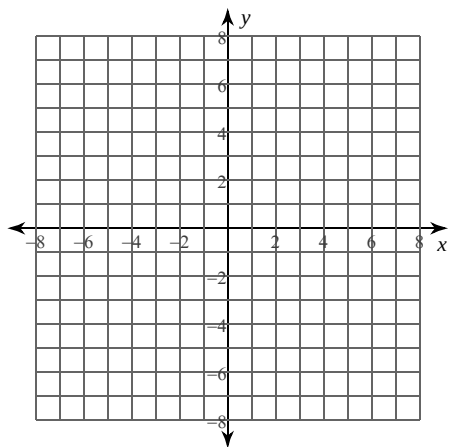


## Class Time Examples

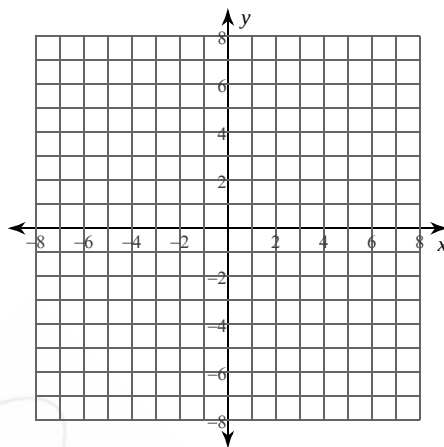
Date \_\_\_\_\_

**Identify the vertex, focus, axis of symmetry, and directrix of each. Then sketch the graph.**

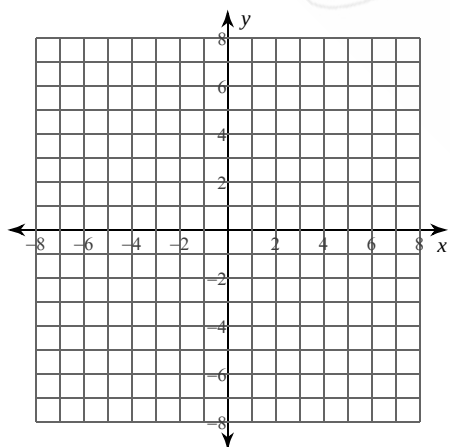
1)  $y = -x^2$



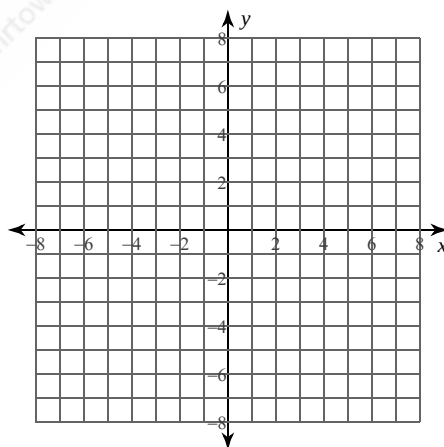
2)  $y = x^2$



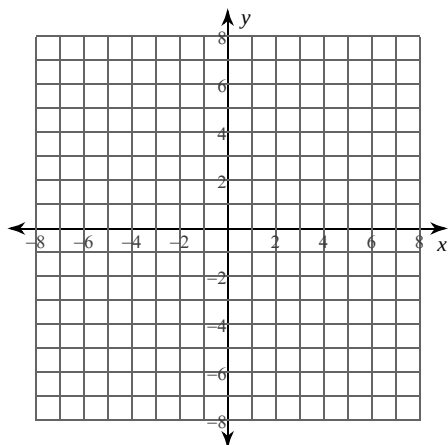
3)  $y = 2x^2$



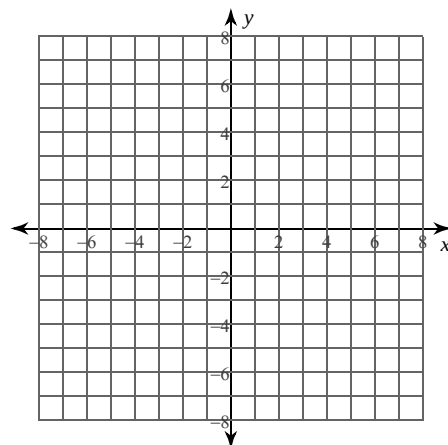
4)  $x = -y^2$



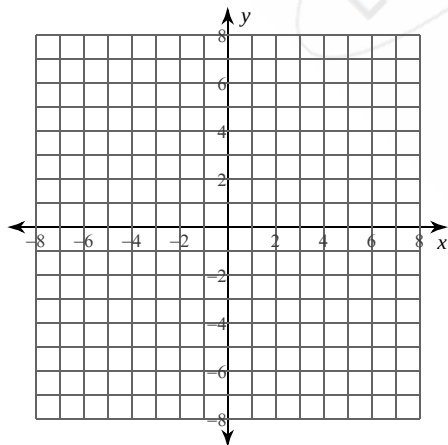
5)  $y = x^2 - 6x + 6$



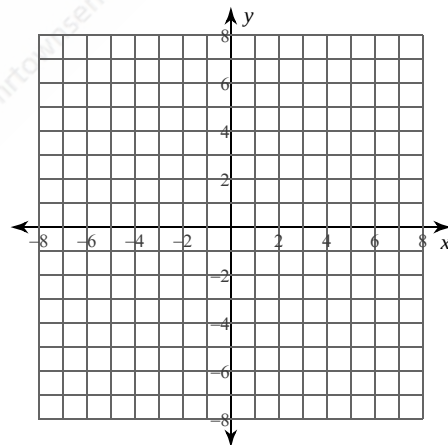
6)  $y = x^2 - 4x + 1$



7)  $y = -\frac{1}{3}x^2 + \frac{10}{3}x - \frac{10}{3}$

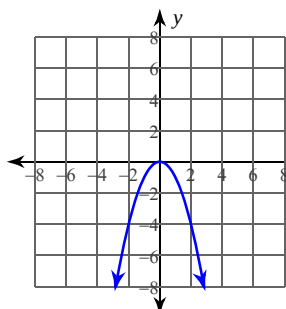


8)  $y = \frac{1}{3}x^2 + 2x - 3$



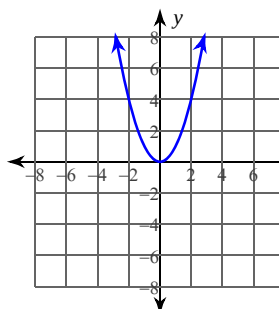
# Answers to Class Time Examples

1)



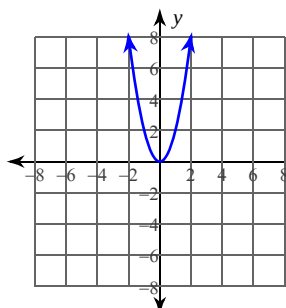
Vertex:  $(0, 0)$   
 Focus:  $(0, -\frac{1}{4})$   
 Axis of Sym.:  $x = 0$   
 Directrix:  $y = \frac{1}{4}$

2)



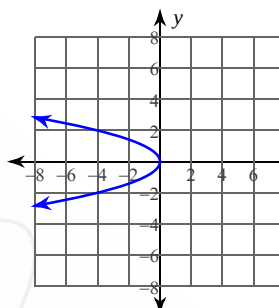
