Kuta Software - Infinite Algebra 2

Name Key

Date _____ Period ____

Graphing and Properties of Parabolas

Identify the vertex, focus, directrix

1) $y = 2(x+10)^2 + 1$ $\frac{1}{4c} = 2$

vertex $(-10, 1)$

focus $(-10, 1\frac{1}{8})$

directrix $y = 7/8$

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

vertex $(7, 1)$

focus $(7, \frac{1}{4})$

directrix $y = 1\frac{3}{4}$

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

vertex $(-2, -9)$ directrix $y = -9\frac{1}{4}$

focus $(-2, -8\frac{3}{4})$

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

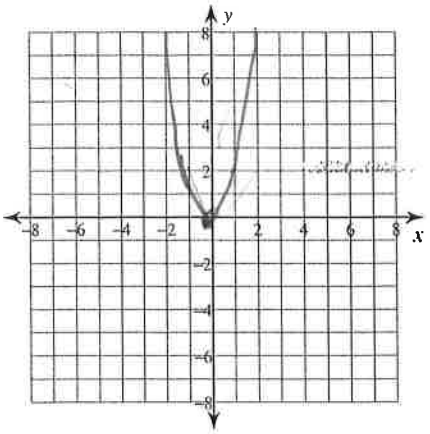
vertex $(-2, 8)$

Focus $(-3, 8\frac{1}{8})$

directrix $y =$

Graph each equation.

7) $y = 2x^2$

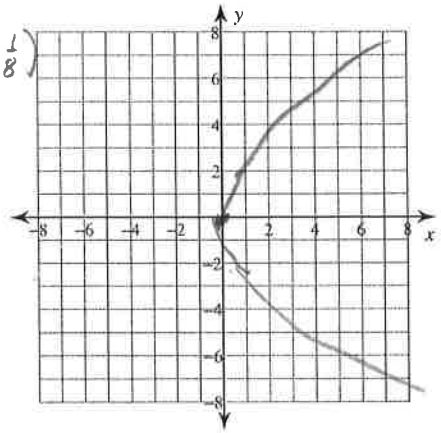


$y = 7/8$

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

(0,0)

$(0, \frac{1}{8})$

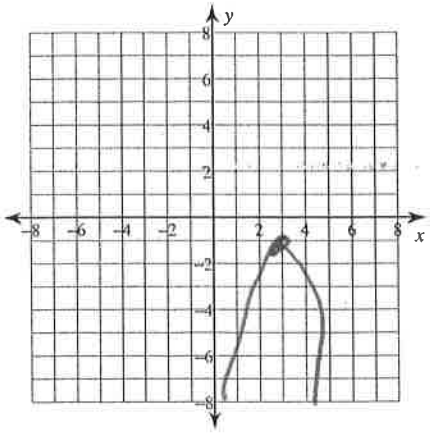


Vertex $(0, 0)$

Focus $(1, 0)$

directrix $x = -1$

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

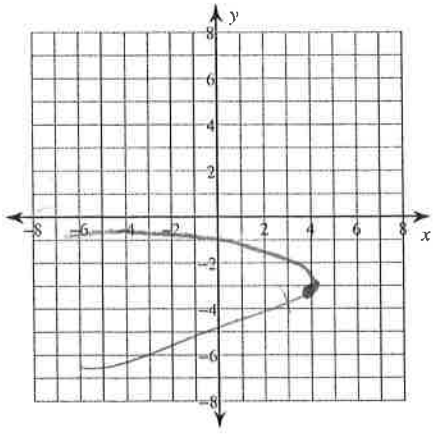


Vertex $(3, -1)$

Focus $(3, -1\frac{1}{4})$

directrix $y = -3/4$

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



Vertex $(+4, -3)$

Focus $(3\frac{3}{4}, -3)$

directrix $x = 4\frac{1}{4}$