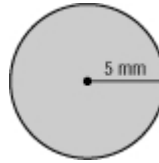


## Lesson 11-4

### Example 1 Find the Area of a Circle



Find the area of the circle at the right.

$$\begin{aligned} A &= \pi r^2 && \text{Area of a circle} \\ A &= \pi \cdot 5^2 && \text{Replace } r \text{ with 5.} \\ A &= 78.53981634 && \text{Use a calculator.} \end{aligned}$$

The area of the circle is approximately 78.5 square millimeters.

### Example 2 Find the Area of a Circle

**CAMPING** A popular campground is circular in shape and has a diameter of 24.6 miles. Find the area of the campground.

$$\begin{aligned} A &= \pi r^2 && \text{Area of a circle} \\ A &= \pi \cdot 12.3^2 && \text{Replace } r \text{ with } 24.6 \div 2 \text{ or } 12.3. \\ A &\approx 475.3 && \text{Use a calculator.} \end{aligned}$$

The area of the campground is approximately 475.3 square miles.

### Example 3 Standardized Test Practice

Tami draws a circle with a diameter of 10 inches. She then shades one-quarter of the area of the circle. Find the approximate area of the shaded region.

- A  $10 \text{ in}^2$                       B  $12.375 \text{ in}^2$                       C  $19.625 \text{ in}^2$                       D  $21.25 \text{ in}^2$

#### Read the Test Item

You know that the shaded region of the circle represents one-quarter of the total area of the circle. To find the area of the shaded region, find the total area of the circle and divide it by 4.

#### Solve the Test Item

$$\begin{aligned} A &= \pi r^2 && \text{Area of a circle} \\ A &= \pi \cdot 5^2 && \text{Replace } r \text{ with 5.} \\ A &= 78.5 && \text{Use a calculator.} \end{aligned}$$

The total area of the circle is approximately 78.5 square inches. So, the area of the shaded region is approximately  $\frac{78.5}{4}$  or 19.625 square inches and the answer is C.

