NAME _____ DATE _____ PERIOD _____

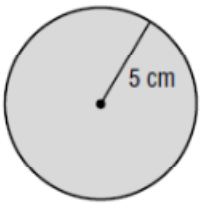
11-4 Study Guide and Intervention

Area of Circles

The area A of a circle equals the product of pi (π) and the square of its radius r.

$$A = \pi r^2$$

Example 1 **Find the area of the circle.**



$A = \pi r^2$ Area of circle

$A \approx 3.14 \cdot 5^2$ Replace π with 3.14 and r with 5.

$A \approx 78.5$

The area of the circle is approximately 78.5 square centimeters.

Example 2 **Find the area of a circle that has a diameter of 9.4 millimeters.**

$A = \pi r^2$ Area of a circle

$A \approx 3.14 \cdot 4.7^2$ Replace π with 3.14 and r with 9.4 ÷ 2 or 4.7.

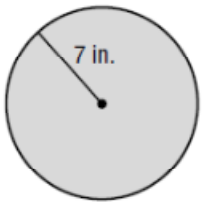
$A \approx 69.4$

The area of the circle is approximately 69.4 square millimeters.

Exercises

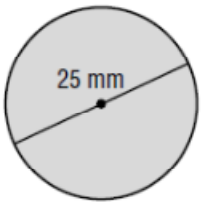
Find the area of each circle. Use 3.14 for π. Round to the nearest tenth.

1.



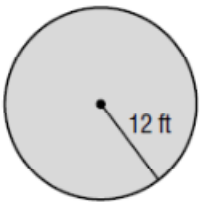
153.9 in²

2.



490.6 mm²

3.



452.2 ft²

4. radius = 2.6 cm

21.2 cm²

5. radius = 14.3 in.

642.1 in²

6. diameter = $5\frac{1}{2}$ yd

23.7 yd²

7. diameter = $4\frac{3}{4}$ mi

17.7 mi²

8. diameter = 7.9 mm

49.0 mm²

9. radius = $2\frac{1}{5}$ ft

15.2 ft²

Lesson 11–4