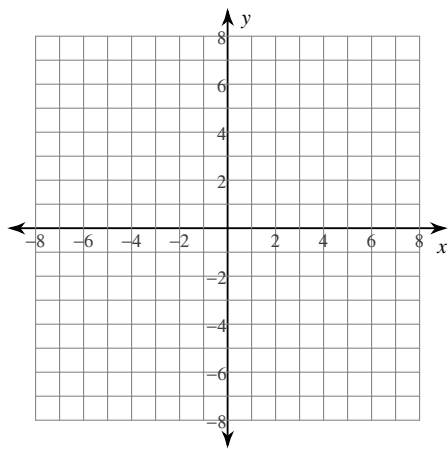


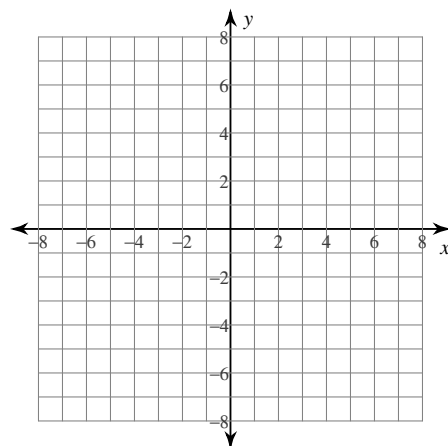
## Identifying and Graphing Conic Sections Given the Standard Equation

**Classify each conic section and sketch its graph. For parabolas, identify the vertex. For circles, identify the center and radius. For ellipses and hyperbolas identify the center and vertices.**

