

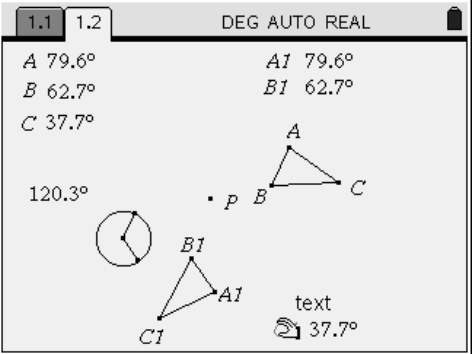
Teacher Notes

G.G.55 Investigate, justify, and apply the properties that remain invariant under rotation about a point. ANGLE MEASURE

Lesson Launcher Objective:

1) Discover that angle measure is preserved under a rotation about a point.

Procedure:

<p>The student opens the .tns document ROTATE2</p>	<p>$\Delta A_1B_1C_1$ is the image of ΔABC under a rotation about point P.</p>
	<p>The measures of the angles of the triangles have been indicated.</p> <p>The student will explore the figure by dragging the vertices of the ΔABC or by dragging either radius point.</p>

1.) Select grab and drag either radius point.

What is changing? The measures of the angles of the triangles.

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

2.) Select grab and drag point A, B or C.

What is changing? The measures of the angles of the triangles.

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

3) Select, grab and drag point A, B, C or either radius point. As you move your selected point stop and record 5 successive trials by entering the measures of the angles in the table below.

Trial #	$\angle ABC$	$\angle A_1B_1C_1$	$\angle BCA$	$\angle B_1C_1A_1$	$\angle CAB$	$\angle C_1A_1B_1$
1						
2						
3						
4						
5						

Answers will vary from student to student.

- 4) What seems to be true about the measures of $\angle ABC$ and $\angle A_1B_1C_1$? They are always equal.
- 5) Name two other pairs of angles that demonstrate this same property.
 $\angle BCA$ and $\angle B_1C_1A_1$, $\angle CAB$ and $\angle C_1A_1B_1$
- 6) Under the transformation glide reflection is angle measure preserved? yes
- 7) In your own words explain what it means when a property is preserved.

Answers will vary.