

Homework 4.1 Graph Parabolas

Sketch the following parabolas. In addition, provide the vertex, "p", focus, and directrix in the graph.

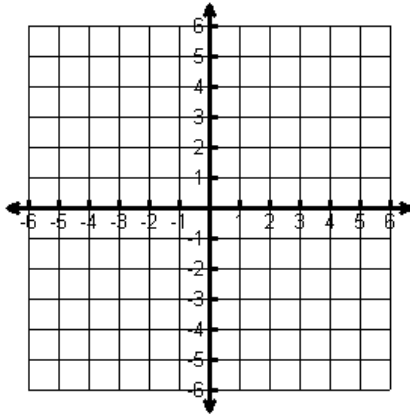
1. $y = -\frac{1}{8}x^2$

Vertex: _____

p: _____

focus: _____

directrix: _____



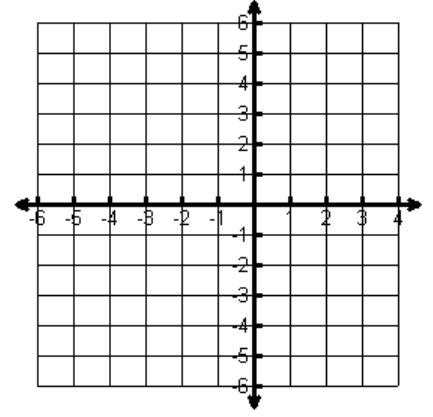
2. $x = -\frac{1}{4}y^2$

Vertex: _____

p: _____

focus: _____

directrix: _____



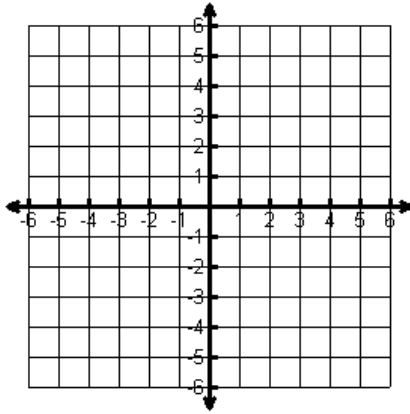
3. $y = \frac{1}{6}x^2$

Vertex: _____

p: _____

focus: _____

directrix: _____



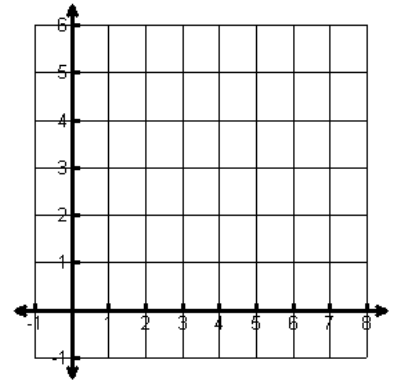
4. $y = \frac{1}{2}(x - 4)^2 + 2$

Vertex: _____

p: _____

focus: _____

directrix: _____



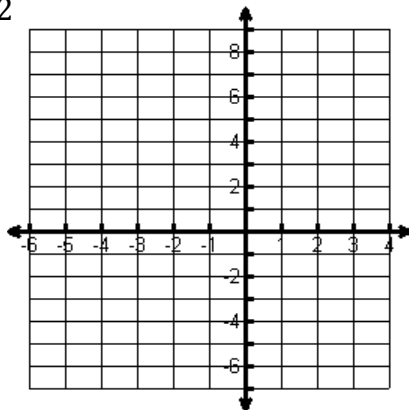
5. $x = \frac{1}{12}(y - 1)^2 - 2$

Vertex: _____

p: _____

focus: _____

directrix: _____



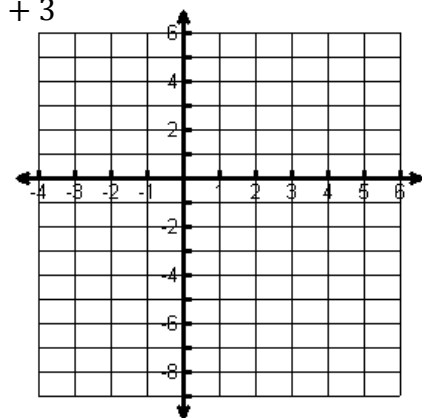
6. $y = -\frac{1}{10}(y + 2)^2 + 3$

Vertex: _____

p: _____

focus: _____

directrix: _____



Homework 4.1 Graph Parabolas

Solutions

Sketch the following parabolas. In addition, provide the vertex, "p", focus, and directrix in the graph.

