

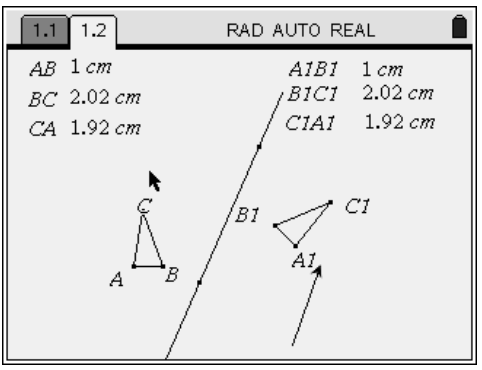
Teacher Notes

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

Lesson Launcher Objective:

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

Procedure:

<p>The student opens the .tns document GLIDRFL1</p>  <p>The screenshot shows a geometry software window with a menu bar (1.1, 1.2, RAD, AUTO, REAL) and a list of side lengths for two triangles. Triangle ABC has AB = 1 cm, BC = 2.02 cm, and CA = 1.92 cm. Triangle A1B1C1 has A1B1 = 1 cm, B1C1 = 2.02 cm, and C1A1 = 1.92 cm. A glide vector is shown as a line with an arrow passing through point B1.</p>	<p>$\Delta A_1B_1C_1$ is the image of ΔABC under a glide reflection.</p> <p>The measures of the sides 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 measures of all the sides.

What is remaining the same? The pre-image side and image side always have the same measure.

- 2.) Select grab and drag point B.

What is changing? The measures of all the sides.

What is remaining the same? The pre-image side and image side always have the same measure.

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

Trial #	AB	A1B1	BC	B1C1	CA	C1A1
1						
2						
3						
4						
5						

Answers will vary student to student.

- 4) What seems to be true about the distances AB and A1B1? They are always equal.
- 5) Name any other pairs of segments that share this same property. BC and B1C1, CA and C1A1
- 6) Under the transformation glide reflection is distance preserved? yes
- 7) In your own words explain what it means when a property is preserved.

Answers will vary.