Name: _____

REVIEW WORKSHEET SECTION 10.6 Date: _____ Period: ____ Assn #: _____

Classify each conic section.

1) $x^2 - 4x + y + 4 = 0$

2) $x^2 + y^2 + 2x - 5 = 0$

3) $-x^2 + y^2 - 10 = 0$

4) $3x^2 + 4y^2 - 60 = 0$

5) $x^2 + y^2 + 2x - 8y + 14 = 0$

6) $x^2 - 8x + 3y + 4 = 0$

Classify each conic section and write its equation in standard form.

7) $y^2 + x + 4y - 1 = 0$

8) $x^2 - 2x + 2y - 3 = 0$

9) $2x^2 + 4x + y + 6 = 0$

10) $x^2 + y^2 - 6x + 6y + 13 = 0$

11) $x^2 + y^2 + 6x - 8y + 19 = 0$

12) $x^2 + y^2 - 6y + 2 = 0$

13) $36x^2 + y^2 + 72x + 2y + 1 = 0$

14) $49x^2 + 16y^2 - 294x - 343 = 0$

15) $4x^2 + 9y^2 + 8x - 18y - 23 = 0$

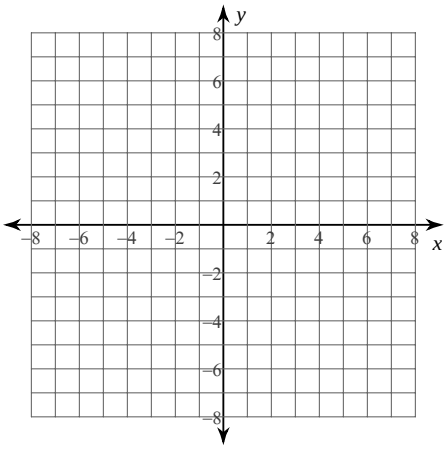
16) $x^2 - 4y^2 - 2x + 24y - 39 = 0$

17) $4x^2 - y^2 + 32x + 60 = 0$

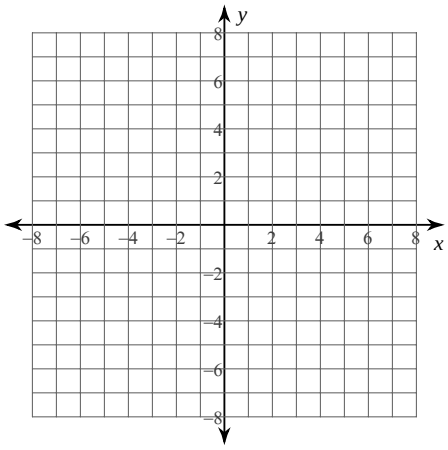
18) $4x^2 - 9y^2 - 8x - 18y - 41 = 0$

Identify the center and radius of each. Then sketch the graph.

19) $x^2 + (y + 3)^2 = 1$



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



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

21) Center: $(4, -10)$
Radius: 7

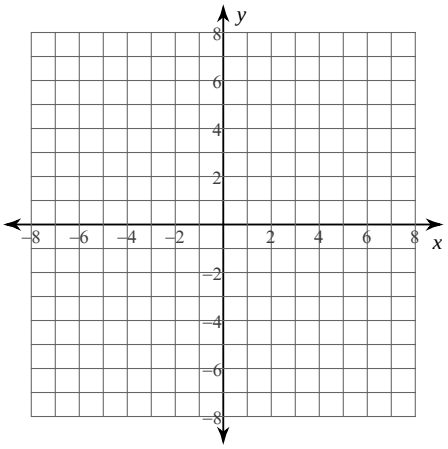
22) Center: $(13, 12)$
Radius: 3

23) Center: $(6, -4)$
Point on Circle: $(-5, -3)$

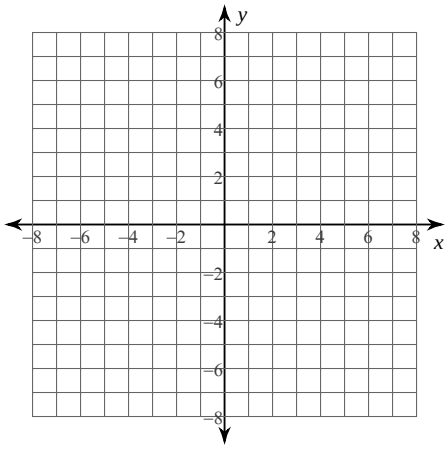
24) Center: $(3, -8)$
Point on Circle: $(-6, -13)$

