

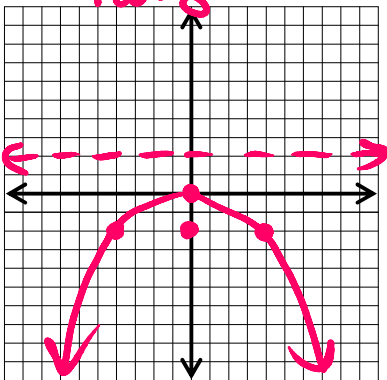
Pre-Calc  
HW Day 1 on Parabolas

Name DiMarzo

Directions: Find the vertex, focus, directrix, and focal width for each of the following. Use that information to create a graph of each parabola.

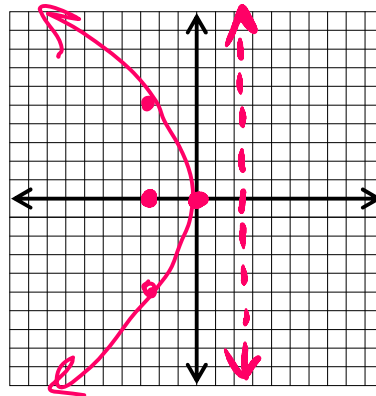
1)  $x^2 = -8y$

vertex (0,0)  
opens down  
 $4p = 8$   
 $p = 2$   
focus (0,-2)  
dir  $y = 2$   
fw = 8



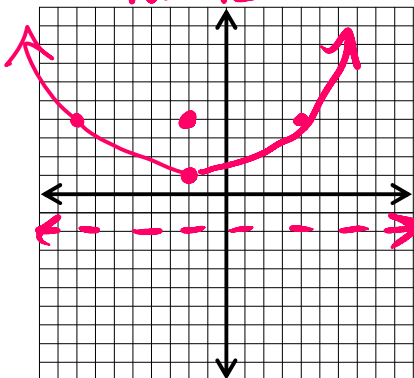
2)  $y^2 = -10x$

vertex (0,0)  
opens left  
 $4p = 10$   
 $p = \frac{5}{2} = 2.5$   
focus (-2.5,0)  
dir  $x = 2.5$   
fw = 10



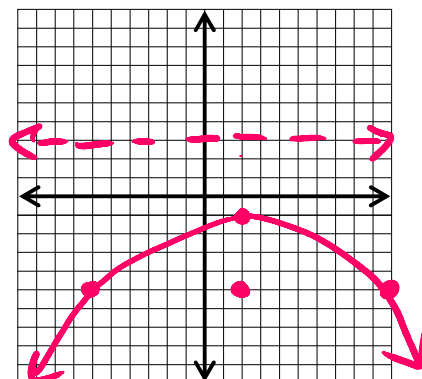
3)  $(x+2)^2 = 12(y-1)$

vertex (-2,1)  
opens up  
 $4p = 12$   
 $p = 3$   
focus (-2,4)  
dir  $y = -2$   
fw = 12



4)  $(x-2)^2 = -16(y+1)$

vertex (2,-1)  
opens down  
 $4p = 16$   
 $p = 4$   
focus (2,-5)  
dir  $y = 3$   
fw = 16



$$5) (y+4)^2 = -2x$$

vertex  $(0, -4)$

opens left

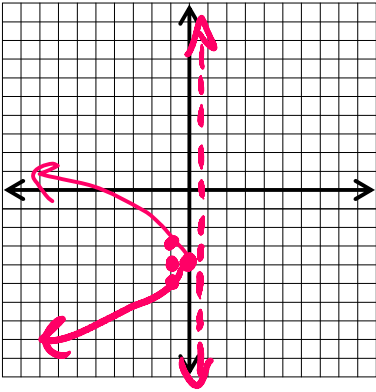
$$4p = 2$$

$$p = \frac{1}{2}$$

focus  $(-\frac{1}{2}, -4)$

dir  $x = \frac{1}{2}$

$$fw = 2$$



$$6) (y-5)^2 = 3(x+2)$$

vertex  $(-2, 5)$

opens right

$$4p = 3$$

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

focus

dir

$$fw = 3$$

