Homework 4.2 Writing Equations of Parabolas Name_____

Determine whether the parabola opens up, down, left or right. State the vertex.

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

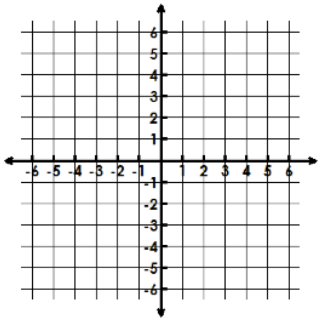
2. $x = -\frac{1}{24}y^2$

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

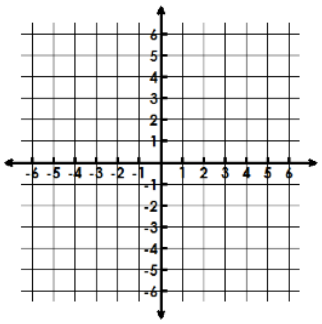
4. $y = \frac{1}{16}(x+3)^2 - 1$

Write the equation of a parabola with the given focus and directrix.

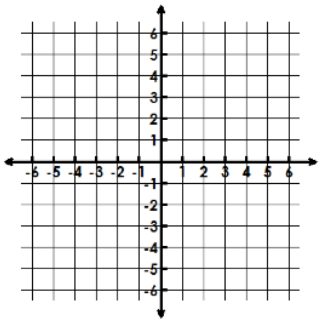
5. Focus: (0, 1), Directrix: y = 5



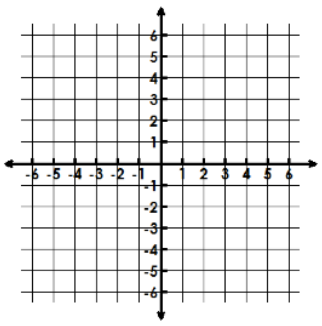
6. Focus: (2, 0), Directrix: x = -1



7. Vertex: (0, 0), Focus: (0, -2)



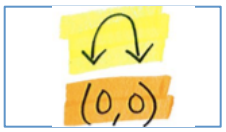
8. Vertex: (0, 0), Focus: (0, -3)

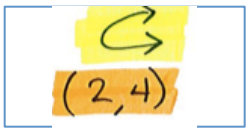


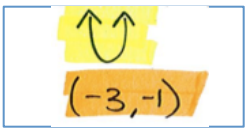
Homework 4.2 Writing Equations of Parabolas **Solutions**

Determine whether the parabola opens up, down, left or right. State the vertex.

1. $y = -\frac{1}{8}x^2$ 2. $x = -\frac{1}{24}y^2$ 3. $x = \frac{1}{8}(y-4)^2 + 2$ 4. $y = \frac{1}{16}(x+3)^2 - 1$

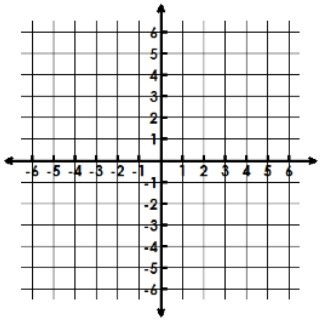




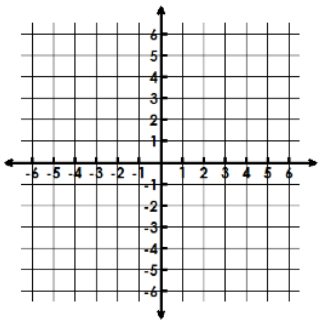


Write the equation of a parabola with the given focus and directrix.