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

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



26) $(x-3)^2 + \frac{(y+1)^2}{36} = 1$



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

27) Vertices: $(-1, -3), (-1, -13)$
Foci: $(-1, -5), (-1, -11)$

28) Vertices: $(-6, -4), (-6, -14)$
Foci: $(-6, -5), (-6, -13)$

29) Vertices: $(8, 15), (8, -9)$
Co-vertices: $(19, 3), (-3, 3)$

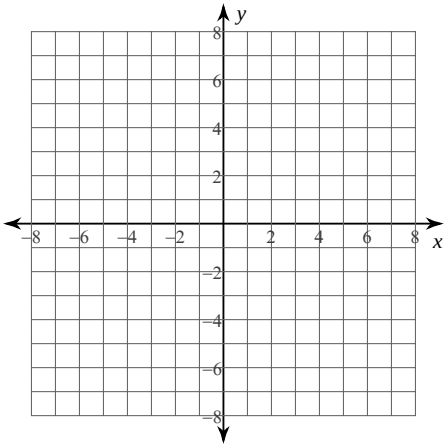
30) Vertices: $(-2, 10), (-2, -8)$
Co-vertices: $(3, 1), (-7, 1)$

31) Foci: $(-3, -6), (-3, -12)$
Co-vertices: $(1, -9), (-7, -9)$

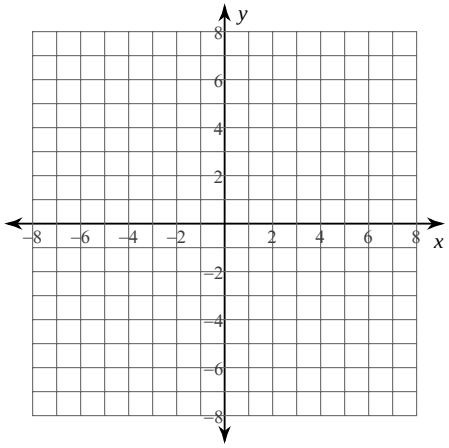
32) Foci: $(1, -7), (1, -13)$
Co-vertices: $(5, -10), (-3, -10)$

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

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



34) $\frac{(x-1)^2}{16} - \frac{(y-3)^2}{4} = 1$



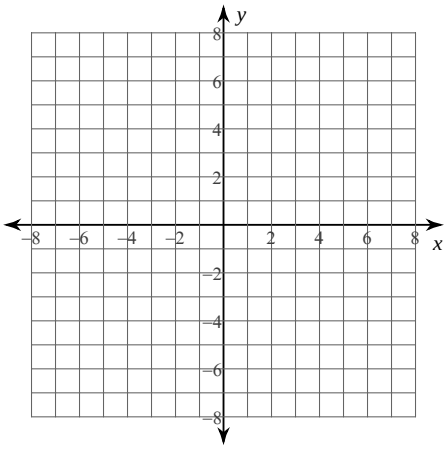
Use the information provided to write the standard form equation of each hyperbola.

35) Vertices: $(-10, 11), (-10, 3)$
Foci: $(-10, 12), (-10, 2)$

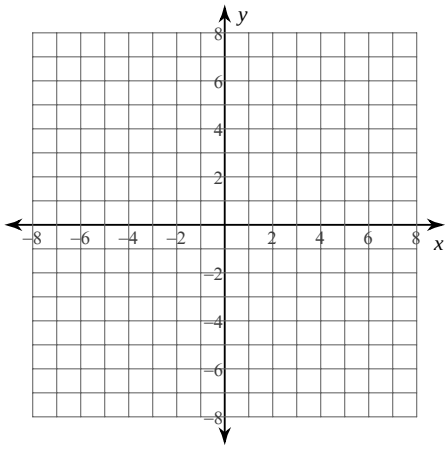
36) Vertices: $(1, 15), (1, -9)$
Foci: $(1, 16), (1, -10)$

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

37) $-(x+2)=(y+6)^2$



38) $-4(y-4)=(x+6)^2$



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

39) Vertex: $(9, -8)$, Focus: $(10, -8)$

40) Vertex: $(3, -6)$, Focus: $(2, -6)$

41) Vertex: $(9, -1)$, Directrix: $y = 0$

42) Vertex: $(8, -9)$, Directrix: $x = 9$

43) Focus: $(0, -7)$, Directrix: $y = -9$

44) Focus: $(5, 4)$, Directrix: $x = 3$