

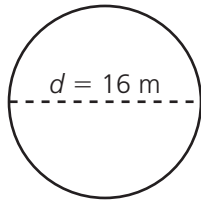
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If you know the radius or diameter of a circle, you can find its **circumference** and **area** using these formulas:

$$C = 2\pi r \text{ or } C = \pi d \quad A = \pi r^2$$

What is the circumference and area of this circle?



The diameter is 16 meters, so the radius is 8 meters.

$$C = 2\pi r = 2\pi(8) = 16\pi \text{ meters}$$

$$A = \pi r^2 = \pi(8)^2 = 64\pi \text{ square meters}$$

The **radius** of a circle is the distance from the center to any point on the circle.

The **diameter** is the distance across the circle through the center.

$$d = 2r$$

The **circumference** of a circle is the distance around the circle.

The number  $\pi$  (pi) is the ratio of a circle's circumference to its diameter.

$$\pi \approx 3.14$$

Read each problem. Circle the letter of the best answer.

**1** A circular pool has a circumference of approximately 25 meters. What is the approximate diameter of the pool? (Use 3.14 for  $\pi$ .)

- A** 4 m
- B** 5 m
- C** 6 m
- D** 8 m

The formula for the circumference of a circle is  $C = \pi d$ . Begin by substituting  $C = 25$  and  $\pi = 3.14$  into the formula:  $25 = 3.14d$ . Solving for  $d$ , you get  $d = 25 \div 3.14$ , which is about 8. The correct answer is D.

**2** What is the approximate circumference of a circle with a radius of 9 yards? (Use 3.14 for  $\pi$ .)

- A** 28.26 yd
- B** 56.52 yd
- C** 63.59 yd
- D** 254.34 yd

**3** A circular rug has a diameter of 8 feet. What is the area of the rug?

- A**  $4\pi \text{ ft}^2$
- B**  $8\pi \text{ ft}^2$
- C**  $16\pi \text{ ft}^2$
- D**  $64\pi \text{ ft}^2$

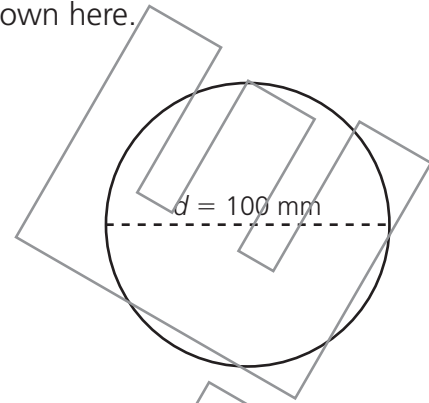
**4** The bottom of a circular planter has an area of about 113 square inches. What is the radius of the bottom of this planter? (Use 3.14 for  $\pi$ .)

- A** 6 in.
- B** 12 in.
- C** 18 in.
- D** 36 in.

Read each problem. Write your answers.

5 Edwina drew the outline of the base of a table lamp, as shown here.

A What is the area of the base of the table lamp?



Answer: \_\_\_\_\_

B Explain how you found your answer.

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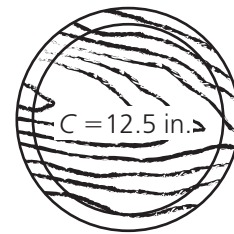
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6 Dennis carved this circular coaster in woodworking class.

The circumference of this coaster is 12.5 inches.

A What is the approximate radius of the coaster?



Answer: \_\_\_\_\_

B Explain how you found your answer.

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C What is the approximate area of the coaster? (Use 3.14 for  $\pi$ .)

Answer: \_\_\_\_\_