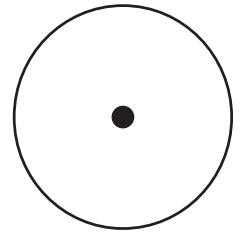**Name** _____

12-3A   Lesson Master

SKILLS   Objective B

1. A circle has equation $(x - 2)^2 + (y + 5)^2 = 9$. Give an equation or inequality for
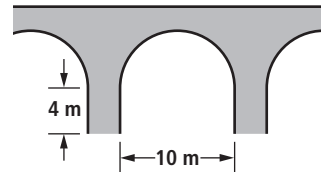
    a. the interior. _____

    b. the exterior. _____

    c. the top semicircle. _____

    d. the bottom semicircle. _____

2. a. Write an inequality for the set of all points 8 units or more away from (–3, 7).   _____

    b. Does the point (–4, 0) satisfy the inequality? _____

USES   Objective G

3. A description of the center circle of a hockey rink follows: *"Exactly in the center of the rink a 12″ blue spot will denote the center of the rink. Using this as a center point, a circle with a 15′ radius, and 2″ wide blue lines shall be drawn."* Write a system of inequalities for the area between the blue-painted areas. Use inches for your units.

_____

4. A bridge is built with semicircular arches atop pillars. The pillars are 4 meters high and 10 meters apart. Will a boat that is 8 meters wide and 6 meters high fit under the arch? If so, how much clearance will it have?

_____

REPRESENTATIONS   Objective J

5. Write an inequality for the shaded region below.

6. Graph $(x + 3)^2 + (y + 4)^2 > 9$ below.

Advanced Algebra   575