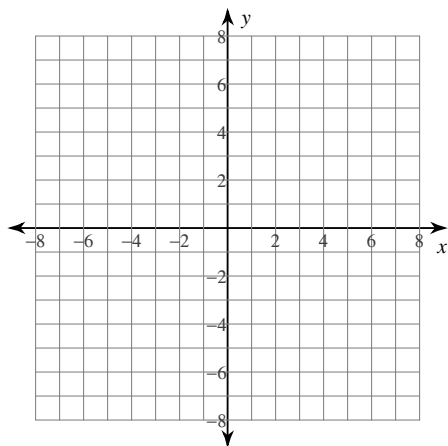
$$1) (x - 3)^2 + (y - 2)^2 = 11$$



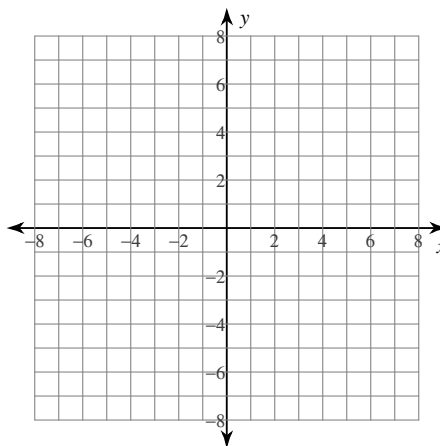
$$2) \frac{x^2}{49} + (y + 1)^2 = 1$$



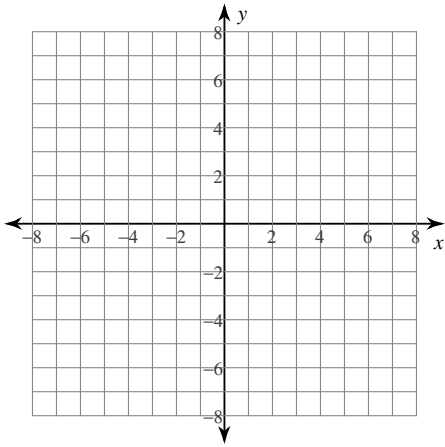
$$3) (x - 2)^2 + (y - 4)^2 = 4$$



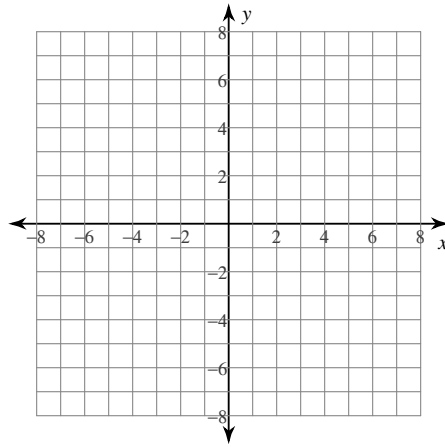
$$4) x = (y - 5)^2 - 4$$



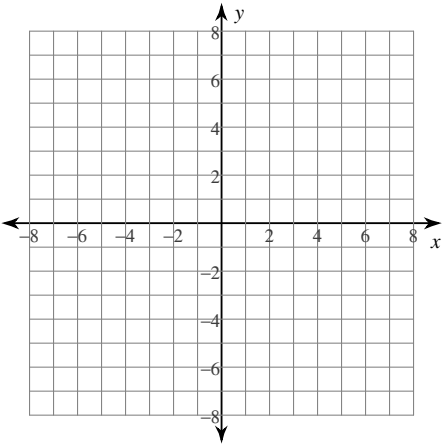
$$5) \frac{x^2}{25} - \frac{y^2}{25} = 1$$



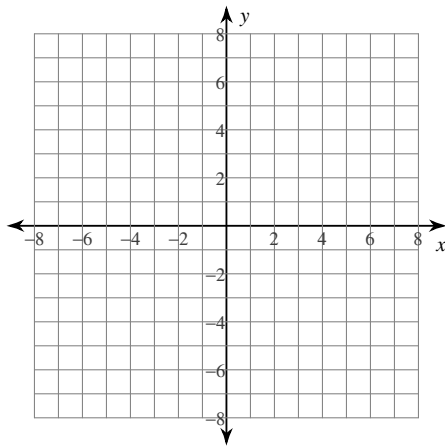
$$6) \frac{x^2}{25} - (y-4)^2 = 1$$



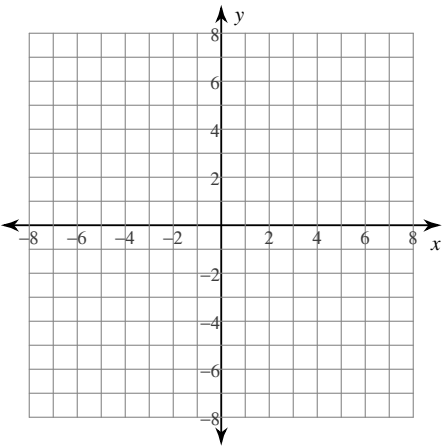
$$7) (x-4)^2 + \frac{(y+1)^2}{16} = 1$$



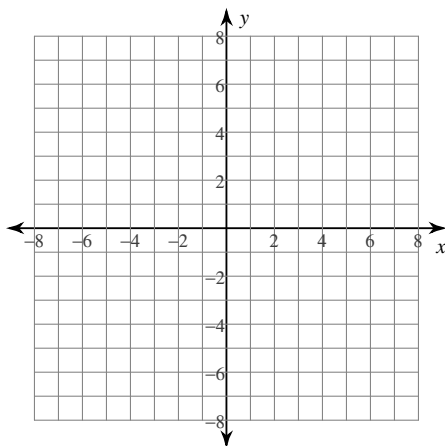
$$8) x^2 + (y+2)^2 = 25$$



$$9) x = -7(y+4)^2 - 5$$

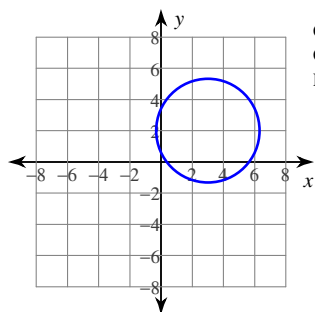


$$10) y = -\frac{1}{2}(x-1)^2 + 1$$



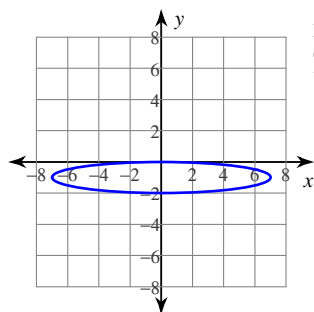
# Answers to Identifying and Graphing Conic Sections Given the Standard Equation

