Lesson 9-2

TEKS
7.9B
7.1F

Finding Circumference

Q How do you find the circumference of a circle?

A Use _____ or _____ where C is the circumference, d is the _____, r is the _____ and pi is approx _____

Vocab.
Diameter – _____
Radius – _____
Circumference – _____

$C = \pi d$

if you know the diameter

$\frac{C}{\pi} = \frac{\pi d}{\pi}$

$\frac{C}{\pi} = d$

if you know the circumference

$C = 2r\pi$

if you know the radius

$\frac{C}{2\pi} = \frac{2r\pi}{2\pi}$

$\frac{C}{2\pi} = r$

if you know the circumference

Name _____ Date _____ Class _____

LESSON 9-2

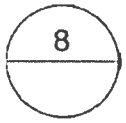
Finding Circumference

Reading Strategies: Using a Graphic Organizer

Perimeter is the distance around a polygon.

The chart below shows formulas for finding the circumference of circles.

Measuring the Distance Around Figures

Circumference of Circle	Circumference of Circle
 $C = \pi d$	 $C = 2\pi r$
(Circumference = pi • diameter)	(Circumference = 2 • pi • radius)

Use the information in the chart above to complete each exercise.

1. If you knew the radius of a circle, what formula would you use to find its circumference?

_____

2. If you knew the diameter of a circle, what formula would you use to find its circumference?

_____

3. How does the length of the diameter of a circle relate to the length of the radius of that same circle?

_____

4. What values of π can you use to approximate the circumference of a circle?

_____

5. How does the circumference of a circle relate to the perimeter of a polygon?

_____

_____

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LESSON 9-2

Finding Circumference

Success for English Learners

Problem 1

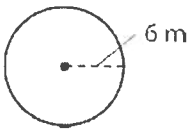
When you know the length of the radius of a circle, use the formula $C = 2\pi r$ to find its circumference.

$C = 2\pi r$

$C = 2\pi(6)$

$C \approx 2(3.14)(6)$

$C \approx 37.68$ m



Problem 2

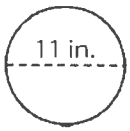
When you know the length of the diameter of a circle, use the formula $C = \pi d$ to find its circumference.

$C = \pi d$

$C = \pi(11)$

$C \approx 3.14(11)$

$C \approx 34.54$ in.



1. What information do you need to know to use the formula $C = \pi d$?

   _____

2. A circle has a radius of 9 centimeters. What is the length of its diameter?

   _____

3. Suppose you know a circle has a diameter of 34 feet. How could you use the formula $C = 2\pi r$ to find its circumference?

   _____

   _____

4. Find the circumference of a circle with a diameter of 10 meters using both formulas. Show your work.

   _____

   _____

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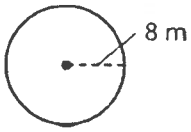
LESSON 9-2

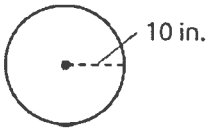
Finding Circumference

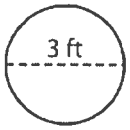
Practice and Problem Solving: D

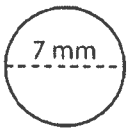
Find the circumference of each circle. Use 3.14 or $\frac{22}{7}$ for π. Round to the nearest tenth, if necessary. The first one is done for you.

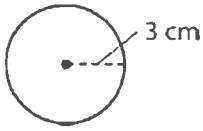
1. 

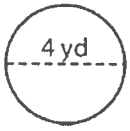
$C = 2\pi r \approx 2(3.14)(8) \approx 50.24$; 50.2 m

2. 

3. 

4. 

5. 

6. 

Solve each problem.

7. A circular patio has a diameter of 35 yards. What is the circumference of the patio? Use $\frac{22}{7}$ for π.

8. A paper plate has a diameter of 9 inches. What is the circumference of the plate? Use $\frac{22}{7}$ for π.

9. A circular light fixture has a radius of 20 centimeters. What is the circumference of the light fixture? Use $\frac{22}{7}$ for π.

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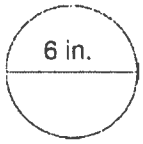
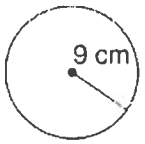
LESSON 9-2

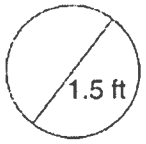
Finding Circumference

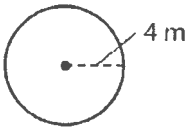
Practice and Problem Solving: A/B

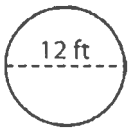
Find the circumference of each circle. Use 3.14 or $\frac{22}{7}$ for π. Round to the nearest hundredth, if necessary.

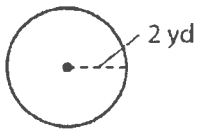
1. 

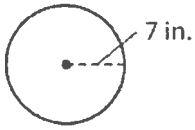
2. 

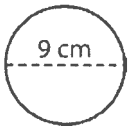
3. 

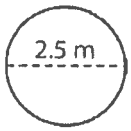
4. 

5. 

6. 

7. 

8. 

9. 

Solve.

10. A circular swimming pool is 21 feet in diameter. What is the circumference of the swimming pool? Use $\frac{22}{7}$ for π.

