

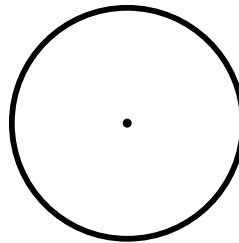
## CIRCUMFERENCE OF A CIRCLE

### PARTS OF A CIRCLE

A circle has many specific parts including the:

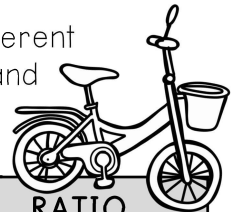
- \_\_\_\_\_,  $r$ : the distance from the center of the circle to the outside edge
- \_\_\_\_\_,  $d$ : a straight line that passes through the center of the circle; it has two endpoints on the circle
- \_\_\_\_\_,  $C$ : the distance around a circle

Label the parts of the circle at the right.

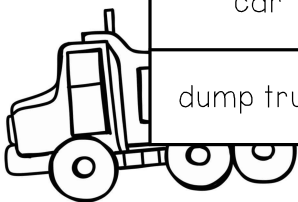


a. Using your labeled diagram, describe how the diameter and radius are related.

Micah and his friends work at a tire factory. The factory manufactures several different sized tires for different vehicles. Fill out the table below to show how the diameter and the circumference of the tires are related.



VEHICLE	DIAMETER OF TIRE	CIRCUMFERENCE OF TIRE	RATIO SET UP (C/D)	RATIO SIMPLIFIED
toddler bike	14 inches	43.96 inches	$\frac{43.96}{14}$	
bike	18 inches	56.52 inches		
car	24 inches	75.36 inches		
dump truck	36 inches	113.04 inches		



b. What patterns do you notice regarding the circumference and the diameter of each tire?

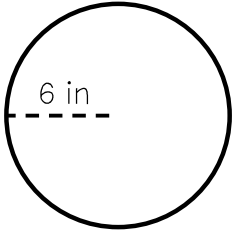
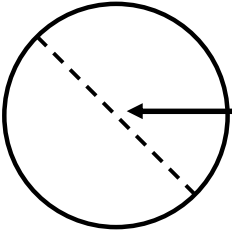
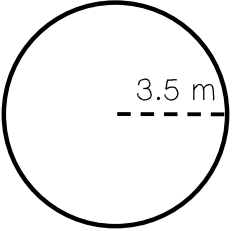
# CIRCUMFERENCE

- The circumference of a circle is the distance around the circle. It can be found using two formulas:

\_\_\_\_\_ or \_\_\_\_\_

- $\pi$  can be approximated to \_\_\_\_\_

Using the diameter and radii given below, find the circumference of the circles.

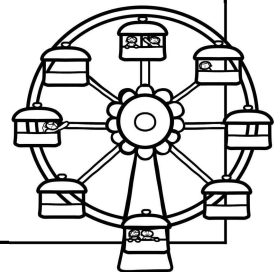
CIRCLE 1	CIRCLE 2	CIRCLE 3
 <p>6 in</p>	 <p>14 cm</p>	 <p>3.5 m</p>
Formula: _____	Formula: _____	Formula: _____
Plug in Values: _____	Plug in Values: _____	Plug in Values: _____
In terms of $\pi$ : _____	In terms of $\pi$ : _____	In terms of $\pi$ : _____
Circumference: _____	Circumference: _____	Circumference: _____

Use your knowledge of circumference and circles to answer question 1.

1. A Ferris wheel travels in a circular motion and measures 40 meters from the top car to the bottom car.

- What is the length of the radius of the Ferris wheel?
- What is the length of the diameter of the Ferris wheel?
- A car travels one time around the Ferris wheel. How many meters did the car travel?

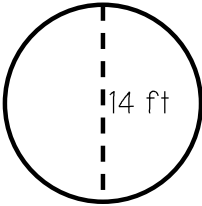
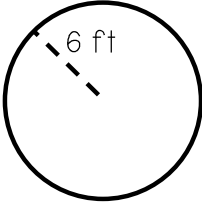
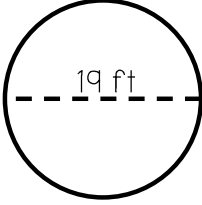
d. On another Ferris wheel, a car will travel 100.48 meters to go once around the wheel. What is the height from the top car to the bottom car?



Summarize today's lesson:

## CIRCUMFERENCE OF A CIRCLE

Draw a line connecting each circle to the appropriate radius, diameter, and circumference.

CIRCLE	RADIUS	DIAMETER	CIRCUMFERENCE
<p>1.</p> 	<p>4 feet</p> <p>6 feet</p>	<p>12 feet</p> <p>15 feet</p>	<p>59.66 feet</p> <p>34.54 feet</p>
<p>2.</p> 	<p>7.5 feet</p> <p>9.5 feet</p>	<p>19 feet</p> <p>22 feet</p>	<p>15.7 feet</p> <p>28.26 feet</p>
<p>3.</p> 	<p>8 feet</p> <p>7 feet</p> <p>10.5 feet</p>	<p>16 feet</p> <p>14 feet</p> <p>11 feet</p>	<p>37.68 feet</p> <p>43.96 feet</p> <p>18.84 feet</p>

Use your understanding of circumference to answer the questions below.

4. An electric toy train travels around a Christmas tree in a circle. The train track measures 6 feet in diameter. What is the distance that the train travels?

5. A tree is sold based on the circumference of its trunk. If a tree trunk has a radius of 4 inches, then what is the circumference of the tree trunk?



6. Erin runs laps around a circular pond with a radius of 12 yards. She calculated the total distance she would run after ten laps around the pond. Is Erin's calculation correct? If not, correct her work.

$$C = (3.14) (12) (10)$$

$$C = 37.68 (10)$$

$$C = 376.8 \text{ yards}$$