Name _____ Date _____ Class _____

LESSON 9-1

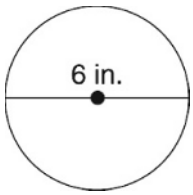
Circumference

Reteach

The distance around a circle is called the **circumference.** To find the circumference of a circle, you need to know the diameter or the radius of the circle.

The ratio of the circumference of any circle to its diameter $\left(\frac{C}{d}\right)$ is always the same. This ratio is known as π (pi) and has a value of approximately 3.14.

To find the circumference C of a circle if you know the diameter d, multiply π times the diameter. $C = \pi \bullet d$, or $C \approx 3.14 \bullet d$.



$C = \pi \bullet d$
$C \approx 3.14 \bullet d$
$C \approx 3.14 \bullet 6$
$C \approx 18.84$
The circumference is about 18.8 in. to the nearest tenth.

The diameter of a circle is twice as long as the radius r, or $d = 2r$. To find the circumference if you know the radius, replace d with $2r$ in the formula. $C = \pi \bullet d = \pi \bullet 2r$

Find the circumference given the diameter.

1. $d = 9$ cm
   $C = \pi \bullet d$
   $C \approx 3.14 \bullet$ _____

   $C \approx$ _____
   The circumference is _____ cm to the nearest tenth of a centimeter.

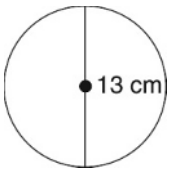
Find the circumference given the radius.

2. $r = 13$ in.
   $C = \pi \bullet 2r$
   $C \approx 3.14 \bullet (2 \bullet$ _____$)$

   $C \approx 3.14 \bullet$ _____

   $C \approx$ _____
   The circumference is _____ in. to the nearest tenth of an inch.

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

3. 

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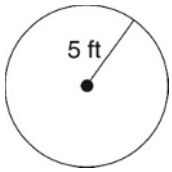
4. 

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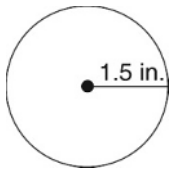
5. 

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MODULE 9 Circumference, Area, and Volume

LESSON 9-1

Practice and Problem Solving: A/B

1. 18.84 in.
2. 56.52 cm
3. 4.71 ft
4. 25.12 m
5. 37.68 ft
6. 12.56 yd
7. 43.96 in.
8. 26.26 cm
9. 7.85 m
10. 66 ft
11. 132 mm
12. 88 cm

Practice and Problem Solving: C

1. 3.93 in.
2. 11.30 yd
3. 13.19 mm
4. 2.36 cm
5. 4.19 ft
6. 3.14 in.
7. 3.5 in.
8. 18 yd
9. 9.55 in.
10. 16

Practice and Problem Solving: D

1. 50.2 m
2. 62.8 in.
3. 9.4 ft
4. 22.0 mm
5. 18.8 cm
6. 12.6 yd
7. 110 yd
8. 28.3 in.
9. 125.7 cm

Reteach

1. 9; 28.26; 28.3
2. 13; 26; 81.64; 81.6
3. 40.8 cm
4. 31.4 ft
5. 9.4 in.

Reading Strategies

1. $C = 2\pi r$
2. $C = \pi d$
3. It is twice as long.
4. Sample answer: 3.14 or $\frac{22}{7}$
5. The circumference of a circle is the distance around a circle. It is given in units. The perimeter of a polygon is the distance around a polygon. It is given in units.

Success for English Learners

1. the length of the diameter.
2. 18 cm
3. Take half of the diameter, 17 ft, and substitute that value into the formula for *r*.
4. $d = 10$ so $r = 5$

$$\begin{aligned} C &= 2\pi r \\ &= 2 \bullet 3.14 \bullet 5 \\ &= 31.4 \end{aligned} \qquad \begin{aligned} C &= \pi d \\ &= 3.14 \bullet 10 \\ &= 31.4 \end{aligned}$$

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