## 10-4 Practice

Form G

Ellipses

**Write an equation of an ellipse in standard form with center at the origin and with the given vertex and co-vertex listed respectively.**

**1.** $(6, 0), (0, -5)$

**3.** $(0, 2), (-1, 0)$

**5.** $(9, 0), (0, -6)$

**7.** $(-7, 0), (0, -5)$

**Find the foci for each equation of an ellipse. Then graph the ellipse.**

**9.** $\dfrac{x^2}{36} + \dfrac{y^2}{81} = 1$

**11.** $\dfrac{x^2}{9} + \dfrac{y^2}{100} = 1$

**13.** $4x^2 + y^2 = 49$

**Find the distance between the foci of an ellipse. The lengths of the major and minor axes are listed.**

**15.** 10 and 8

**17.** 30 and 16

**19.** 25 and 15

**Write an equation of an ellipse for the given foci and co-vertices.**

**21.** foci $(\pm 5, 0)$, co-vertices $(0, \pm 2)$

**23.** foci $(\pm 1, 0)$, co-vertices $(0, \pm 2)$

**25.** foci $(0, \pm 4)$, co-vertices $(\pm 4, 0)$

**27.** foci $(\pm 2, 0)$, co-vertices $(0, \pm 4)$
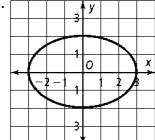
# Practice (continued)

## Ellipses

**29.** Blinn College is building a new track for cycling teams. The track is to be elliptical. The available land is 200 yd long and 100 yd wide. Find the equation of the largest ellipse possible.

**Write an equation of an ellipse in standard form with center at the origin and with the given characteristics.**

**31.** vertices $(\pm2, 0)$, co-vertices $(0, \pm1)$

**33.** height 20 ft, width 28 ft

**35.** height 9 cm, width 12 cm

**37.** foci $(0, \pm2)$, co-vertices $(\pm1, 0)$

**39.** vertex $(-2, 0)$, co-vertex $(0, -1)$

**Write an equation for each ellipse.**

**41.**



**43.**