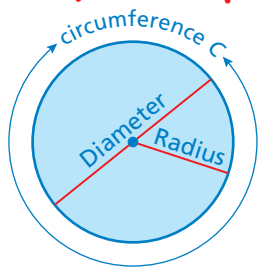


Key Concept and Vocabulary



$$C = \pi d$$

$$C = 2\pi r$$

$$\pi \approx 3.14$$

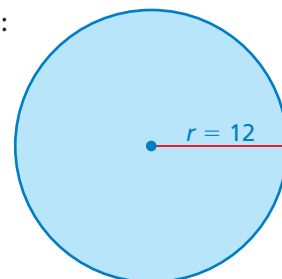
$$\pi \approx \frac{22}{7}$$



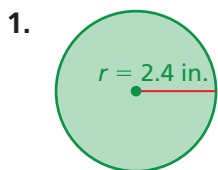
Visual Model

Circumference of a Circle:

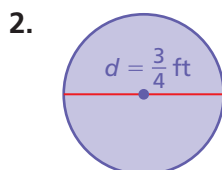
$$\begin{aligned} C &= 2\pi r \\ &= 2\pi(12) \\ &= 24\pi \\ &\approx 75.4 \text{ units} \end{aligned}$$



Skill Examples



$$\begin{aligned} C &= 2\pi(2.4) \\ &= 4.8\pi \\ &\approx 15.1 \text{ in.} \end{aligned}$$



$$\begin{aligned} C &= \pi\left(\frac{3}{4}\right) \\ &\approx 2.4 \text{ ft} \end{aligned}$$

Application Example

3. Find the circumference of the soccer ball.

$$\begin{aligned} C &= \pi(22.3) \\ &\approx 70 \end{aligned}$$



- ∴ The circumference is about 70 centimeters.

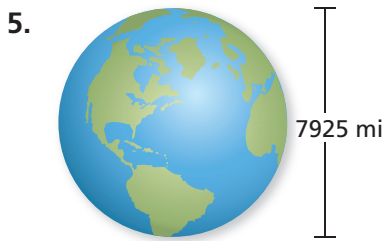
PRACTICE MAKES PURR-FECT®

Check your answers at BigIdeasMath.com.

Find the circumference. Round your answer to the nearest tenth. Use 3.14 for π .



Circumference \approx 14.4 in.



Circumference \approx 24,884.5 mi



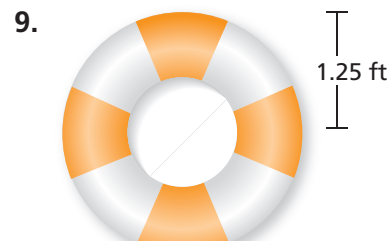
Circumference \approx 9.0 in.



Circumference \approx 25.7 cm



Circumference \approx 2.6 in.



Circumference \approx 7.9 ft

10. **RACETRACK** A circular racetrack has a circumference of one mile. What is the diameter of the racetrack in feet? Use 3.14 for π . about 1681.5 ft

11. **OLD OAK TREE** You have 110 inches of yellow ribbon. The diameter of an oak tree is 38 inches. Do you have enough yellow ribbon to wrap around the oak tree? Explain. Use 3.14 for π .
no; The circumference of the tree is $\pi(38) \approx 3.14(38) = 119.32 > 110$.