

3. Geometry Review: Circle Folding

First & Last Name: _____ Class: _____

1. Cut out circle using template (see below) or draw your own circle using something round (like a paper plate).
2. Write down four properties of your cut-out circle. Prepare to share out.
 - a. _____.
 - b. _____.
 - c. _____.
 - d. _____.

3. Fold circle in half. What do you notice? Write the name of the math concept below.

4. The formal math name for a "half a circle" is:

5. Name at least one thing you've seen that looks like a "half a circle": _____.

6. Fold circle in fourths. Unfold and mark center. Draw a line from edge to edge through center. The name of this line is called:

7. Draw a line from edge to the center. The name of this line is called:

8. What is the formula for the circumference of a circle?

9. What is the formula for the area of a circle?

10. Fold the edge of the circle down so it meets the center. Draw a line on the resulting fold. This line is called a:

11. Fold down another edge to create an "ice cream cone" shape. [**Challenge:** How would you find the area of this shape?] Then fold down the final edge. What is the shape and what are some of its properties?

12. Explain how you can prove your shape is equilateral.

13. What is the formula for the area of you shape?

14. Fold one vertex down so it touches the center of the opposite side. What is the resulting shape?

15. [Challenge] What is the formula for the area of you shape?

16. Fold one of the *acute* vertices so it meets an *obtuse* vertex. What is the shape and what are some of its properties?

17. What is the relationship between the set of all rhombuses, the set of all parallelograms, and the set of all quadrilaterals?

18. Fold one acute vertex so it touches the other acute vertex. In your group, have one person unfold back to the original triangle. Compare the two triangles and name the mathematical concepts:

19. If you have a small triangle still, unfold back to original triangle. Fold each vertex so it touches the center point. The name of the “resulting shape” is:

20. How can you prove your “resulting shape” is *regular*?

21. [Challenge] How could you find the area of this shape?

22. Unfold back to the original triangle and then refold to make a pyramid. Describe the shape and name the related math concepts:

23. [Challenge] What is the formula for the volume of a pyramid?

24. Fold the top halves of the triangles down across each other to make a *truncated triangular pyramid*. Describe the bottom base, top base and sides:

25. [Challenge] How could you find the volume of your truncated pyramid?