

Geometry - Lesson 5

Circumference

The **center** is the point in the middle of a circle.

The **diameter**, d , is the distance across a circle through its center.

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

The **circumference**, C , is the distance around a circle.

The diameter of a circle is twice its radius.
 The radius is half the diameter.
 The circumference of a circle is equal to π times its diameter or π times twice its radius.

$d = 2r$ $\pi = \frac{\text{CIRCUMFERENCE}}{\text{DIAMETER}}$

$r = \frac{d}{2}$ $\text{DIAMETER} \div 2 = \text{RADIUS}$
 $C = \pi d$ $\text{RADIUS} \times 2 = \text{DIAMETER}$
 $C = 2\pi r$

Example 1

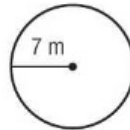
The radius of a circle is 7 meters. Find the diameter.

$$d = 2r$$

$$d = 2 \cdot 7 \quad \text{Replace } r \text{ with } 7.$$

$$d = 14 \quad \text{Multiply.}$$

The diameter is 14 meters.



RADIUS	DIAMETER
6	12
15	30
$11\frac{1}{2}$	23
$19\frac{1}{2}$	39

CIRCUMFERENCE

Example 2

Find the circumference of a circle with a radius that is 13 inches. Use 3.14 for π . Round to the nearest tenth.

$$C = 2\pi r$$

Write the formula.

$$C \approx 2 \times 3.14 \times 13$$

Replace r with 13 and π with 3.14.

$$C \approx 81.64$$

Multiply.

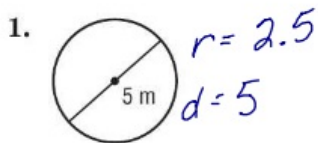
Rounded to the nearest tenth, the circumference is about 81.6 inches.

DIAMETER $\rightarrow C = \pi d$ $\pi = 3.14$

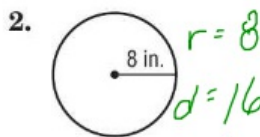
RADIUS $\rightarrow C = 2r\pi$

Exercises

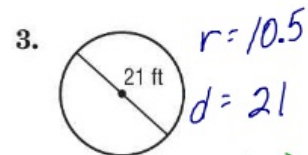
Find the circumference of each circle. Use 3.14 or $\frac{22}{7}$ for π . Round to the nearest tenth if necessary.



$$C = 3.14(5) = 15.7$$



$$C = 3.14(16) = 50.24$$



$$C = 3.14(21) = 65.94$$

Geometry - Lesson 5 Skills Practice

Circumference

Find the radius or diameter of each circle with the given dimensions.

1. $r = 13$ cm

$d = 26$ cm

2. $d = 4$ ft

3. $r = 10$ mm

4. $d = 16$ in.

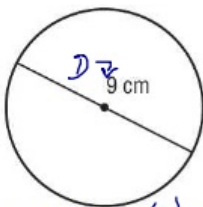
5. $r = 7$ mi

6. $d = 22$ yd

Find the circumference of each circle. Use 3.14 or $\frac{22}{7}$ for π . Round to the nearest tenth if necessary.

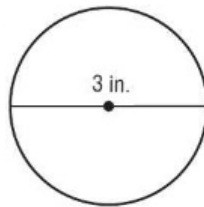
$C = \pi d$

7.

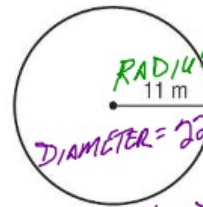


$C = 3.14(18) = 56.52$

8.

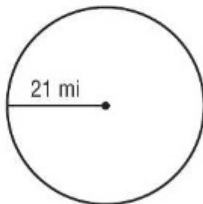


9.

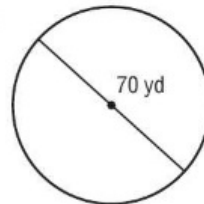


$C = 3.14(22) = 69.08$

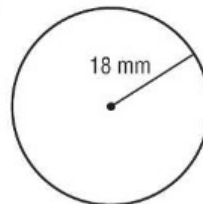
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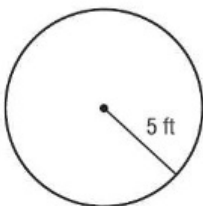
11.



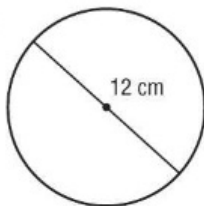
12.



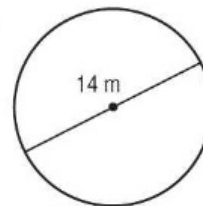
13.



14.



15.



16.



17.



18.

