11.3 Area of a Circle

AIM: How do you find the area of a circle given the radius or diameter?
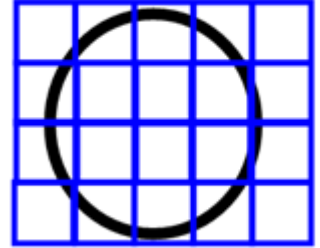
Remember: **What is area?**

Area is the number of square units that is needed to cover a figure.

The **units** for area are **always squared** (*ex*: inches^2, square feet).

The **area** of a circle is equal to π times the radius squared.

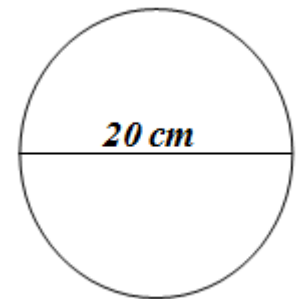The **formula** for the area of a circle is: *area* → $A = \pi \, r^2$ ← *radius*

Example #1: **"Using the Pi Button"**

Find the area of the circle to the right. Round your answer to the nearest *tenth*.

What do you know?	What do you need to find?

Step 1: Write out the formula   **F**

Step 2: Substitute   **S**

Step 3: Do the math.   **M**

Step 4: Round and label your answer   **U**

20 cm

Try It!

Find the area of a circle whose radius is 8 meters. Round your answer to the nearest *hundredth*.

What do you know?	What do you need to find?

Step 1: Write out the formula   **F**

Step 2: Substitute   **S**

Step 3: Do the math.   **M**

Step 4: Round and label your answer   **U**

<u>***Example #2:***</u> **"Leaving in Terms of Pi"**   **Try It!**

Find the area of a circle whose diameter   Find the area of a circle whose radius is 4 cm.
is 6 inches. Leave your answer in terms of π.   Leave your answer in terms of π.
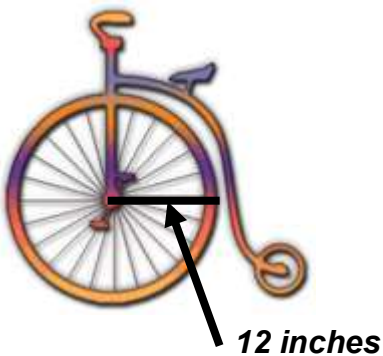   ***Show your work.***

F

S

M

U

On Your Own!

1.)   Find the **circumference** and **area** of the wheel with a radius of 12 inches. Use 3.14 for π.
        Show your work.

12 inches

2.)   A revolving water sprinkler sprays water in all directions to a distance of 25 feet from the
        sprinkler. What area does it cover? Round to the nearest square foot. ***Show your work.***