1)



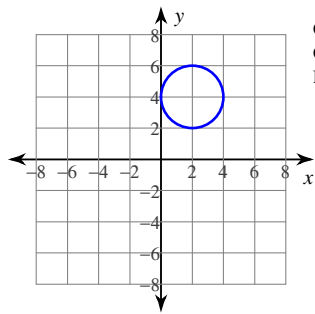
Circle  
Center:  $(3, 2)$   
Radius:  $\sqrt{11}$

2)



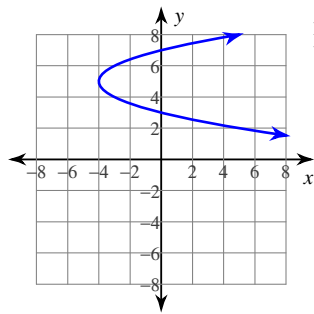
Ellipse  
Center:  $(0, -1)$   
Vertices:  $(7, -1), (-7, -1)$

3)



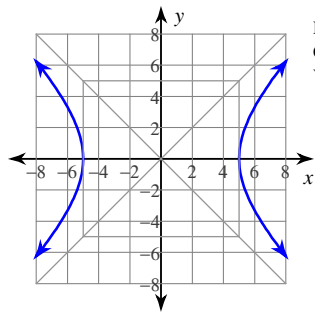
Circle  
Center:  $(2, 4)$   
Radius: 2

4)



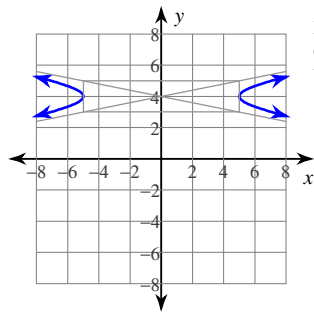
Parabola  
Vertex:  $(-4, 5)$

5)



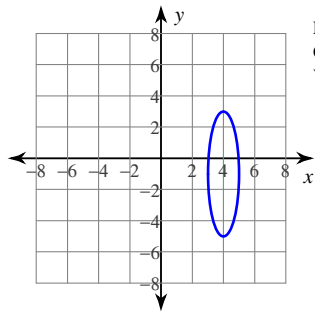
Hyperbola  
Center:  $(0, 0)$   
Vertices:  $(5, 0), (-5, 0)$

6)



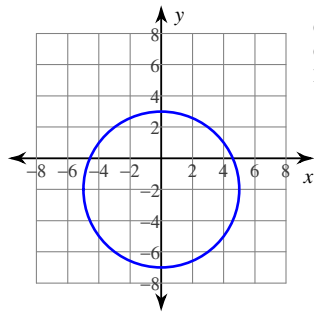
Hyperbola  
Center:  $(0, 4)$   
Vertices:  $(5, 4), (-5, 4)$

7)



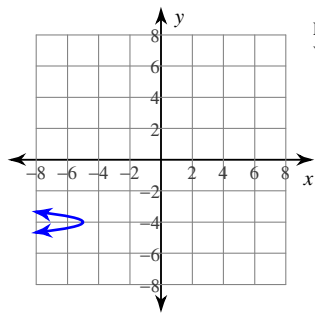
Ellipse  
Center:  $(4, -1)$   
Vertices:  $(4, 3), (4, -5)$

8)



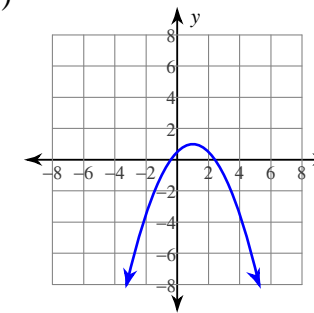
Circle  
Center:  $(0, -2)$   
Radius: 5

9)



Parabola  
Vertex:  $(-5, -4)$

10)



Parabola  
Vertex:  $(1, 1)$