

## Let's Take a Slice of Pi

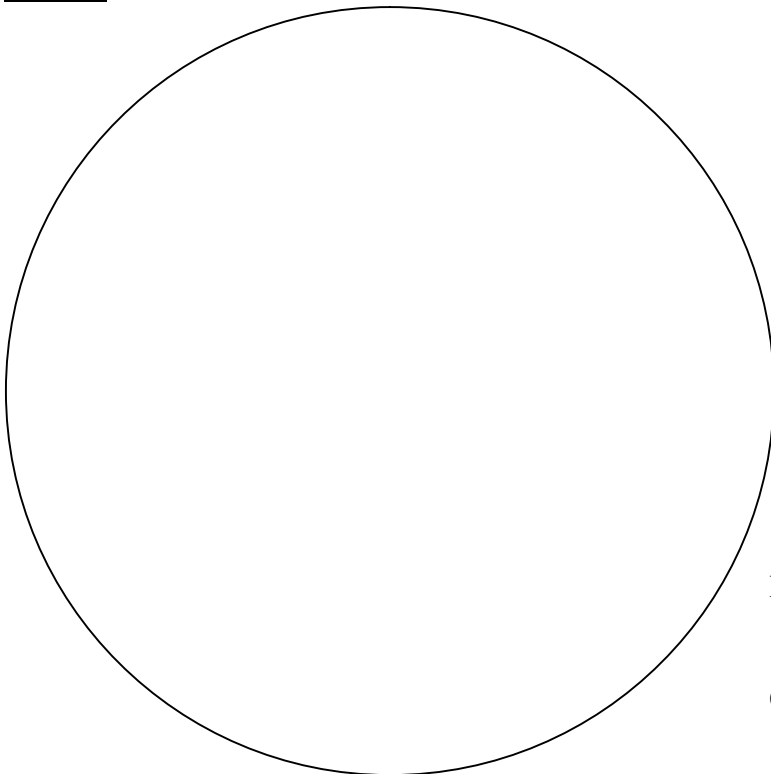
*Pi Pre-Activity Worksheet*

Materials needed:

- Ruler
- Pencil
- Yarn
- Scissors
- Markers
- Calculator

1. Measure the **diameter** of each of the three circles below in centimeters and record the values.
2. Measure the **circumference** of each circle by following the steps below:
  - a. Take a piece of yarn and place the end of the yarn right on top of the circle and wrap the yarn around the entire circle's **perimeter**.
  - b. Mark the endpoint (where the yarn meets its end at the top of the circle) with a dark colored marker.
  - c. Pick up the yarn after it's been marked, straighten it and cut it off where the endpoint is marked. This should give you the **circumference** of the circle.
  - d. Measure the piece of yarn with a ruler (remember to use the **centimeters** scale) and record this value.

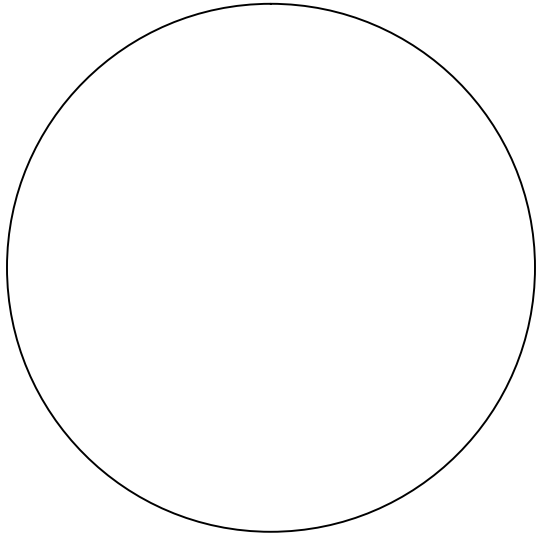
Circle 1



Diameter: \_\_\_\_\_

Circumference: \_\_\_\_\_

Circle 2

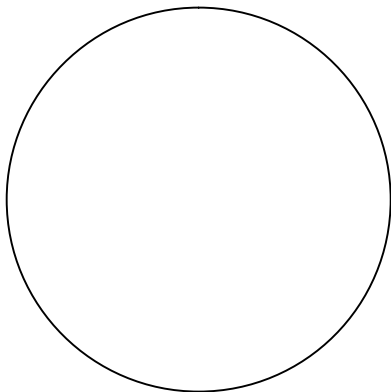


Diameter: \_\_\_\_\_

Circumference: \_\_\_\_\_

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Circle 3



Diameter: \_\_\_\_\_

Circumference: \_\_\_\_\_

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**Let's calculate Pi, π!**

Recall that Pi is equal to the circumference of a circle divided by the diameter of that circle, so:

$$\text{Pi} = \text{circumference} / \text{diameter}$$

For each of the circles above, use the values you measured and recorded to perform the above equation to find Pi.

(1) Circle 1:

$$\text{Pi} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ cm} / \underline{\hspace{2cm}} \text{ cm}$$

(2) Circle 2:

$$\text{Pi} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ cm} / \underline{\hspace{2cm}} \text{ cm}$$

(3) Circle 3:

$$\text{Pi} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ cm} / \underline{\hspace{2cm}} \text{ cm}$$

**Conclusion:**

(1) Do the calculated values of Pi for all three circles match? [Yes (very close) or No]. Explain your answer.

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(2) Take an average of the 3 Pi values (sum of all 3 pi values divided by 3):

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(3) Is the average Pi value close to the accepted value of 3.14151 ? Explain.

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