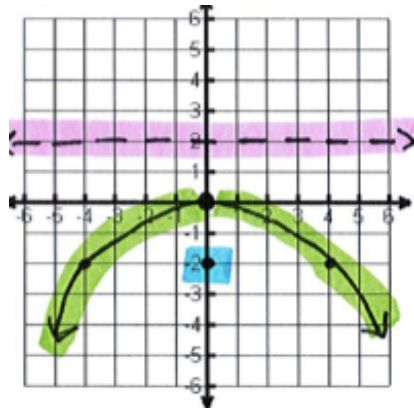
1. $y = -\frac{1}{8}x^2$

Vertex: $(0, 0)$

p: $\underline{2}$

focus: $(0, -2)$

directrix: $y = 2$



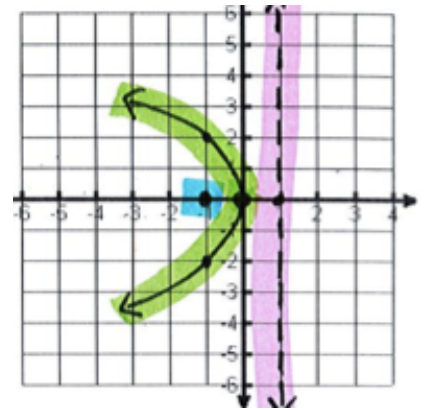
2. $x = -\frac{1}{4}y^2$

Vertex: $(0, 0)$

p: $\underline{1}$

focus: $(-1, 0)$

directrix: $x = 1$



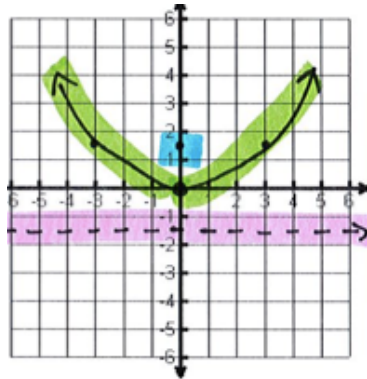
3. $y = \frac{1}{6}x^2$

Vertex: $(0, 0)$

p: $\underline{1.5}$

focus: $(0, 1.5)$

directrix: $y = -1.5$



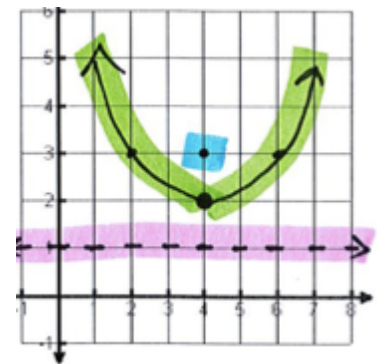
4. $y = \frac{1}{2}(x - 4)^2 + 2$

Vertex: $(4, 2)$

p: $\underline{1}$

focus: $(4, 3)$

directrix: $y = 1$



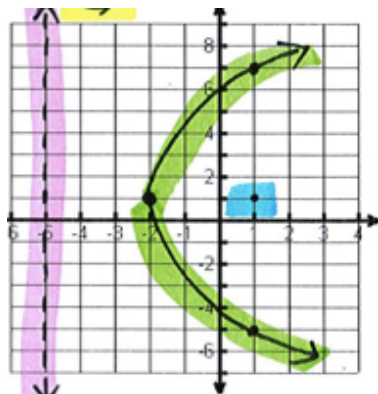
5. $x = \frac{1}{12}(y - 1)^2 - 2$

Vertex: $(-2, 1)$

p: $\underline{3}$

focus: $(1, 1)$

directrix: $x = -5$



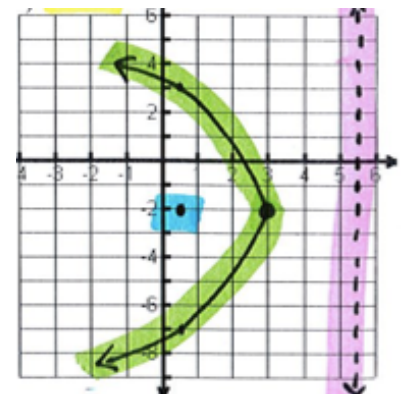
6. $y = -\frac{1}{10}(y + 2)^2 + 3$

Vertex: $(3, -2)$

p: $\underline{2.5}$

focus: $(.5, -2)$

directrix: $x = 5.5$



Homework 4.1 Graph Parabolas (Page 2)

Match the equation of the parabola with its graph.

