10.2 HW: Parabolas Homework

Determine whether each parabola opens upward, downward, to the left, or to the right.

1.
$$-4y = x^2$$
 2. $16x = y^2$

3. $y^2 = -2x$ 4. $\frac{1}{16}x^2 = y$

Identify the focus and directrix. Then graph the parabola.

5.
$$-32y = x^2$$
 6. $12x = y^2$

$$7. -8y - x^2 = 0 8. y^2 = -4x$$

Write an equation of a parabola with vertex at the origin and the following focus or directrix.

9. focus at (-2, 0)
10. focus at (0, 4)
11. directrix at x = 3
12. directrix at y = -7

Write the equation whose graph is the set of all points in the plane equidistant from the given point and the given line.

13. F(0, 8) and y = -8 14. F(-5, 0) and x = 5

Identify the vertex, focus, and directrix of each equation. Then sketch the graph.

15.
$$-4(y+1) = (x-3)^2$$

16. $8(x-4) = (y-5)^2$