Name

12-9A Lesson Master

Questions on SPUR Objectives
See Student Edition pages 862–865 for objectives.

SKILLS Objective D

1. Solve by hand for all real solutions: $\begin{cases} x^2 + y^2 = 36 \\ \frac{x^2}{9} + \frac{y^2}{36} = 1 \end{cases}$ _____

In 2 and 3, a. estimate solutions to the system by graphing on a graphing utility, and b. find the exact solutions.

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

a. _____

_____

b. _____

_____

3. $\begin{cases} x^2 + y^2 = 36 \\ xy = 12 \end{cases}$

a. _____

_____

b. _____

_____

USES Objective H

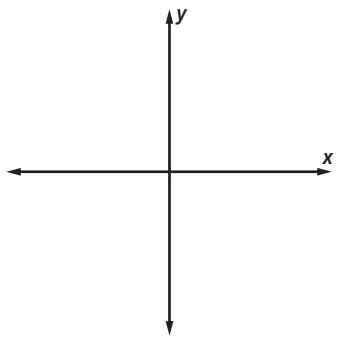
4. Global Positioning Systems (GPS) use their distance from satellites to locate points on Earth by finding the intersection points of circles. If a GPS only receives information from two satellites, it cannot calculate an exact location. Suppose you know you are 20 miles from point (0, 0) and 31 miles from point (32, 22). Find your two possible positions relative to (0, 0) to the nearest tenth.

_____

REPRESENTATIONS Objective K

5. Consider the system $\begin{cases} \frac{x^2}{25} + \frac{y^2}{9} = 1 \\ y = x^2 + 9 \end{cases}$

a. Sketch the system on the axes at the right.



b. Determine the number of solutions. _____

6. Give an equation for a parabola that intersects the circle $x^2 + y^2 = 16$ in exactly

a. one point. _____

b. two points. _____

c. three points. _____

d. no points. _____