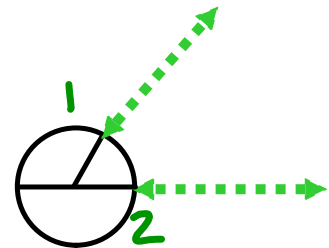


You need out your Warm Up, Agenda, & HW

**Homework: Area of Circles**

Warm Up:

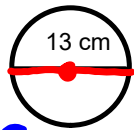
- 1) Label the parts of the circle:
- 2) If the diameter is 18 cm, what is the radius?



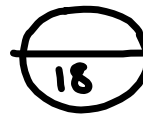
3) Find C.

$$C = \pi d$$

$$C = 2\pi r$$



exact:  $\pi \cdot 13$   
 $13\pi$



estimate:  $40.82 \text{ cm}$   
 $C = 13 \times 3.14$





# Oreo Math



A Yummy way to learn about circumference  
Name: \_\_\_\_\_

What is circumference?

perimeter of a circle

- Step #1: Wrap String around your Oreo.
- Step #2: Use a ruler to measure the length of the string. This is the circumference.
- Step #3: Record your findings.

Circular Object	Circumference
1. Oreo	17.2

Now measure the diameter. Cut your string to be the length of the diameter. About how diameters go around the cookie?

3 and half 3.5

Diameter	C divided by D
4.3	$17.2 / 4.3 = 3.6$

When you divide the circumference by the diameter, do you see a familiar number? What is this number?

$\pi$



$$10^2 = 10 \cdot 10 = 100$$

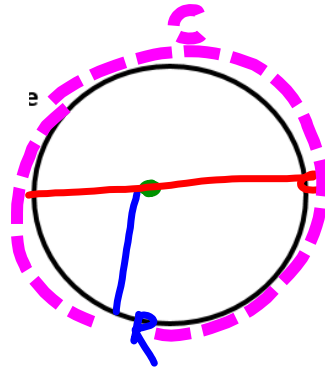
### AREA OF CIRCLES

Quick Review: Label the parts of a circle: **Diameter, Radius, Circumference**

Remember your radius is  $\frac{1}{2}$  of the diameter

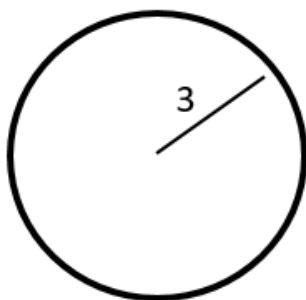
$$8^2 = 8 \cdot 8 = 64$$

$$4^2 = 4 \cdot 4 = 16$$



FORMULA FOR AREA OF a CIRCLE:  $A = \pi r^2$   
 $\pi \cdot r \cdot r$

Example: Find the area of the circle:

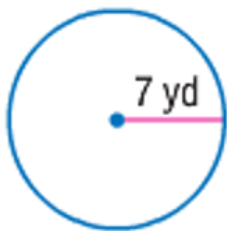


$$A = \pi r^2$$

$$A = \pi 3^2 \quad \pi \cdot 3 \cdot 3$$

$$A = 3.14 \times 9 = 28.26$$

2.



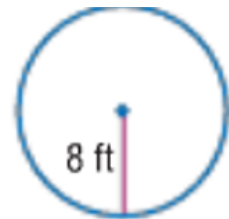
$$A = \pi \cdot r^2$$

$$\pi \cdot r \cdot r$$

$$\pi \cdot 7 \cdot 7$$

$$153.86 \text{ yd}^2$$

3.



$$A = \pi \cdot r^2$$

$$A = \pi \cdot 8^2$$

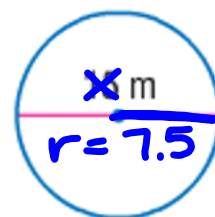
$$\pi \cdot 8 \cdot 8$$

$$A = \sqrt{200.96 \text{ ft}^2}$$

4.