Vertex:  $(0, 0)$   
 Focus:  $(0, \frac{1}{4})$   
 Axis of Sym.:  $x = 0$   
 Directrix:  $y = -\frac{1}{4}$

3)



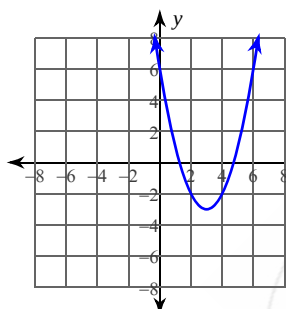
Vertex:  $(0, 0)$   
 Focus:  $(0, \frac{1}{8})$   
 Axis of Sym.:  $x = 0$   
 Directrix:  $y = -\frac{1}{8}$

4)



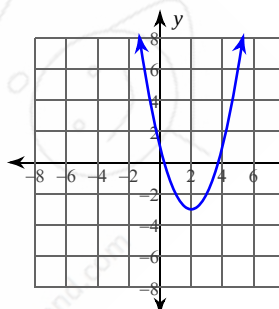
Vertex:  $(0, 0)$   
 Focus:  $(-\frac{1}{4}, 0)$   
 Axis of Sym.:  $y = 0$   
 Directrix:  $x = \frac{1}{4}$

5)



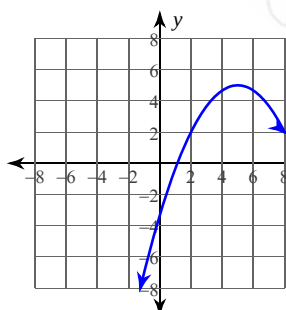
Vertex:  $(3, -3)$   
 Focus:  $(3, -\frac{11}{4})$   
 Axis of Sym.:  $x = 3$   
 Directrix:  $y = -\frac{13}{4}$

6)



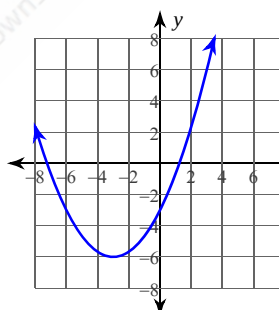
Vertex:  $(2, -3)$   
 Focus:  $(2, -\frac{11}{4})$   
 Axis of Sym.:  $x = 2$   
 Directrix:  $y = -\frac{13}{4}$

7)



Vertex:  $(5, 5)$   
 Focus:  $(5, \frac{17}{4})$   
 Axis of Sym.:  $x = 5$   
 Directrix:  $y = \frac{23}{4}$

8)



Vertex:  $(-3, -6)$   
 Focus:  $(-3, -\frac{21}{4})$   
 Axis of Sym.:  $x = -3$   
 Directrix:  $y = -\frac{27}{4}$