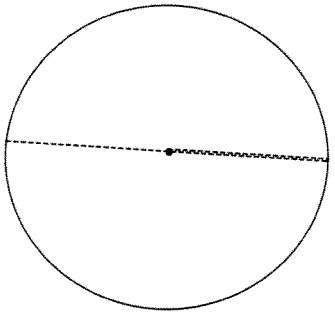
Circles

Color/ outline the circle with the following colors:

[ ] **BLUE** for the **Diameter**
[ ] **GREEN** for the **Radius**
[ ] **RED** for the **Circumference**
[ ] YELLOW for the **Area**



The _____ is the distance from the center to the edge of the circle.

The _____ is the distance from one edge of the circle through the center to the opposite edge of the circle.

The _____ is half of the _____.

Example: If the diameter is 10 feet. What is the radius?

The formula for the relationship between radius and diameter is:

_____.

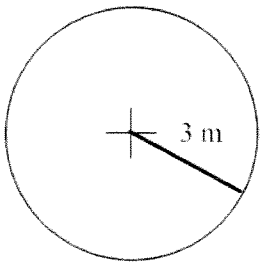
Circumference

The _____ is the distance around a circle. It is another word for _____.

The **formula** to find the **circumference** is:_____.

Examples: Find the circumference of the circle. Remember $\pi = 3.14$

1.



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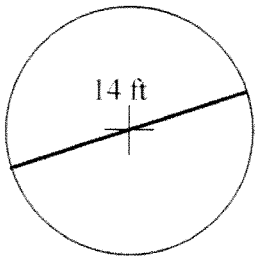
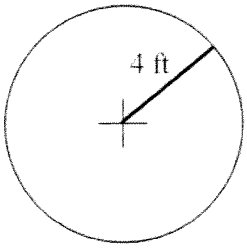


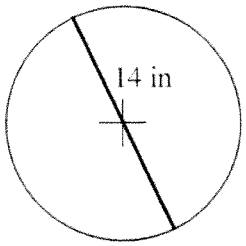
Area of Circles

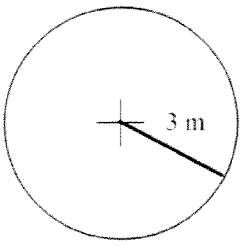
The _____ is the number of square units used to cover a surface.

The **formula** to find the area of a **circle** is: _____.

Examples: Find the area of the circle. Remember $\pi = 3.14$

1. 

2. 

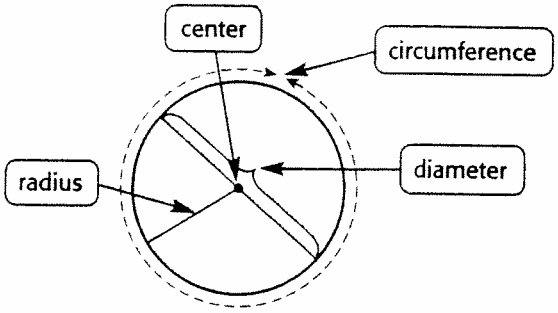
3. 

NAME _____ DATE _____ PERIOD ____

6-9 Study Guide and Intervention

Geometry: Circles and Circumference

A **circle** is the set of all points in a plane that are the same distance from a given point, called the **center**. The **diameter** d is the distance across the circle through its center. The **radius** r is the distance from the center to any point on the circle. The **circumference** C is the distance around the circle. The circumference C of a circle is equal to its diameter d times π, or 2 times its radius r times π.



EXAMPLE 1 **Find the circumference of a circle with a diameter of 7.5 centimeters.**

$C = \pi d$

$C \approx 3.14 \times 7.5$ Use 3.14 for π.

$C \approx 23.55$ The circumference of the circle is about 23.55 centimeters.

EXAMPLE 2 **If the radius of a circle is 14 inches, what is its circumference?**

$C = 2\pi r$

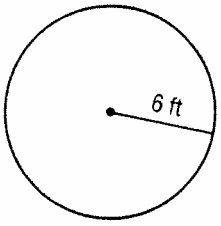
$C \approx 2 \times \frac{22}{7} \times 14$ Use $\frac{22}{7}$ for π.

$C \approx 88$ The circumference of the circle is about 88 inches.

EXERCISES

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

1.



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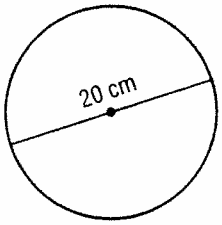

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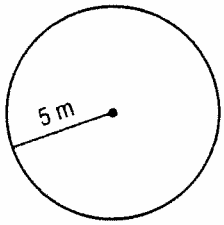

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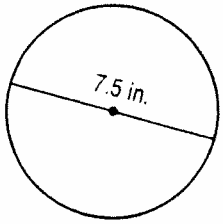

5. diameter = 15 km

6. radius = 21 mi

7. radius = 50 m

8. diameter = 600 ft

9. radius = 62 mm

10. diameter = 7 km

11. radius = 95 in.

