Name_____

REVIEW WS SECTIONS 10.1-10.5

Date_____ Period____ Assn #_____

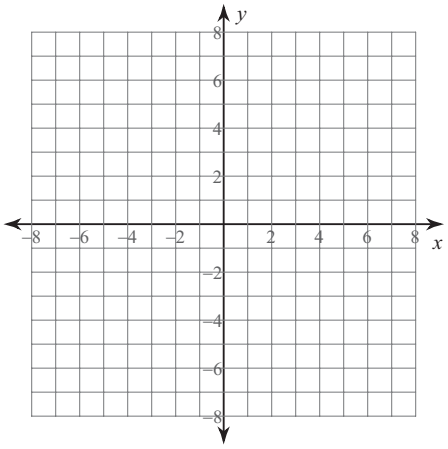
Find the distance between the two points. Then find the midpoint of the line segment joining the two points.

1) $(0, 5), (-2, 0)$

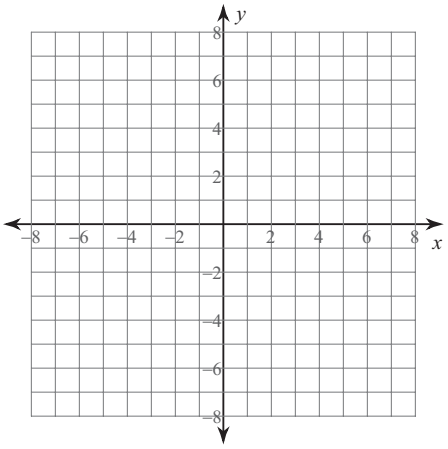
2) $(3, 3), (3, 6)$

Identify the vertex, focus, axis of symmetry, and directrix of each. Then sketch the graph.

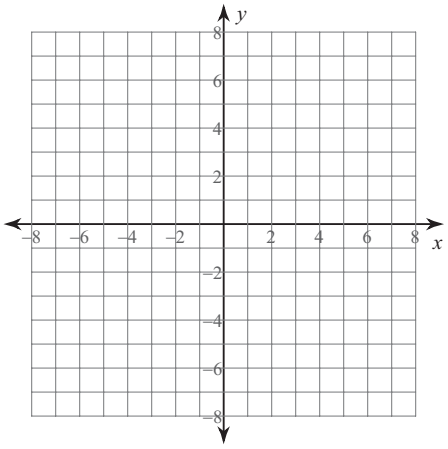
3) $-4y = x^2$



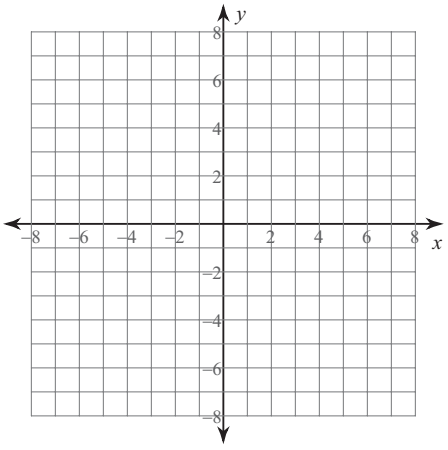
4) $2y = x^2$



5) $-4x = y^2$



6) $\frac{1}{2}x = y^2$



Use the information provided to write the transformational form equation of each parabola.

7) Vertex at origin, Focus: $(0, 1)$

8) Vertex at origin, Focus: $\left(0, \frac{1}{8}\right)$

9) Vertex at origin, Focus: $\left(0, \frac{1}{4}\right)$

10) Vertex at origin, Focus: $\left(\frac{1}{2}, 0\right)$

11) Vertex at origin, Focus: $\left(-\frac{1}{32}, 0\right)$

12) Vertex at origin, Focus: $\left(\frac{1}{8}, 0\right)$

13) Vertex at origin, Directrix: $x = -\frac{1}{4}$

14) Vertex at origin, Directrix: $x = \frac{1}{12}$

15) Vertex at origin, Directrix: $x = -1$

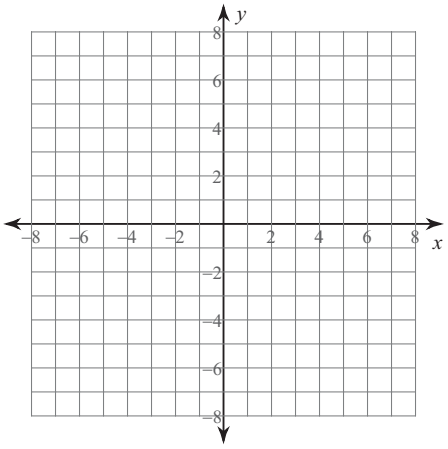
16) Vertex at origin, Directrix: $y = \frac{1}{4}$

