Name_____

Graphing and Properties of Parabolas

Date_____ Period____

Identify the vertex, axis of symmetry, and direction of opening of each.

1) $y = 2(x + 10)^2 + 1$

2) $y = -\frac{1}{3}(x - 7)^2 + 1$

3) $y = -\frac{1}{3}x^2 + \frac{16}{3}x - \frac{46}{3}$

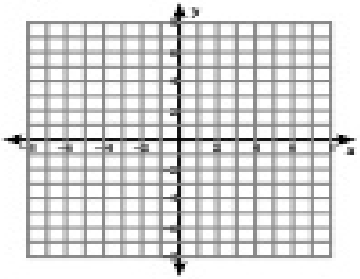
4) $y = 2x^2 + 36x + 166$

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

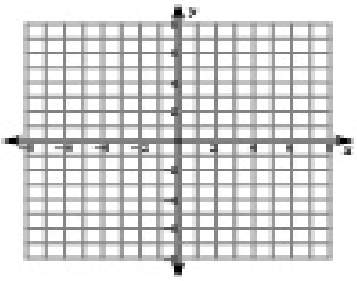
6) $y = 2x^2 + 8x + 16$

Graph each equation.

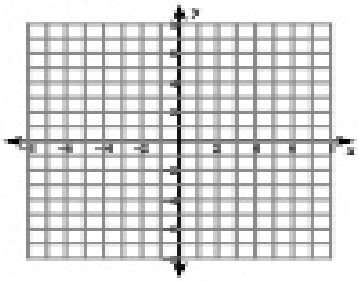
7) $y = 2x^2$



8) $x = \frac{1}{4}y^2$



9) $y = -(x - 3)^2 - 1$



10) $x = -(y + 3)^2 + 4$