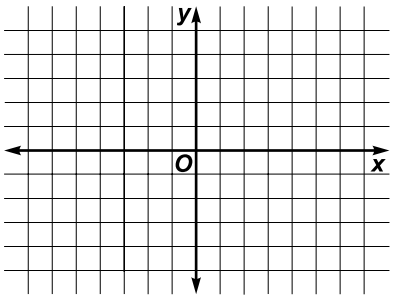
NAME _____ DATE _____ PERIOD _____

Practice

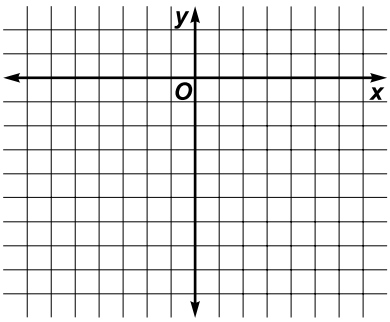
Parabolas

For the equation of each parabola, find the coordinates of the vertex and focus, and the equations of the directrix and axis of symmetry. Then graph the equation.

1. $x^2 - 2x - 8y + 17 = 0$

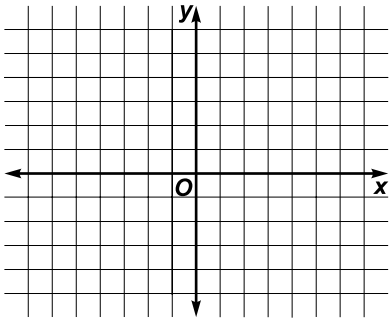


2. $y^2 + 6y + 9 = 12 - 12x$

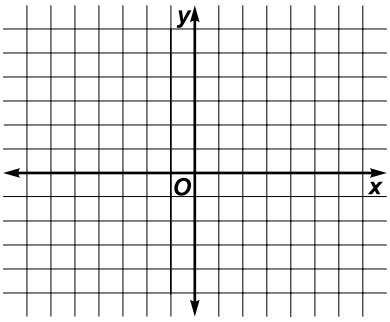


Write the equation of the parabola that meets each set of conditions. Then graph the equation.

3. The vertex is at $(-2, 4)$ and the focus is at $(-2, 3)$.



4. The focus is at $(2, 1)$, and the equation of the directrix is $x = -2$.



5. ***Satellite Dish*** Suppose the receiver in a parabolic dish antenna is 2 feet from the vertex and is located at the focus. Assume that the vertex is at the origin and that the dish is pointed upward. Find an equation that models a cross section of the dish.