**Homework 3.10** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Math 3

***Directions:*** *Write an equation of the parabola with a vertex at the original and the given focus. Sketch each graph.*

1. Focus at (-2, 0)
2. Focus at (0, 4)
3. Focus at (0, -3)
4. Focus at (3, 0)
5. Focus at (-5, 0)
6. Focus at (0, 5)

***Directions:*** *Identify the vertex, the focus, and the directrix of the parabola with the given equation. Then, sketch the graph of the parabola.*

***Directions:*** *Write an equation of a parabola with vertex at the origin and the given directrix. Be sure to sketch each graph.*

1. Directrix x = 3
2. Directrix y = 4
3. Directrix x = -2
4. Directrix y = -3

***Directions:*** *Write an equation of a parabola with the given vertex and focus. Then, sketch the graph.*

1. Vertex (0, 0); focus (-2, 0)
2. Vertex (0, 0); focus (0, 4)
3. Vertex (2, 3); focus (6, 3)
4. Vertex (4, 7); focus (4, 4)