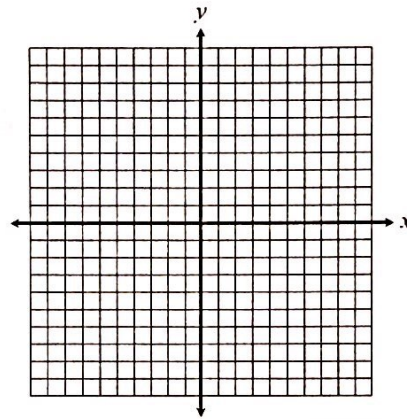
5. $\frac{1}{4}x^2 = y$



Vertex: _____
 Axis of Sym: _____
 Focus: _____
 Directrix: _____

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

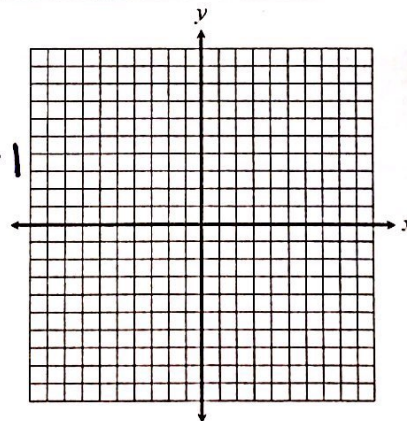
~~$-\frac{1}{10}(y+2)^2 = (x+3) - 10$~~
 $(y+2)^2 = -10(x+3)$



Vertex: _____
 Axis of Sym: _____
 Focus: _____
 Directrix: _____

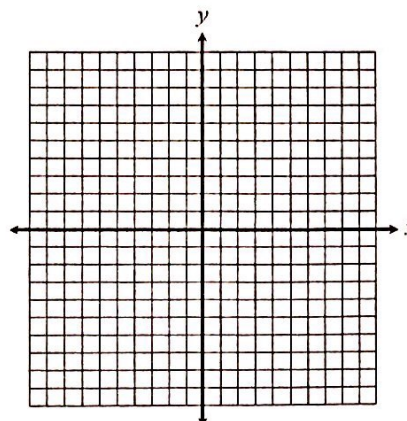
7. $y^2 - 16x - 2y = -33$

$(-\frac{2}{2})^2$
 $(-1)^2$
 1
 $y^2 - 2y - 16x = -33$
 $(y^2 - 2y + 1) - 16x = -33 + 1$
 $(y-1)^2 - 16x = -32$
 $(y-1)^2 = 16x - 32$
 $(y-1)^2 = 16(x-2)$



Vertex: _____
 Axis of Sym: _____
 Focus: _____
 Directrix: _____

8. $x^2 + 10x + 4y + 1 = 0$



Vertex: _____
 Axis of Sym: _____
 Focus: _____
 Directrix: _____