Area of Circles Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Math 7CP*

Area of Circles

**Warm Up:**

* Using what you learned yesterday, find the ***circumference*** of a circle given that the radius of the circle is 4 inches. Show all support work, and use 3.14 for pi ($π$). (Remember: $C=πd$)

**Lesson:**

1. What is the difference between area and circumference? Draw a visual of each term.
2. What is the formula for circumference?
3. The formula for area of a circle is:

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**This means that we find the area of a circle by multiplying the radius by itself, and then multiplying that product by** $π$**(pi).**

1. So what information is needed to find the area of a circle?
2. What if we are given the diameter, can we find the area of the circle? How?
3. Can we find the area of a circle if we know the circumference? How?

**Practice:**

1. Find the area of a circle with a **radius of 5 centimeters**. Show all support work and use 3.14 for pi.
2. Find the area of a circle with a **diameter of 28 inches**. Show all support work and use 3.14 for pi.

\**Note* - we can leave the answer to area and circumference problems *“in terms of pi”* so that our answer is more precise. This just means that we don’t multiply by 3.14, but we leave the symbol for pi in our answer. See the example below:

$$radius = 10 cm.$$

$$Area = π∙r∙r$$

$$Area = π∙10∙10$$

$$Area = 100π$$

Our final answer is $100π$, which is “*in terms of pi.*”

1. Find the area AND circumference of a circle with a **diameter of 16 meters**. Leave both answers “*in terms of pi*.”
2. Find the area AND circumference of a circle with a **radius of 22 inches.** Leave both answers “*in terms of pi*.”
3. Find the area of a circle if you know the circumference is $18π$centimeters. Write answers both ways (in terms of pi and with 3.14 multiplied out).
4. Find the area of a circle if you know the circumference is $30π$inches. Write answers both ways (in terms of pi and with 3.14 multiplied out).