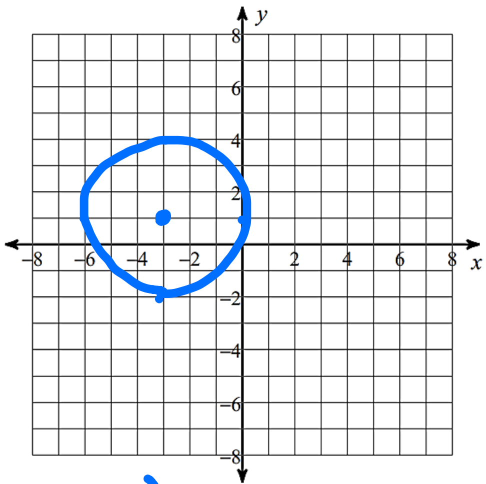
Conics Test Review Name: Key Block: __

Graph each conic.

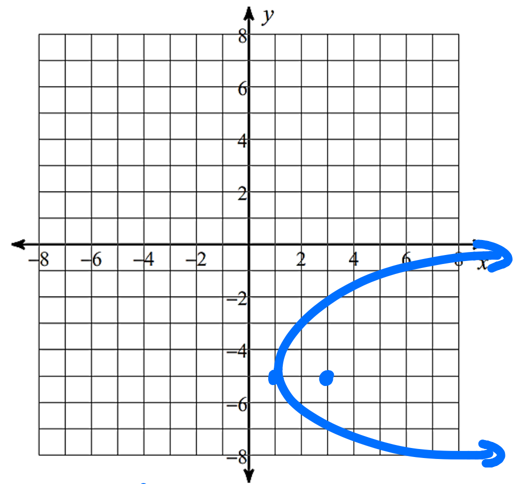
1. $(x+3)^2 + (y-1)^2 = 9$



Center: (-3,1)

Vertices: (0,1), (-3,4), (-6,1), (-3,-2)

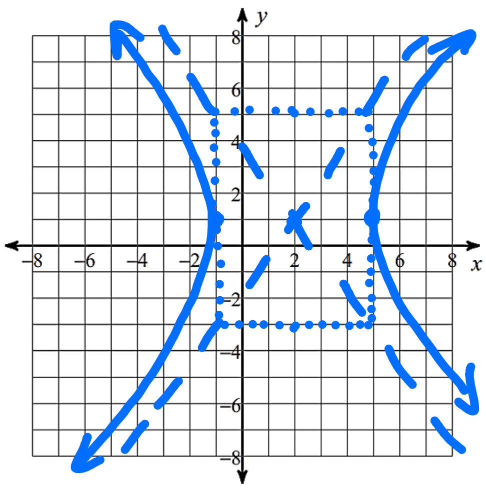
2. $x - 1 = 8(y+5)^2$



Vertex: (1,-5)

Foci: (3,-5)

3. $\frac{(x-2)^2}{9} - \frac{(y-1)^2}{16} = 1$

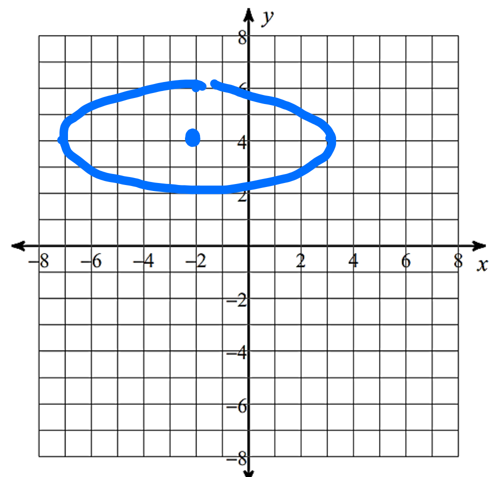


Center: (2,1)

Vertices: (-1,1), (5,1)

Foci: (-3,1), (7,1)

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



Center: (-2,4)

Vertices: (-7,4), (3,4)

Co-vertices: (-2,6), (-2,2)

Foci: $(-2 \pm \sqrt{21}, 4)$

Write the equation in standard form and classify the conic.

5. $7x^2 + 3y^2 - 42x + 6y + 45 = 0$

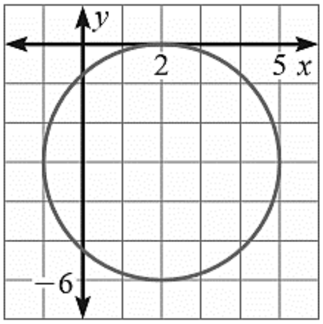
$$\frac{(x-3)^2}{3} + \frac{(y+1)^2}{7} = 1$$

6. $2x^2 + 2y^2 + 4x + 16y + 2 = 0$

$$(x+1)^2 + (y+4)^2 = 16$$

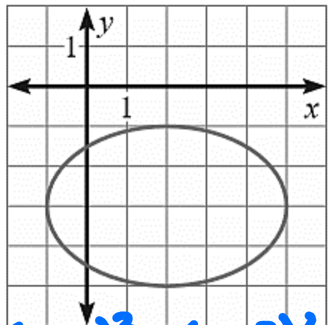
Write the standard equation for each.

7.



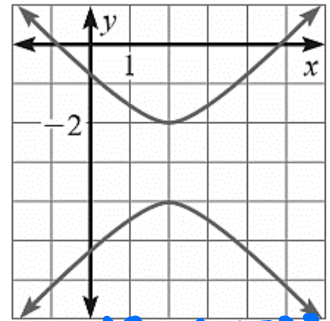
$(x-2)^2+(y+3)^2=9$

8.



$\frac{(x-2)^2}{9}+\frac{(y+3)^2}{4}=1$

9.



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

10. Write the equation of the ellipse with a vertice at (0,0) and a co-vertice at (-4,3).

$\frac{(x+4)^2}{16}+\frac{y^2}{9}=1$

11. Find the equation of the circle that is tangent to the line $x = 8$ that has a center at (-5,10).

$(x+5)^2+(y-10)^2=16$

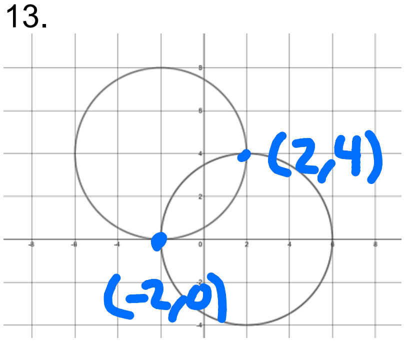
12. The cables of a suspension bridge are in the shape of a parabola. The towers supporting the cables are 400ft apart and 100ft tall. If the supporting cable that runs from tower to tower is only 30 feet from the road at its closest point. Find the length of one of the vertical support cables that is 60 feet from the towers.

$x^2=571.4(y-30)$

$\boxed{y=\pm 36.2}$

Find all of the solutions to the following conic systems of equations.

13.



(2,4)

(-2,0)

14. Solve by elimination.

$$4x^2 + y^2 = 36$$
$$4x^2 - 4y^2 = 16$$

$(2, 2\sqrt{2})$

$(2, -2\sqrt{2})$

$(-2, 2\sqrt{2})$

$(-2, -2\sqrt{2})$

15. Solve by substitution.

$$x + 1 = y^2$$
$$x^2 + y^2 = 7$$

$(2, \sqrt{3})$

$(2, -\sqrt{3})$