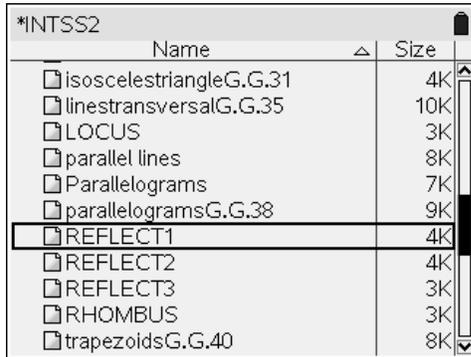
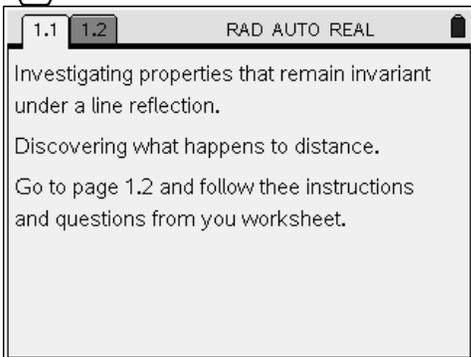
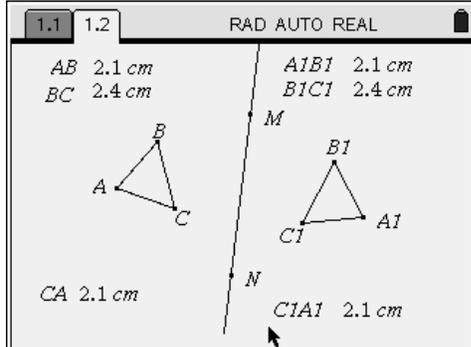


Ti-Nspire Student Worksheet for G.G.55 Investigate, justify, and apply the properties that remain invariant under reflections Distance

<p>After turning on your handheld press </p> 	<p>Select My documents </p> <p>Open Folder Geometry NY</p> <p>Select REFLECT1</p> 
<p></p> 	<p></p> 
<p>$\triangle A_1B_1C_1$ is the image of $\triangle ABC$ under a reflection through \overline{MN}.</p> <p>The lengths of the sides of the triangles have been indicated.</p>	<p>You will move the vertices of $\triangle ABC$ and drawn conclusions about the image $\triangle A_1B_1C_1$.</p> <p>Answer the following questions.</p>

1.) Select grab and drag point A.

What is changing? _____

What is remaining the same? _____

2.) Select grab and drag point B.

What is changing? _____

What is remaining the same? _____

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						

4) What seems to be true about the distances AB and A1B1? _____

5) Name any other pairs of segments that share this same property. _____

6) Under the transformation reflection over a line is distance preserved?

7) In your own words explain what it means when a property is preserved.

8) In $\triangle ABC$ as you move from point A to point B to point C is this movement clockwise or counterclockwise? _____

9) In $\triangle A_1B_1C_1$ as you move from point A₁ to point B₁ to point C₁ is this movement clockwise or counterclockwise? _____

10) This movement helps us to define the **orientation** of the pre-image and the image.

Is orientation preserved under a line reflection? _____

11) Justify your answer to the previous question.
