Explore the Area of a Circle 1

**Measurement**

**Unit 1 Line Master 7a**

1. Construct a circle with a radius of 10–12 cm.
2. Fold the circle in quarters and cut along the folds.
3. Cut one of the quarters in half (2 equal parts) to create eighths.

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4. Arrange and glue the sections onto a piece of paper.
 Then, draw rectangle ABCD around the shape as shown.
 ****5.Determine the area of the rectangle to approximate the area
 of the circle.
6. Construct a second circle congruent to the first.
7. Fold the circle in eighths and cut along the folds.
8. Arrange and glue the pieces onto a piece of paper.
 Then, draw rectangle ABCD around the shape as shown.

 Explore the Area of a Circle 1 (cont’d)

**Measurement**

**Unit 1 Line Master 7b**

 9.Determine the area of rectangle ABCD to approximate the area
 of the circle.

 10. The area of a rectangle relates to the measures of a circle:

 Area of rectangle ABCD = AB × BC

 = π*r* × *r*

 = π*r*2

a) The length of the rectangle, AB, is approximately half of the
 circumference, or π*r*. Explain why.

b) Why is the width of the rectangle, BC, the same as
the radius, *r*?