

1) Be able to identify the words; focus, vertex, directrix and parabola in a drawing.

Given the following equations, find “p”, the vertex, focus and directrix. It may be helpful to sketch it!

2) $x = -\frac{1}{24}y^2$

p = _____

V = _____

F = _____

d: _____

3) $y = 3x^2$

p = _____

V = _____

F = _____

d: _____

4) $y = -\frac{2}{3}x^2$

p = _____

V = _____

F = _____

d: _____

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

p = _____

V = _____

F = _____

d: _____

6) $y + 3 = 2(x - 1)^2$

p = _____

V = _____

F = _____

d: _____

7) $x = -(y - 7)^2$

p = _____

V = _____

F = _____

d: _____

Write an equation for each parabola based on the information given. Again, it may be helpful to sketch the graph!

8) Vertex (0, 0)
Focus (-.75, 0)

9) Vertex (0, 0)
directrix: $y = -4$

10) Focus (1, 0)
directrix: $x = -1$

11) Vertex (0, 5)
directrix: $y = 4.75$

12) Focus (1, 0)
directrix: $x = -3$

13) Focus (-4, 2)
Vertex (-4, 2.5)

Find the vertex, focus and directrix for the following equations.

14) $y = 2x^2 - 8x + 10$

15) $x = -\frac{1}{4}y^2 - 3y + 2$