Name _____

12-5A Lesson Master

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

SKILLS Objective C

In 1–3, find the area of the given ellipse.

1. the ellipse with equation $\frac{x^2}{144} + \frac{y^2}{400} = 1$ _____

2. an ellipse with major axis 18 cm and minor axis 12 cm   _____

3. the image of the unit circle under $S_{10,7}$ _____

PROPERTIES Objective F

In 4 and 5, under what condition(s) is the described ellipse also a circle?

4. the ellipse with equation $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ _____

5. the set of all points P where the sum $PF_1 + PF_2$ is constant   _____

True or False In 6–10, decide whether each statement is true or false.

6. All circles are ellipses.   _____

7. All ellipses are circles.   _____

8. A circle is an ellipse with 2 distinct foci.   _____

9. An ellipse is an image of a circle under a size transformation.   _____

10. A circle is an ellipse with congruent major and minor axes.   _____

USES Objective G

11. June is designing an elliptical flower garden as shown at the right.
It will have a major axis of length 6 m and a minor axis of length 4 m.
In the center is a fountain with a diameter of 1.5 m. The rest
of the space will be used for flowers. Find the area available
for flowers, to the nearest tenth of a square meter.

_____
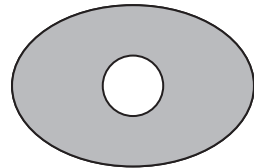
12. The Ellipse (also called the President's Park South) in Washington, D.C.
is a park between the Washington Monument and the White House. Its
major axis is 1058 feet long and its minor axis is 953 feet long. Find the
area of the Ellipse

   a. to the nearest square foot.   _____

   b. to the nearest acre (1 acre = 43,560 ft^2).   _____