17) Vertex at origin, Directrix: $y = -\frac{1}{8}$

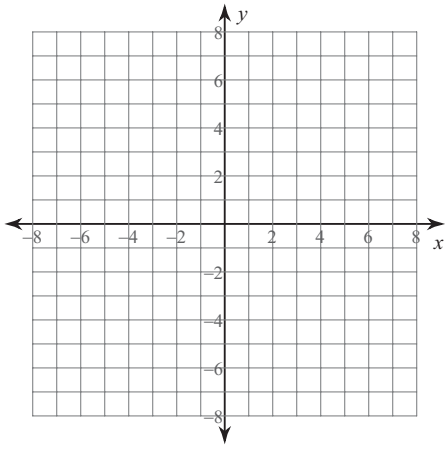
18) Vertex at origin, Directrix: $y = -\frac{1}{2}$

Identify the radius of each. Then sketch the graph.

19) $x^2 + y^2 = 16$



20) $x^2 + y^2 = 25$



Use the information provided to write the standard form equation of each circle.

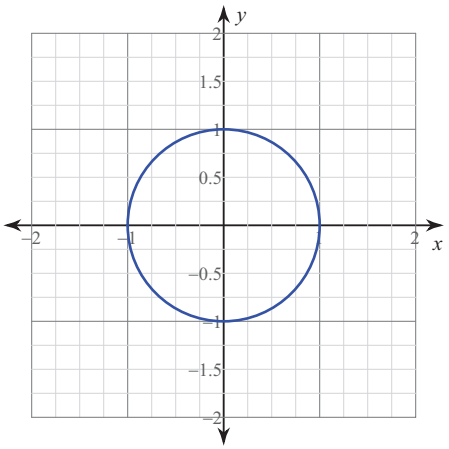
21) Center: $(0, 0)$
Radius: 7

22) Center: $(0, 0)$
Radius: $2\sqrt{26}$

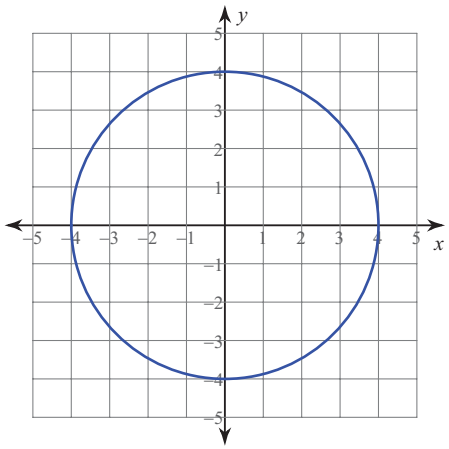
23) Center: $(0, 0)$
Point on Circle: $(-4, 8)$

24) Center: $(0, 0)$
Point on Circle: $(8, 2)$

25)



26)



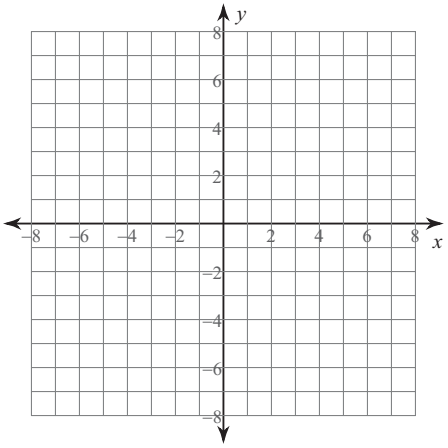
The equation of a circle and a point on the circle is given. Write an equation of the line that is tangent to the circle at that point.

27) $x^2 + y^2 = 5; (2, 1)$

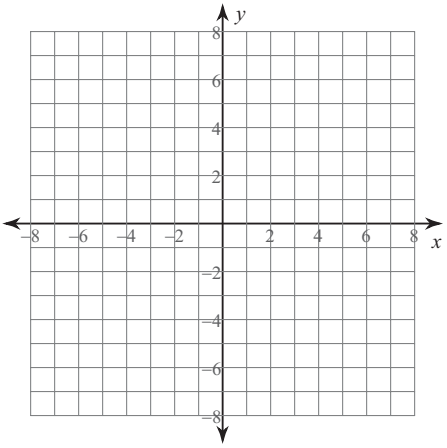
28) $x^2 + y^2 = 65; (-8, 1)$

Identify the vertices, co-vertices, and foci of each. Then sketch the graph.