11. A jar lid has a diameter of 42 millimeters. What is the circumference of the lid? Use $\frac{22}{7}$ for π.

12. A frying pan has a radius of 14 centimeters. What is the circumference of the frying pan? Use $\frac{22}{7}$ for π.

Lesson 9-2

TEKS
7.9B
7.1F

Finding Circumference

Q How do you find the circumference of a circle?

A Use $C = \pi d$ or $C = 2\pi r$ where C is the circumference, d is the diameter, r is the radius and pi is approx 3.14 or $22/7$

Vocab.
Diameter – length across a circle that goes through the center
Radius – ½ the diameter
Circumference – distance around a circle, similar to perimeter

$C = \pi d$

if you know the diameter

$\frac{C}{\pi} = \frac{\pi d}{\pi}$

$\frac{C}{\pi} = d$

if you know the circumference

$C = 2r\pi$

if you know the radius

$\frac{C}{2\pi} = \frac{2r\pi}{2\pi}$

$\frac{C}{2\pi} = r$

if you know the circumference

Name Key Date _____ Class _____

LESSON 9-2

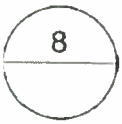
Finding Circumference

Reading Strategies: Using a Graphic Organizer

Perimeter is the distance around a polygon.

The chart below shows formulas for finding the circumference of circles.

Measuring the Distance Around Figures

Circumference of Circle	Circumference of Circle
 $C = \pi d$	 $C = 2\pi r$
(Circumference = pi • diameter)	(Circumference = 2 • pi • radius)

Use the information in the chart above to complete each exercise.

1. If you knew the radius of a circle, what formula would you use to find its circumference?

   $C = 2\pi r$

2. If you knew the diameter of a circle, what formula would you use to find its circumference?

   $C = \pi d$

3. How does the length of the diameter of a circle relate to the length of the radius of that same circle?

   diameter is x2 the radius

4. What values of π can you use to approximate the circumference of a circle?

   $\pi = 3.14$ or $\frac{22}{7}$

5. How does the circumference of a circle relate to the perimeter of a polygon?

   C is the distance around a circle

   P is the distance around a polygon.

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LESSON 9-2

Finding Circumference

Success for English Learners

Problem 1

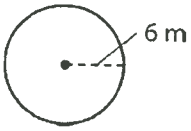
When you know the length of the radius of a circle, use the formula $C = 2\pi r$ to find its circumference.

$C = 2\pi r$

$C = 2\pi(6)$

$C \approx 2(3.14)(6)$

$C \approx 37.68$ m



Problem 2

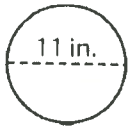
When you know the length of the diameter of a circle, use the formula $C = \pi d$ to find its circumference.

$C = \pi d$

$C = \pi(11)$

$C \approx 3.14(11)$

$C \approx 34.54$ in.



1. What information do you need to know to use the formula $C = \pi d$?

   the diameter

2. A circle has a radius of 9 centimeters. What is the length of its diameter?

   $9 \cdot 2 = 18$ cm

3. Suppose you know a circle has a diameter of 34 feet. How could you use the formula $C = 2\pi r$ to find its circumference?

   diameter of $34 \div 2 = 17$ sub $C = 2\pi r$ r for 17

4. Find the circumference of a circle with a diameter of 10 meters using both formulas. Show your work.

   $C = 2\pi r$ $C = \pi d$

   $2(3.14)(5)$ $3.14(10)$

   31.4 31.4

Name Key Date _____ Class _____

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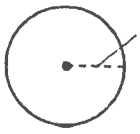
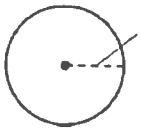
Finding Circumference

Practice and Problem Solving: D

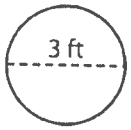
Find the circumference of each circle. Use 3.14 or $\frac{22}{7}$ for π. Round to the nearest tenth, if necessary. The first one is done for you.

1. 

$C = 2\pi r \approx 2(3.14)(8) \approx 50.24$; 50.2 m

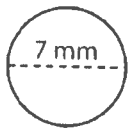
2. 

20 (3.14) 62.8"

3. 

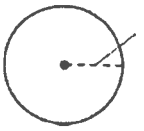
$C = \pi d$

3.14(3) 9.4 9.42'

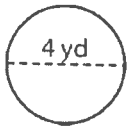
4. 

$C = \pi d$

3.14(7) 22. 21.98 mm

5. 

3(2)(3.14) 18.8cm

6. 

4(3.14) 12.6 yd

Solve each problem.

7. A circular patio has a diameter of 35 yards. What is the circumference of the patio? Use $\frac{22}{7}$ for π.

$\frac{35}{1} \cdot \frac{22}{7} = 110$

8. A paper plate has a diameter of 9 inches. What is the circumference of the plate? Use $\frac{22}{7}$ for π.

$\frac{22}{7} \cdot 9 = \frac{198}{7}$ 28.3"

9. A circular light fixture has a radius of 20 centimeters. What is the circumference of the light fixture? Use $\frac{22}{7}$ for π.

$\frac{40}{1} \cdot \frac{22}{7}$ 125.7cm