12. diameter = 6.3 m

13. diameter = $5\frac{1}{4}$ cm

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NAME _____ DATE _____ PERIOD _____

6-9 Practice: Word Problems

Geometry: Circles and Circumference

1. PLATES A manufacturing company is producing dinner plates with a diameter of 12 inches. They plan to put a gold edge on each plate. Determine how much gold edging they need for each plate by finding the circumference of each plate. Round to the nearest tenth.	**2. MONEY** A dime has a radius of $8\frac{1}{2}$ millimeters. Find the circumference of a dime to the nearest tenth.
3. MERRY-GO-ROUND Mr. Osterhout is putting trim around the edge of a circular merry-go-round that has a diameter of 15 feet. How much trim does he need to buy to the nearest tenth?	**4. PIZZA** Find the circumference of a pizza with a diameter of 10 inches. Round to the nearest tenth.
5. RACING A circular racetrack has a diameter of $\frac{1}{2}$ mile. How far does a car travel in one lap around the track? Round to the nearest tenth.	**6. TIRE** A bicycle tire has a radius of 15 inches. What is the circumference of the tire? Round to the nearest tenth.
7. EQUATOR Earth's diameter at the equator is 7,926 miles. Find the distance around Earth at its equator to the nearest tenth.	**8. SATURN** The ring system around Saturn has a diameter of 170,000 miles. Find the circumference of the ring system.

Lesson 6-9

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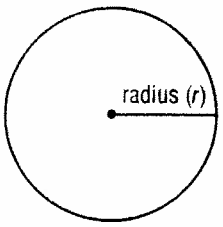
14-3 Study Guide and Intervention

Area of Circles

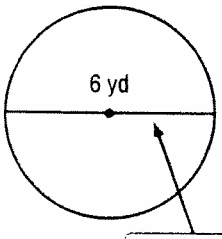
The area A of a circle is the product of π and the square of the radius r.

Symbols $A = \pi r^2$

Model



EXAMPLE 1 **Find the area of the circle to the nearest tenth.**



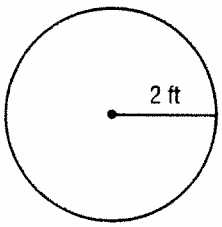
The diameter is 6 yards. So, the radius is 6 ÷ 2 or 3 yards.

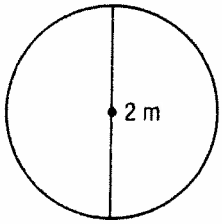
$A = \pi r^2$	Area of a circle
$A \approx 3.14 \times 3^2$	Replace π with 3.14 and r with 3.
$A \approx 3.14 \times 9$	Evaluate 3^2.
$A \approx 28.26$	Use a calculator.

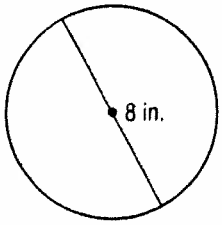
The area of the circle is about 28.3 square yards.

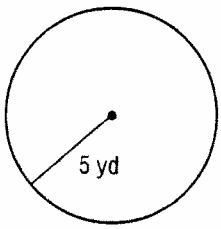
EXERCISES

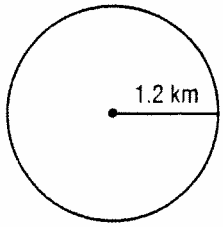
Find the area of each circle to the nearest tenth. Use 3.14 for π.

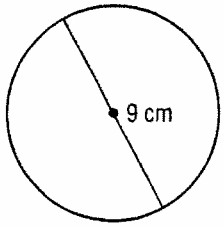
1. 

2. 

3. 

4. 

5. 

6. 

Lesson 14-3

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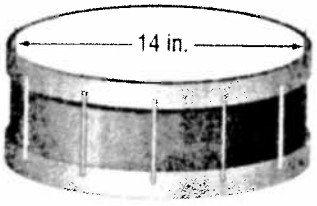
11-6 Practice: Word Problems

Area of Circles

1. POOLS Susan designed a circular pool with a diameter of 25 meters. What is the area of the bottom of the pool? Round to the nearest tenth.

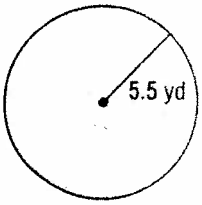
2. MONEY Find the area of the coin to the nearest tenth.

3. DRUMS What is the area of the drumhead on the drum shown below? Round to the nearest tenth.



4. PIZZA Estimate the area of the top of a round pizza that has a diameter of 16 inches. Round to the nearest tenth.

5. GARDENING Jane needs to buy mulch for the garden with the dimensions shown in the figure. For how much area does Jane need to buy mulch? Round to the nearest tenth.



6. UTILITIES What is the area of the top surface of a circular manhole cover that has a radius of 30 centimeters? Round to the nearest tenth.

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