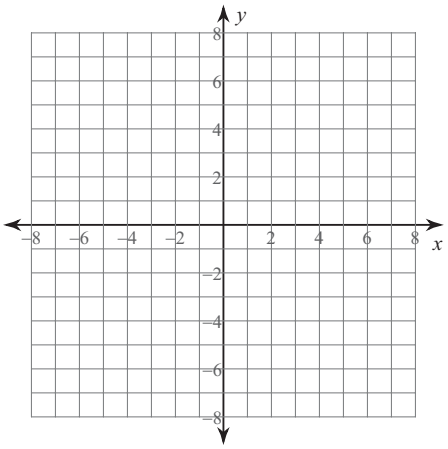
29) $\frac{x^2}{36} + \frac{y^2}{49} = 1$



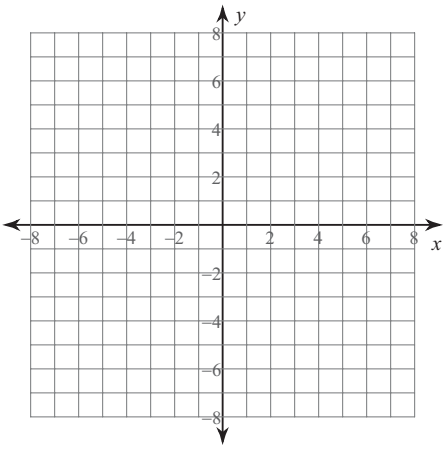
30) $\frac{x^2}{4} + \frac{y^2}{36} = 1$



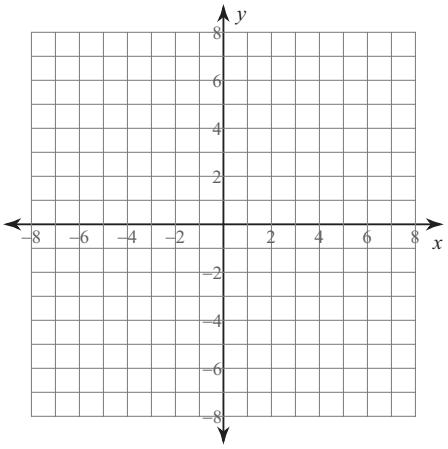
31) $\frac{x^2}{49} + \frac{y^2}{25} = 1$



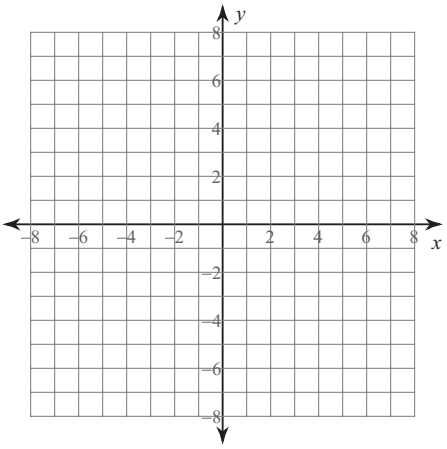
32) $\frac{x^2}{25} + \frac{y^2}{36} = 1$



33) $\frac{x^2}{9} + \frac{y^2}{36} = 1$



34) $\frac{x^2}{9} + y^2 = 1$



Use the information provided to write the standard form equation of each ellipse.

35) Vertices: $(0, 5), (0, -5)$
Co-vertices: $(3, 0), (-3, 0)$

36) Vertices: $(0, 11), (0, -11)$
Co-vertices: $(8, 0), (-8, 0)$

37) Vertices: $(0, 12), (0, -12)$
Co-vertices: $(3, 0), (-3, 0)$

38) Vertices: $(0, 5), (0, -5)$
Foci: $(0, 3), (0, -3)$

39) Vertices: $(0, 13), (0, -13)$
Foci: $(0, 5), (0, -5)$

40) Vertices: $(0, 5), (0, -5)$
Foci: $(0, 4), (0, -4)$

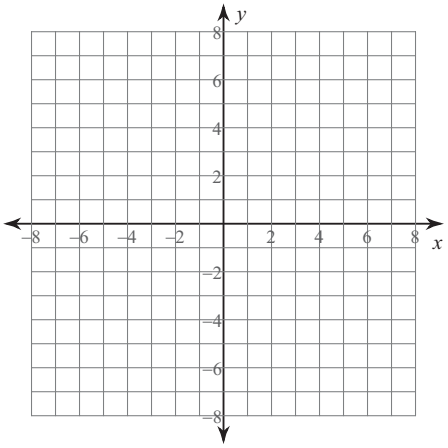
41) Foci: $(0, 4), (0, -4)$
Co-vertices: $(3, 0), (-3, 0)$

