

## Precalculus Unit 14: 14.1 Homework

### Parabolas

Use the information provided to put each equation in standard form.

1.  $y = 3x^2 - 36x + 117$

2.  $y = x^2 - 12x + 34$

3.  $\frac{1}{4}y^2 - x + 3y + 18 = 0$

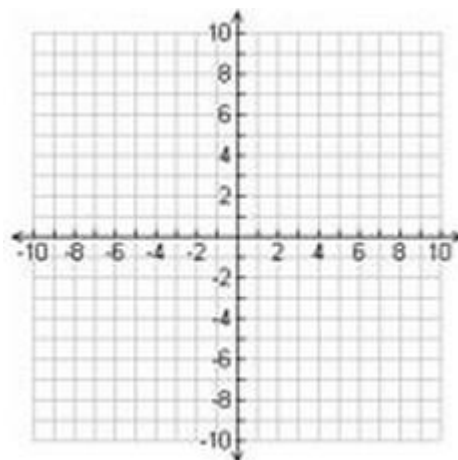
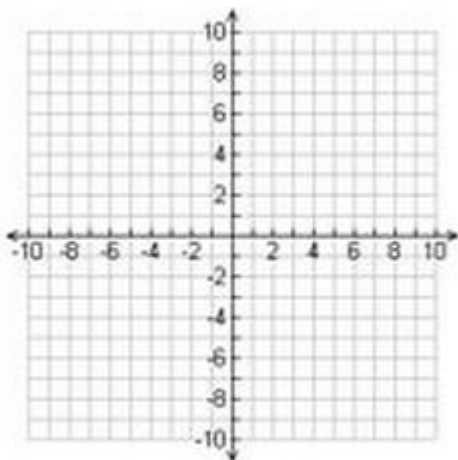
4. Vertex at the origin; Focus  $(-4,0)$

5. Vertex  $(-8,8)$ ; Focus  $(-8,10)$

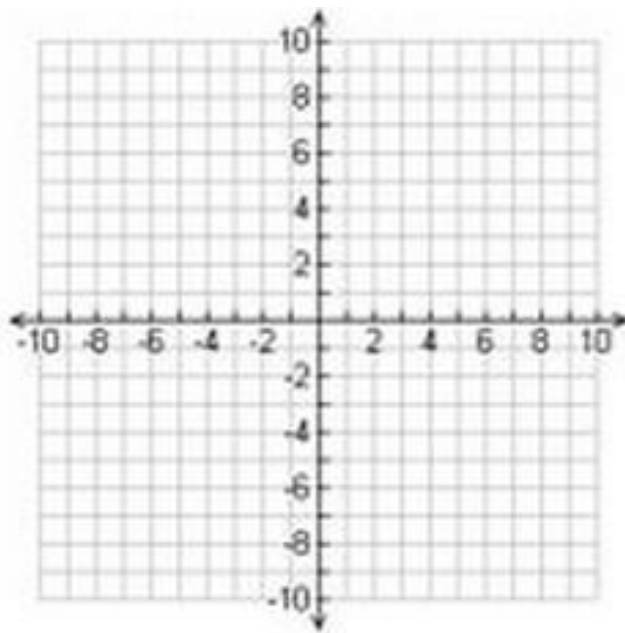
Identify the vertex, focus, directrix, and the axis of symmetry. Sketch a graph of the parabola on the provided graph.

6.  $8(y - 2) = (x - 6)^2$

7.  $-12(y + 2) = (x - 5)^2$



8.  $x^2 + 4x + 6y - 2 = 0$



9.  $y^2 + 9x + 6y = 0$

