

LESSON
10-3

Practice B

Ellipses

Find the constant sum of an ellipse with the given foci and point on the ellipse.

1. $F_1(40, 0), F_2(-40, 0), P(0, -9)$

2. $F_1(0, -20), F_2(0, 20), P(15, 0)$

Write an equation in standard form for each ellipse with center (0, 0).

3. Vertex (15, 0), focus (9, 0)

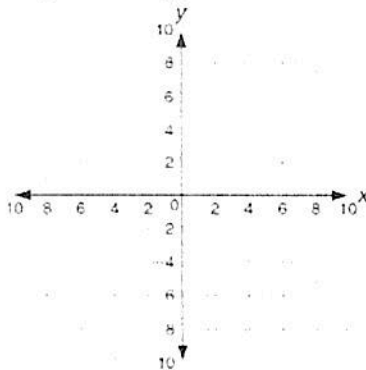
4. Co-vertex (0, -21), focus (-75, 0)

5. Co-vertex (-20, 0), focus (0, 48)

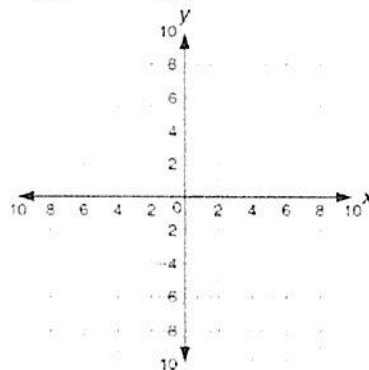
6. Vertex (61, 0), focus (60, 0)

Graph each ellipse.

7. $\frac{(x+3)^2}{9} + \frac{(y-2)^2}{16} = 11$



8. $\frac{(x-4)^2}{36} + \frac{(y-1)^2}{25} = 1$



Solve.

9. Tom has a small semi-elliptical arch in his garden that he wants to enlarge. He wants to increase the height by a factor of 3 and increase the width by a factor of 2.5. The original arch can be modeled by the equation $\frac{y^2}{6.25} + \frac{x^2}{4} = 1$, measured in feet.

a. Find the dimensions of the enlarged arch.

b. Write an equation to model the enlarged arch.
