

# Notes

Tuesday, May 3, 2016 7:21 AM

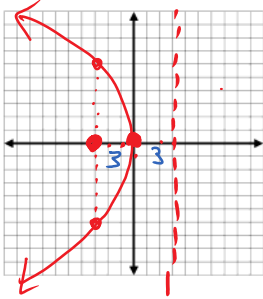
Precalculus  
Conics - Parabola - Day 2 Notes

Name:  
Period:

**Directions:** Write an equation in standard form for each Parabola.

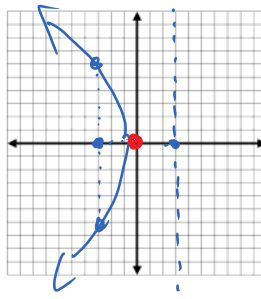
1. Vertex  $(0,0)$ ; focus  $(-3,0)$

$$y^2 = -12x \quad 3 = p$$



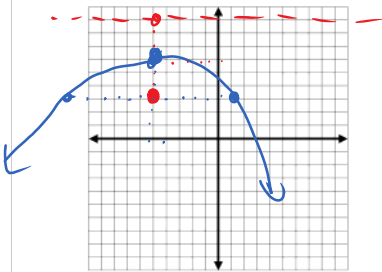
2. Vertex  $(0,0)$ ; opens left, focal width  $= 12$

$$y^2 = -12x \quad 4p$$



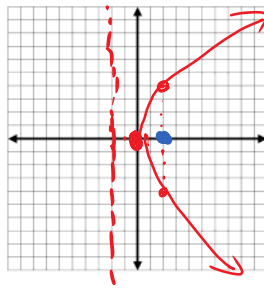
3. Focus  $(-5,3)$ ; vertex  $(-5,6)$

$$(x+5)^2 = -12(y-6)$$



4. Vertex  $(0,0)$ ; directrix  $x = -2$

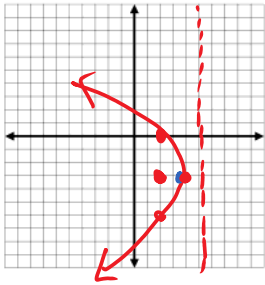
$$y^2 = 8x \quad p = 2$$



5. Focus (2, -3) and directrix x = 5

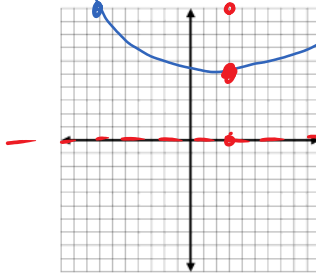
vertex (3.5, -3)

$$(y+3)^2 = -6(x-3.5) \quad p=1.5$$



6. Vertex (3, 5), opens upward, and focal width of 20

$$(x-3)^2 = 20(y-5)$$



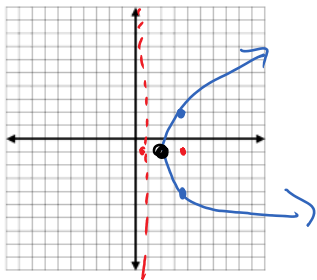
p=5

(#7-8) Convert the following equations into standard form by completing the square. Then, state the vertex, directrix and focus point.

7.  $y^2 - 6x + 2y + 13 = 0$

$$y^2 + 2y + 1 = 6x - 13 + 1$$

$$(y+1)^2 = 6(x-2) \quad 6x-12$$



p=1.5

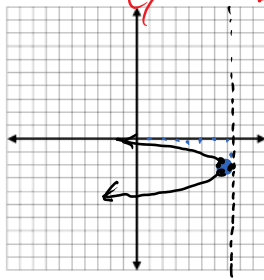
8.  $x = -4y^2 - 16y - 9$

$$-16 + x + 9 = -4y^2 - 16y + \dots$$

$$4y^2 + 16y + \dots = -x - 9$$

$$4(y^2 + 4y + 4) = -x - 9 + 16$$

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



$$-4(y^2 + 4y + 4)$$

$$x-7 = -4(y+2)^2$$

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

p=1/4

