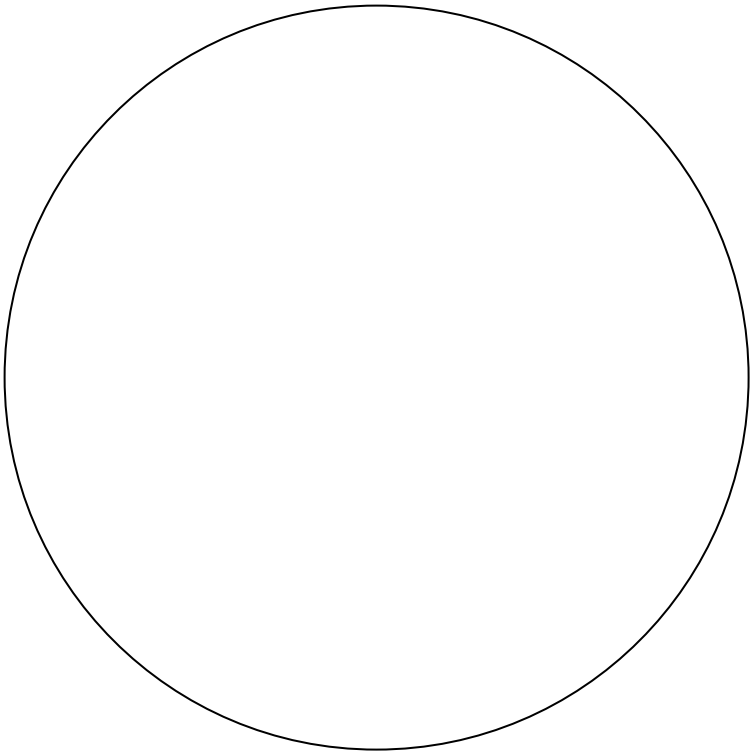
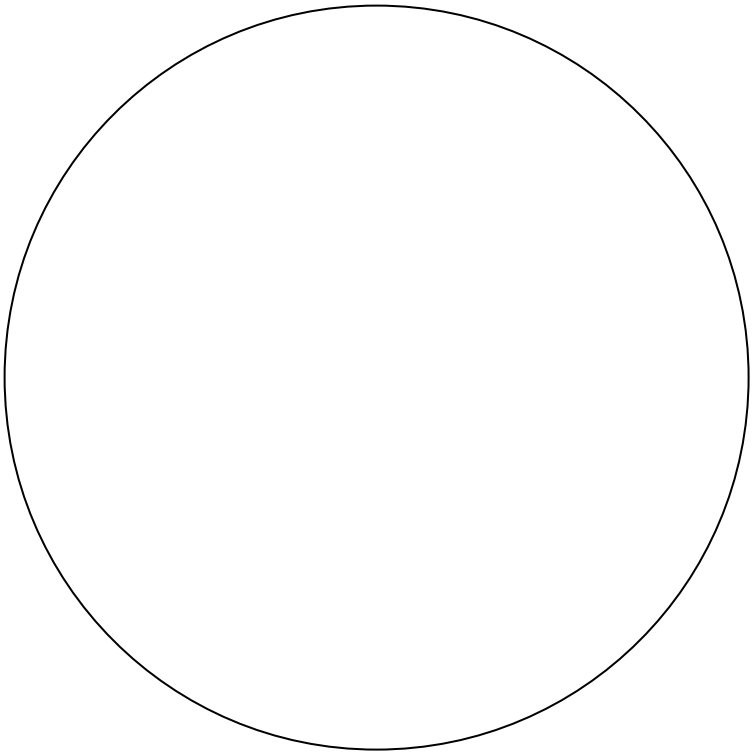
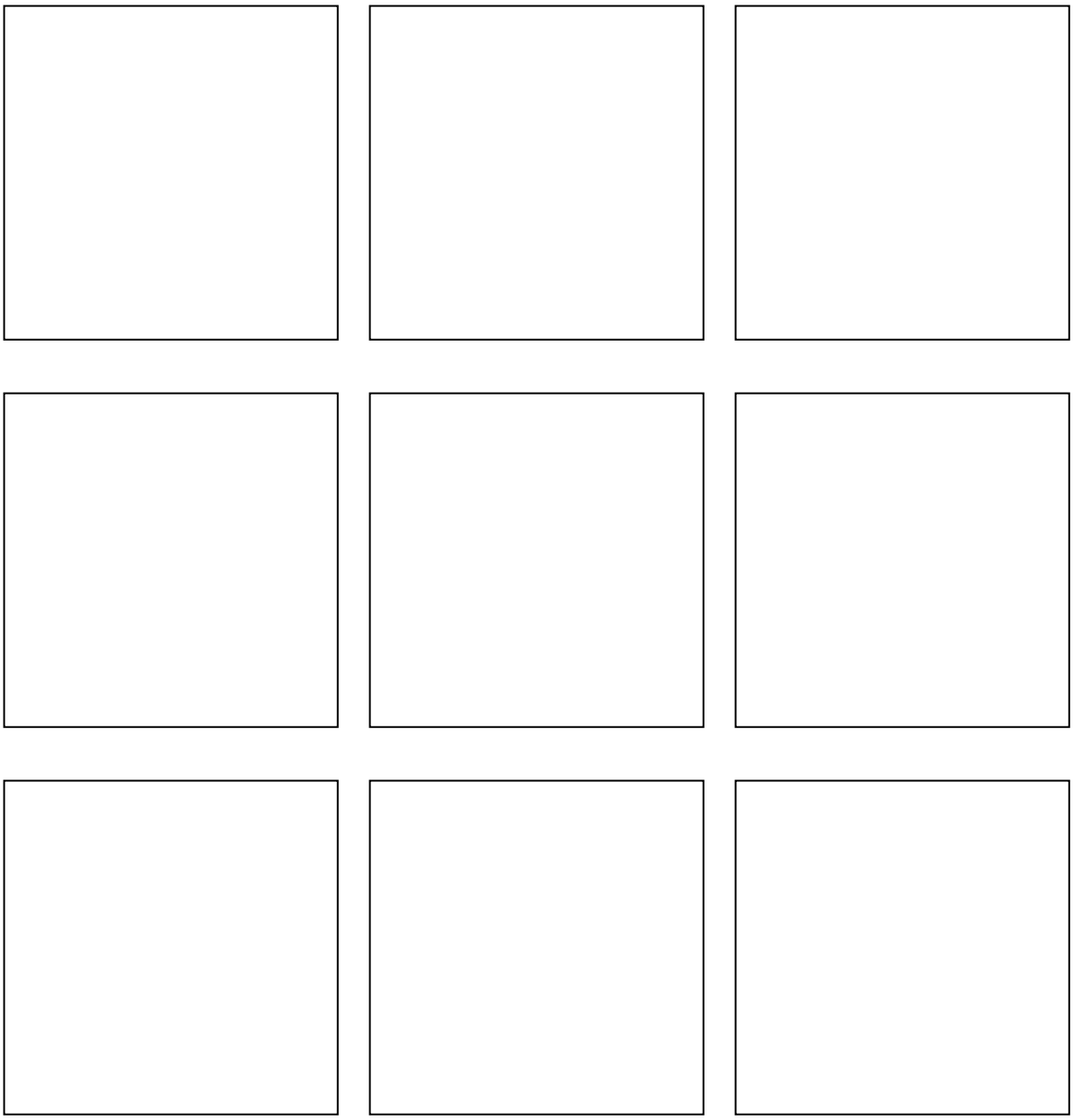
Radius Squares – Circle Worksheet





Radius Squares – Cut-outs



Radius Squares

Materials:

Paper with Circle
Radius Squares – set of 8
Glue sticks

1. Cut out your radius squares. A **radius square** is a square with a side length equal to the radius of the circle.
2. How many complete squares would be required to cover the area of the circle. Explain your reasoning with diagrams and written explanations.

   Math Experiments: Math Explanation:

3. If you were allowed to cut up the radius squares, how many radius squares would be needed to cover the circle completely?
   Math Experiments: Math Explanation:

4. Test your conjecture by gluing the radius squares on your circle, one at a time.
5. What percentage of the last square was used? How do you know?

   Math Experiments: Math Explanation:

6. Describe the relationships shown in the formula $A = \pi r^2$, where A is area and r is the radius. Your explanation should be able to convince a classmate that this formula is correct.

7. Describe the relationships shown in the formula $A = \frac{1}{4}\pi d^2$, where A is area and d is the diameter. Your explanations should be able to convince a classmate that this formula is correct.