_____ 7. $x = \frac{1}{4}(y + 4)^2 + 1$

_____ 8. $x = \frac{1}{4}(y - 3)^2 - 1$

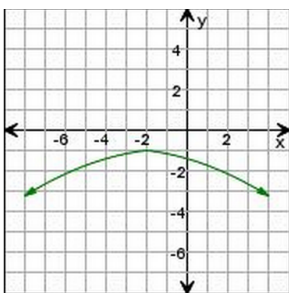
_____ 9. $x = -\frac{1}{16}(y - 1)^2 - 3$

_____ 10. $y = -\frac{1}{16}(x + 2)^2 - 1$

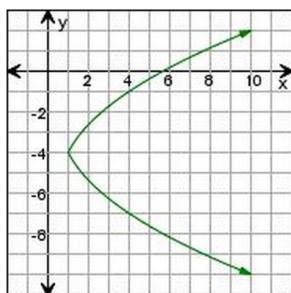
_____ 11. $x = -\frac{1}{12}(y - 1)^2 + 2$

_____ 12. $y = -\frac{1}{12}(x - 2)^2 - 1$

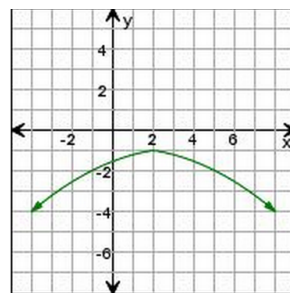
A.



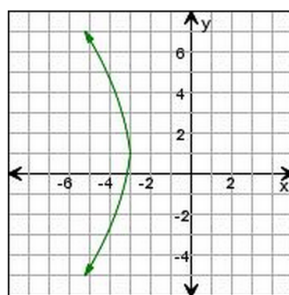
B.



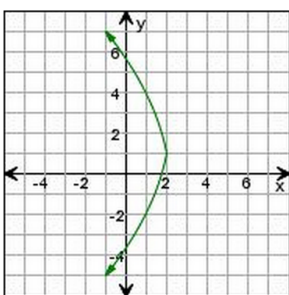
C.



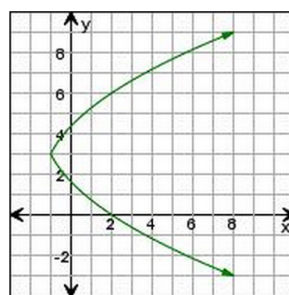
D.



E.



F.



Match the equation of the parabola with its graph.

B. $7. x = \frac{1}{4}(y + 4)^2 + 1$

F. $8. x = \frac{1}{4}(y - 3)^2 - 1$

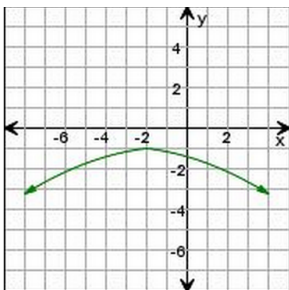
D. $9. x = -\frac{1}{16}(y - 1)^2 - 3$

C. $10. y = -\frac{1}{16}(x + 2)^2 - 1$

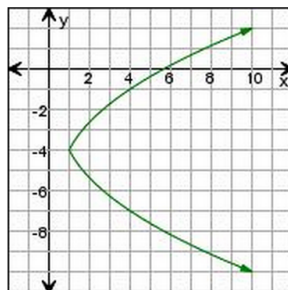
E. $11. x = -\frac{1}{12}(y - 1)^2 + 2$

A. $12. y = -\frac{1}{12}(x - 2)^2 - 1$

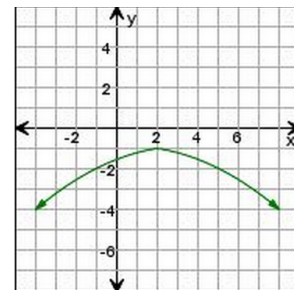
A.



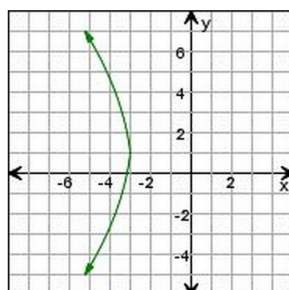
B.



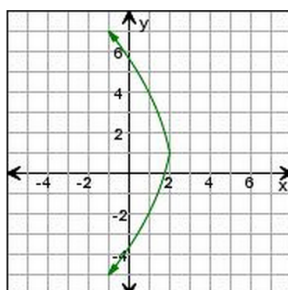
C.



D.



E.



F.