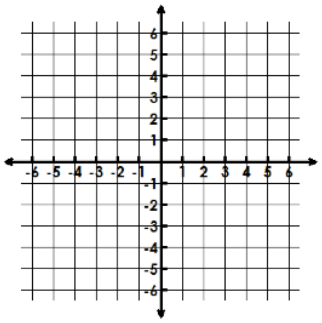
5. Focus: (0, 1), Directrix: y = 5



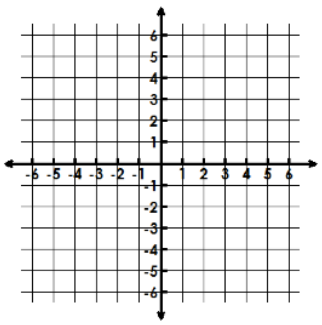
6. Focus: (2, 0), Directrix: x = -1



7. Vertex: (0, 0), Focus: (0, -2)

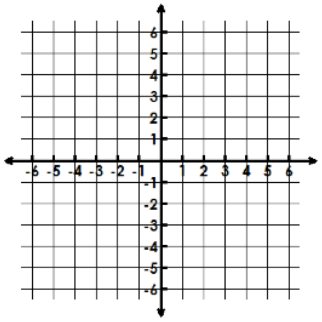


8. Vertex: (0, 0), Focus: (0, -3)

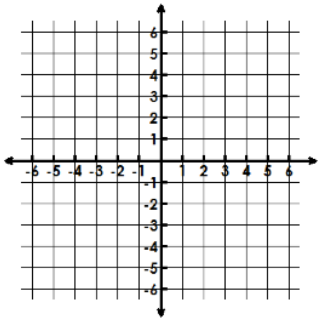


Homework 4.2 Writing Equations of Parabolas (Page 2) Name_____

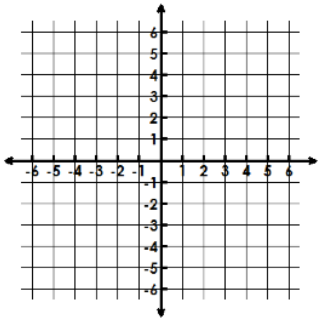
9. Focus: (6, 0), Directrix: y = -2



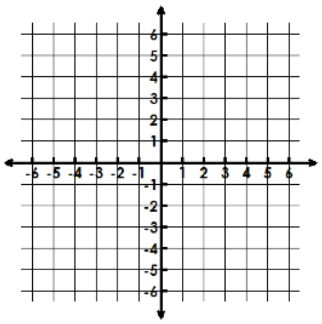
10. Focus: (2, 0), Directrix: x = -4



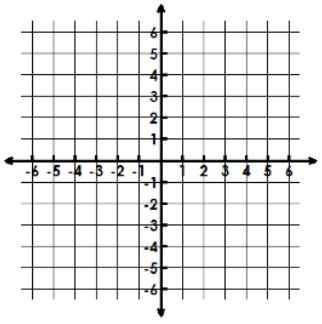
11. Vertex: (5, -3), Focus: (0, -3)



12. Vertex: (2, 0), Focus: (2, -2)

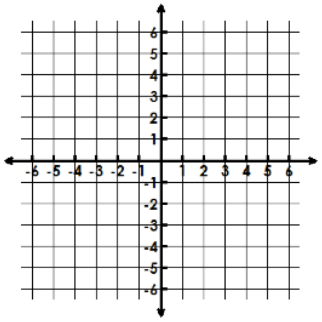


13. Focus: (-6, 0), Directrix: x = 6

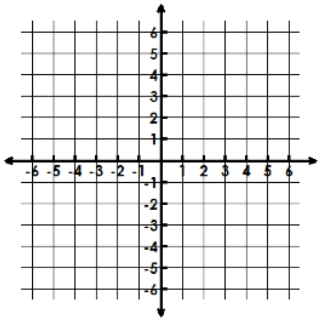


Homework 4.2 Writing Equations of Parabolas (Page 2) **Solutions**

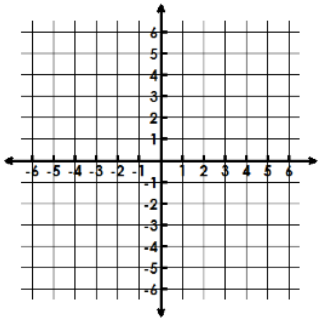
9. Focus: (6, 0), Directrix: y = -2



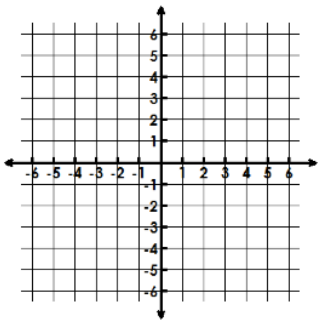
10. Focus: (2, 0), Directrix: x = -4



11. Vertex: (5, -3), Focus: (0, -3)



12. Vertex: (2, 0), Focus: (2, -2)



13. Focus: (-6, 0), Directrix: x = 6