5.



$$A = \pi \cdot r^2$$
$$\pi \cdot 7.5^2$$
$$\pi \cdot 7.5 \cdot 7.5$$
$$(176.62)$$

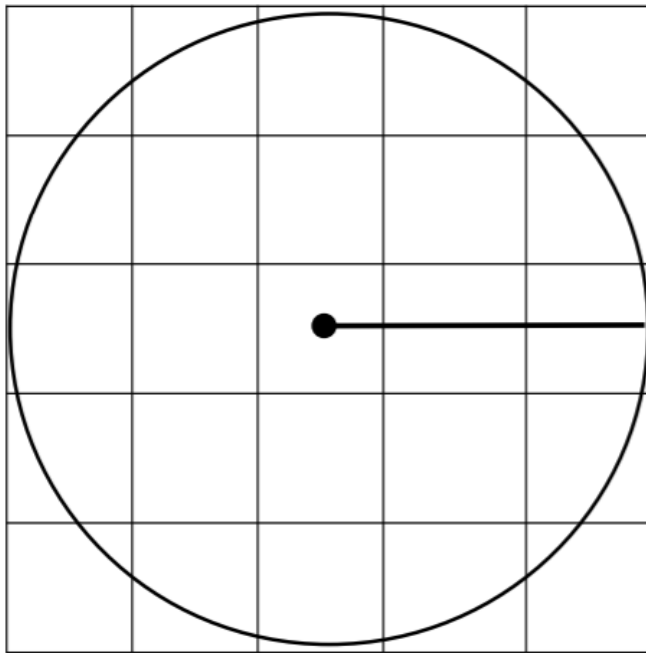
6.



7. On a basketball court, there is a semicircle above the free-throw line that has a radius of 6 feet. Find the area of the semicircle. Use 3.14 for  $\pi$ . Round to the nearest tenth.

### STEP 2-TRIALS AND OBSERVATIONS

### WHAT IS THE DIFFERENCE BETWEEN AREA AND CIRCUMFERENCE OF A CIRCLE?



Directions:

Area

- Color in the circle blue. (That's the area)
- Approximate the area of the circle by counting the squares and partial squares.
- Record your approximation in the box provided.

Circumference

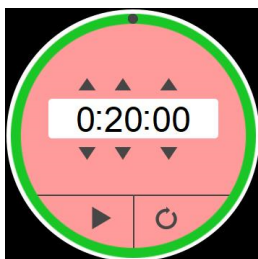
- Trace the outside of the circle red.
- Approximate the circumference by place a string around the outside of the circle and then measure it with a rule.
- Record your approximation in the box provided.

APPROXIMATE AREA

ACTUAL AREA

APPROXIMATE CIRCUMFERENCE

ACTUAL CIRCUMFERENCE





### STEP 3-DRAWING CONCLUSIONS

O WHAT IS THE DIFFERENCE BETWEEN AREA AND CIRCUMFERENCE OF A CIRCLE?

O WHAT ARE THREE MAIN POINTS FROM THIS DISCOVERY LAB?

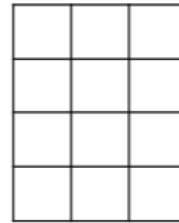
O

### AREA AND CIRCUMFERENCE OF CIRCLE DISCOVERY LAB

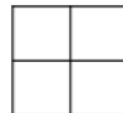
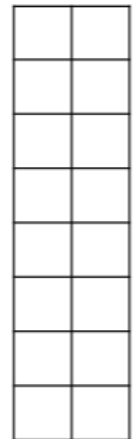
#### STEP 1-BUILDING BACKGROUND

WHAT IS THE AREA AND PERIMETER OF EACH SHAPE?

A=  
P=



A=  
P=



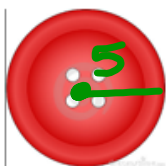
A=  
P=



A=  
P=

## AREA OF CIRCLES- HOMEWORK

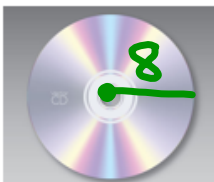
1)



What is the area of the button?

$$r=5$$

2)



What is the area of the CD?

$$r=8$$

3)



What is the area of the circle?

$$d=10$$

4)



What is the area of the smiley face?

$$d=16$$

5) If the radius of a circle is 18, what is the diameter?

6) If the diameter of a circle is 22, what is the radius?

sit silently for the news