Graph each parabola and compute the coordinates of the vertex and focus and the equations for the axis of symmetry and directrix.

1. $x+2= \frac{1}{3}(y-5)^{2}$ 2. $y+1=\frac{1}{5}(x-3)^{2}$ 3. $y-4=\frac{1}{8}(x-2)^{2}$

 

Identify the coordinates of the focus & vertex and identify equations for the line of symmetry and directrix for each parabola. Then sketch a graph of each parabola.

4. $\left(y+2\right)= \frac{1}{16}(x-3)^{2}$ 5. $x=\frac{1}{8}(y+5)^{2}$

 

Write an algebraic equation for each parabola defined by the given information. Then sketch a graph of each parabola.

6. Vertex at (0,1); Focus at (0, -1).



7. Focus at (5,2); Directrix at x = 0



Determine the equation of the parabola defined by the given focus or directrix with the vertex at the origin.

8. Focus at (12, 0) 9. Directrix at x = 5 10. Focus at (0, 1.5)