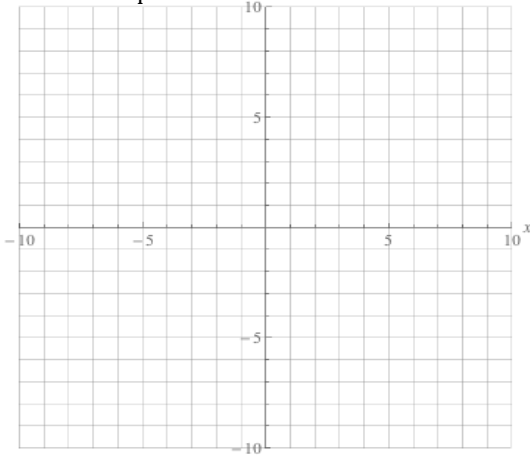


Vertical and Horizontal Parabolas

Name: _____

Sketch each of the following graphs stating the domain, range, axis of symmetry, focus, and directrix.

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



Domain: _____

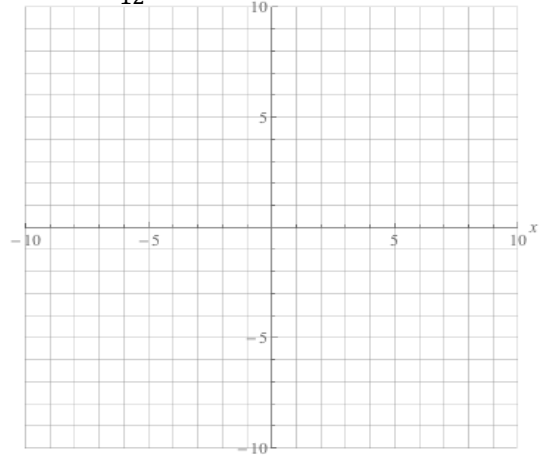
Range: _____

Axis of Symmetry: _____

Focus: _____

Directrix: _____

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



Domain: _____

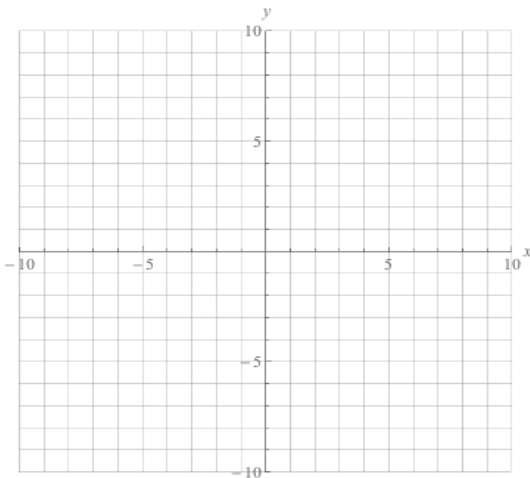
Range: _____

Axis of Symmetry: _____

Focus: _____

Directrix: _____

3. $-8y - 24 = (x + 2)^2$



Domain: _____

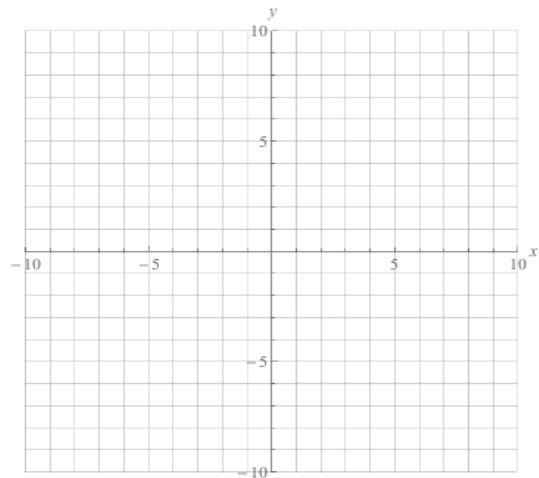
Range: _____

Axis of Symmetry: _____

Focus: _____

Directrix: _____

4. $-12x - 48 = (y + 2)^2$



Domain: _____

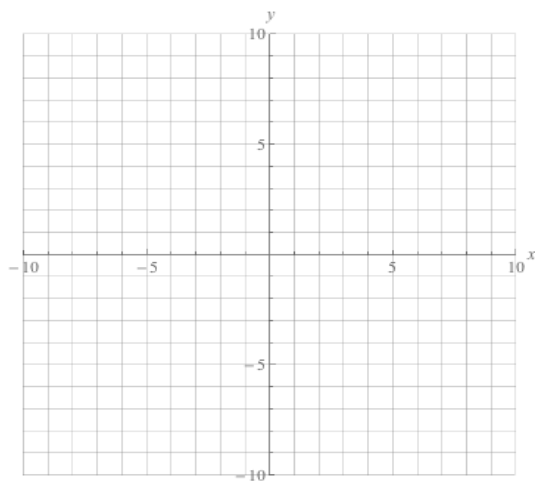
Range: _____

Axis of Symmetry: _____

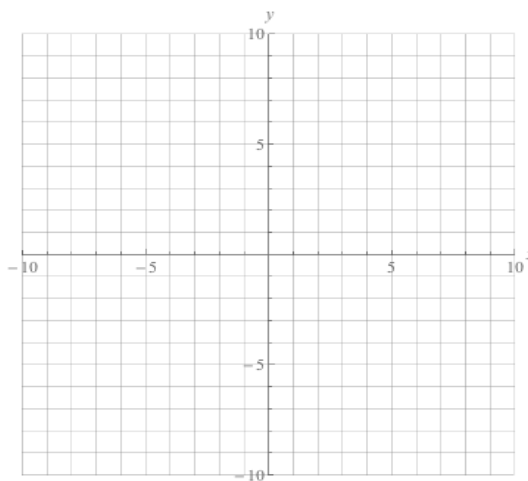
Focus: _____

Directrix: _____

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



6. $100y + 300 = 5(x - 6)^2$



Domain: _____

Range: _____

Axis of Symmetry: _____

Focus: _____

Directrix: _____

Domain: _____

Range: _____

Axis of Symmetry: _____

Focus: _____

Directrix: _____

Write the equation for each parabola in vertex form

7. Vertex at (4, 2), opening left with a horizontal stretch by a factor of 3.

8. Vertex at (-3, -1), opening down with a vertical stretch by a factor of 4.

9. Passes through (2, -1), vertex at (-7, -5), opening to the right.

10. Directrix: $y = -7$, focus at (3, -1)