42) Foci: $(5, 0), (-5, 0)$
Co-vertices: $(0, 12), (0, -12)$

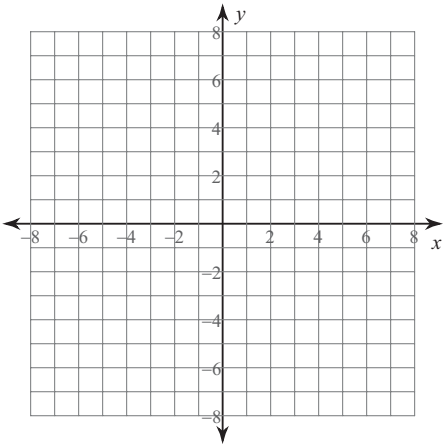
43) Foci: $(3, 0), (-3, 0)$
Co-vertices: $(0, 4), (0, -4)$

Identify the vertices, foci, and asymptotes of each. Then sketch the graph.

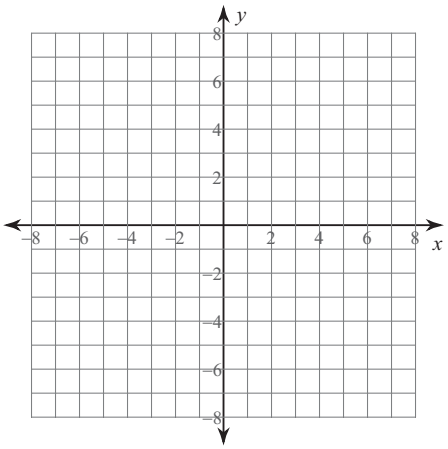
44) $\frac{y^2}{16} - x^2 = 1$



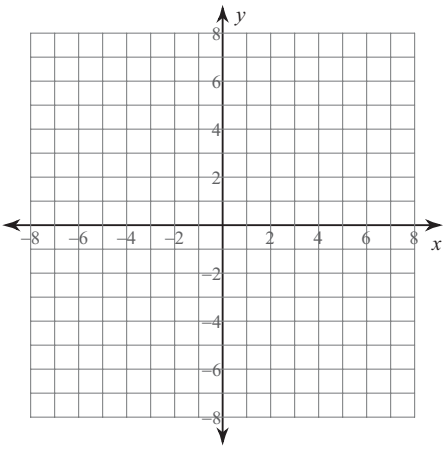
45) $\frac{y^2}{16} - \frac{x^2}{4} = 1$



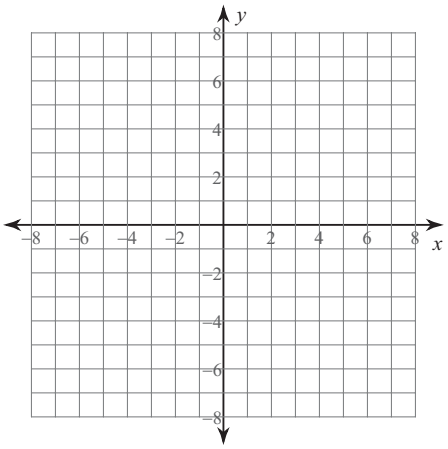
46) $\frac{y^2}{4} - x^2 = 1$



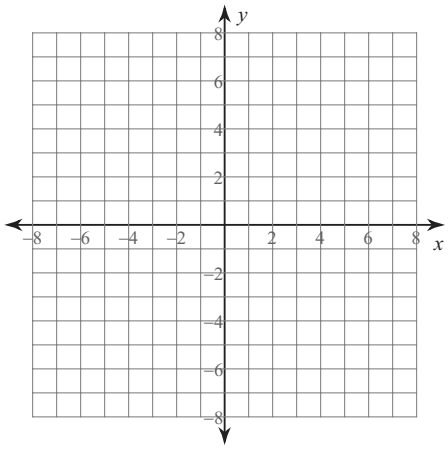
47) $\frac{x^2}{4} - \frac{y^2}{9} = 1$



48) $\frac{x^2}{9} - \frac{y^2}{9} = 1$



49) $\frac{x^2}{9} - y^2 = 1$



Use the information provided to write the standard form equation of each hyperbola.

50) Vertices: $(0, 4), (0, -4)$
Foci: $(0, 5), (0, -5)$

51) Vertices: $(0, 12), (0, -12)$
Foci: $(0, 13), (0, -13)$

52) Vertices: $(5, 0), (-5, 0)$
Foci: $(13, 0), (-13, 0)$

53) Vertices: $(3, 0), (-3, 0)$
Foci: $(5, 0), (-5, 0)$