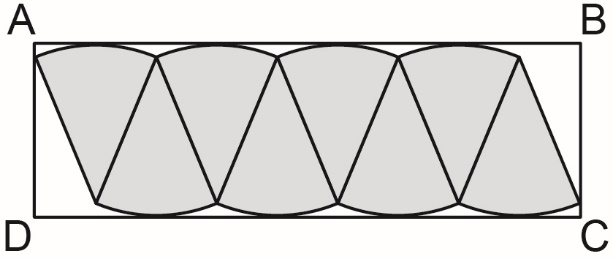
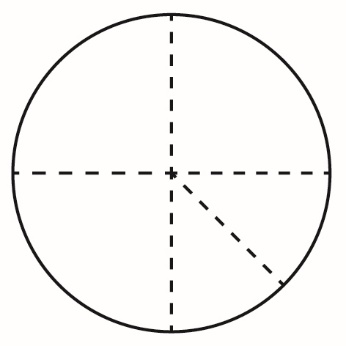
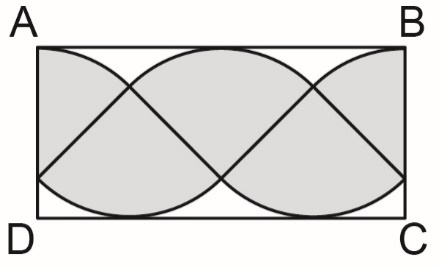
Explore the Area of a Circle 1

**Shape and Space**

**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.

**** ****   
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)

**Shape and Space**

**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*?