Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_

**8.3B Area of Circles\_Classwork**

*Objective: use inductive reasoning to understand the formula for the area of a circle*

CC.SS.7.G.4\_MP4 Model with Mathematics HW: textbook – 8.3B pg 336 #3-15 ALL

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| **Problem 1:** A dog is leashed to the corner of a house. How much running area does the dog have? Explain how you found your answer.  |
| **Problem** **2**: Find the area of the shaded region. Explain how you found your answer.  | **Problem 3:** Find the area of the shaded region. Explain how you found your answer.  |
| **Problem 4:** Consider five circles with radii of 1, 2, 4, 8, and 16 inches. 1. Complete the table. Write your answers in terms of $π$.
2. Compare the areas and circumferences. What happens to the circumference of a circle when you double the radius?
3. What happens to the area of a circle when you double the radius?
 |   |

**Area Formula Activity**

|  |  |
| --- | --- |
|  | What is the name of this shape?What is the formula to find the area of this shape? |
|  | What is the name of this shape?What is the formula to find the area of this shape? |
| What is the defintion of circumference? |

**THE AREA OF A CIRCLE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Part A:**

Cut the circle into 16 parts and rearrange the pieces into another simple shape.

**Part B:**

Draw the shape here

|  |
| --- |
|  |

1. Can you identify the new shape that you have created?
2. What is the approximate height and base of the new shape?

BASE = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and HEIGHT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find the area of the new shape. What can you conclude?

**Part C:**

1. IN YOUR OWN WORDS. Based on what you have done with the activity, how can you find the area of a circle?

