

## Teacher Notes

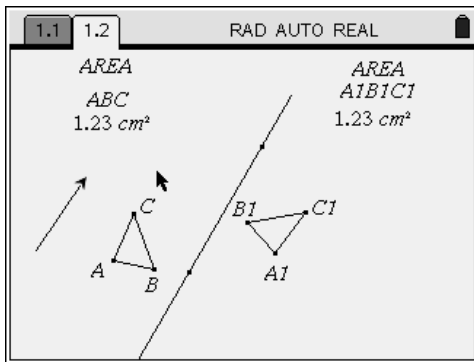
G.G.55 Investigate, justify, and apply the properties that remain invariant under glide reflections. AREA

### Lesson Launcher Objective:

- 1) Discover that area is preserved under a glide reflection.

Procedure:

The student opens the .tns document GLIDRFL2



$\triangle A_1B_1C_1$  is the image of  $\triangle ABC$  under a glide reflection.

The measures of the areas of the triangles have been indicated.

The student will explore the figure by dragging the vertices of the  $\triangle ABC$

- 1.) Select grab and drag point A.

What is changing? The areas of the triangles.

What is remaining the same? The area of the pre-image and image are always the same.

- 2.) Select grab and drag point B.

What is changing? The areas of the triangles.

What is remaining the same? The area of the pre-image and image are always the same.

3) Select, grab and drag point C. As you move point C stop and record 5 successive trials by entering the areas in the table below.

Trial Number	Area of $\triangle ABC$	Area of $\triangle A_1B_1C_1$
1		
2		
3		
4		
5		

Answers will vary student to student.

- 4) What seems to be true about the areas of  $\triangle ABC$  and  $\triangle A_1B_1C_1$ ? They are always equal.
- 5) Under the transformation glide reflection is area preserved? yes
- 6) In your own words explain what it means when a property is preserved.

Answers will vary.