

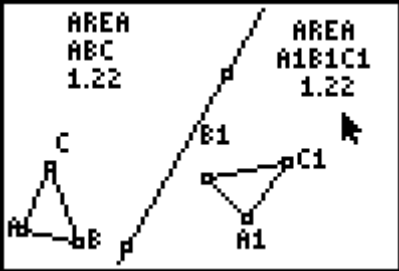
Teacher Notes

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:

<p>The student opens Cabri Jr. and the APPVAR GLIDRFL2</p>	<p>$\Delta A_1B_1C_1$ is the image of ΔABC under a glide reflection.</p>
 <p>The screenshot shows a software interface with two triangles. The first triangle has vertices labeled A, B, and C, and its area is displayed as 1.22. The second triangle has vertices labeled A1, B1, and C1, and its area is also displayed as 1.22. A dashed line representing a glide reflection line is drawn between the two triangles. A mouse cursor is visible near the second triangle.</p>	<p>The measures of the areas of the triangles have been indicated.</p> <p>The student will explore the figure by dragging the vertices of the ΔABC</p>

- 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.