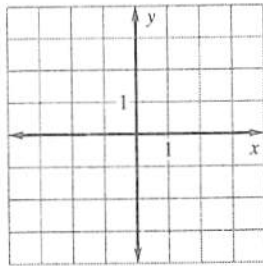


LESSON  
5.3

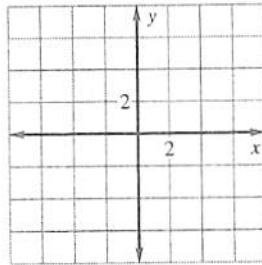
## Practice

Graph the equation. Identify the vertices, co-vertices, and foci of the ellipse.

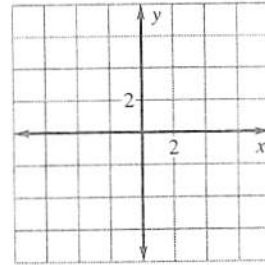
1.  $\frac{x^2}{9} + \frac{y^2}{4} = 1$



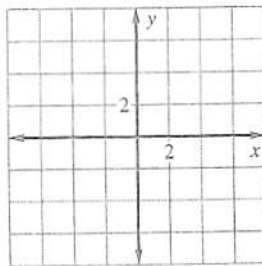
2.  $\frac{x^2}{25} + \frac{y^2}{16} = 1$



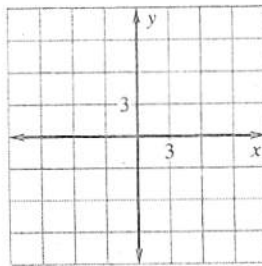
3.  $\frac{x^2}{36} + \frac{y^2}{16} = 1$



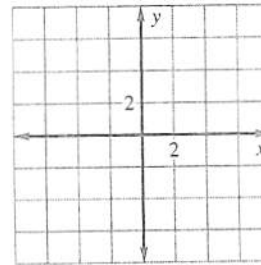
4.  $2x^2 + 50y^2 = 50$



5.  $49x^2 + y^2 = 49$



6.  $4x^2 + 36y^2 = 144$



**LESSON**  
**5.3**
**Practice** *continued*

Write an equation of the ellipse with the given characteristics and center at (0, 0).

7. Vertex: (4, 0)

Co-vertex: (0, 2)

8. Vertex: (0, -3)

Co-vertex: (-2, 0)

9. Vertex: (-7, 0)

Co-vertex: (0, -1)

10. Vertex: (3, 0)

Focus: (1, 0)

11. Vertex: (-6, 0)

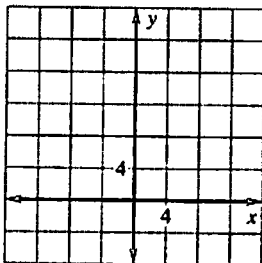
Focus: (-2, 0)

12. Co-vertex: (4, 0)

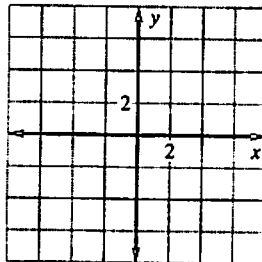
Focus: (0,  $2\sqrt{5}$ )

The equations of a parabola, a circle, and an ellipse are given. Graph the equation.

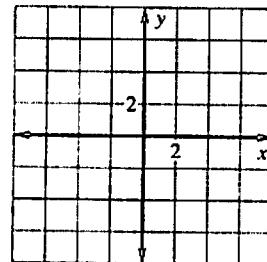
13.  $x^2 - 16y = 0$



14.  $5x^2 + 5y^2 = 80$



15.  $4x^2 + 16y^2 = 64$



16. **Window** An elliptical stained glass window is planned in the construction of a new office building. The window will have a width of 8 feet and a height of 4 feet. Write an equation of the outline of the window that can be used on the blueprint. Assume the major axis of the window is horizontal.