

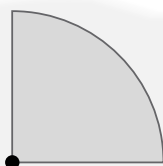
**Application Lesson Opener**

For use with pages 691–698

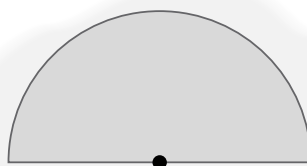
**Sprinkler systems are designed so that all desired areas are watered completely and evenly. Sprinklers are placed so that the areas they water overlap, with at least two sprinklers covering every point.**

**Pop-up spray sprinklers are available in many patterns and sizes. The pattern is the shape of the area the sprinkler sprays. Each pattern shown below has a radius of 12 ft with water pressure of 20 psi.**

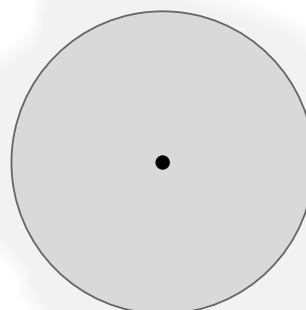
Quarter circle



Half circle



Full circle



1. Compare the areas of the three patterns.
2. Fifteen sprinklers are used at the right. The rectangular area measures 24 ft by 48 ft. Label each sprinkler *Q* (quarter), *H* (half) or *F* (full). How many of each type is used? Tell which type is used at the corners, along the sides, and in the middle.
3. Draw a 12 ft-by-24 ft rectangular area covered by 6 sprinklers: 4 quarter circles and 2 half circles. Label each sprinkler.
4. Draw a 24-ft square area covered by 9 sprinklers: 4 quarter circles, 4 half circles, and 1 full circle. Label each sprinkler.

