Triangles – Part 2
Triangle Similarity – Part 1
**Independent Practice**

1. Consider the statement below:

    Congruent triangles are always similar.

    Which of the following statements is an example of the statement above? Select all that apply.

    ☐ Angles are the same, but sides are proportional to each other.

    ☐ Sides are the same size.

    ☐ A dilation of a scale factor ≠ 1.

    ☐ Corresponding angles and corresponding sides are congruent.

    ☐ A dilation of a scale factor of 1.

2. Determine if the two triangles are similar. If so, write a similarity statement for the triangles. Justify your answer.
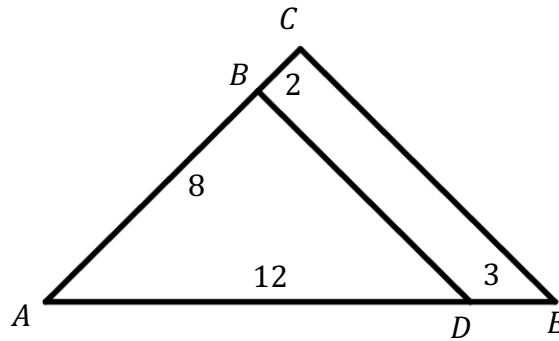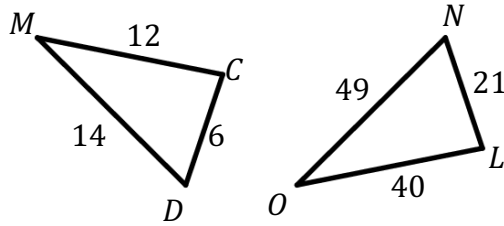

Statement	Reason
1. $\angle A \cong \angle A$	**1.**
2. $\frac{AB}{AC} = $ _____	
3. $\frac{AD}{AE} = $ _____	

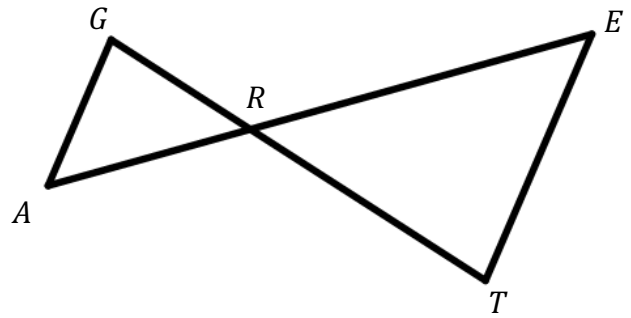**4.** $\triangle ABD \sim \triangle ACE$ **4.**

3. Are the following triangles similar? Justify your answer.
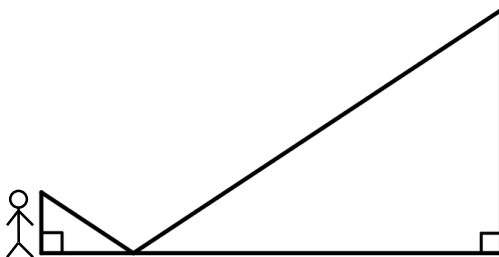

4. Consider the following figure and proof.

Given: $\overline{GA} \parallel \overline{TE}$
Prove: $\triangle GRA \sim \triangle TRE$

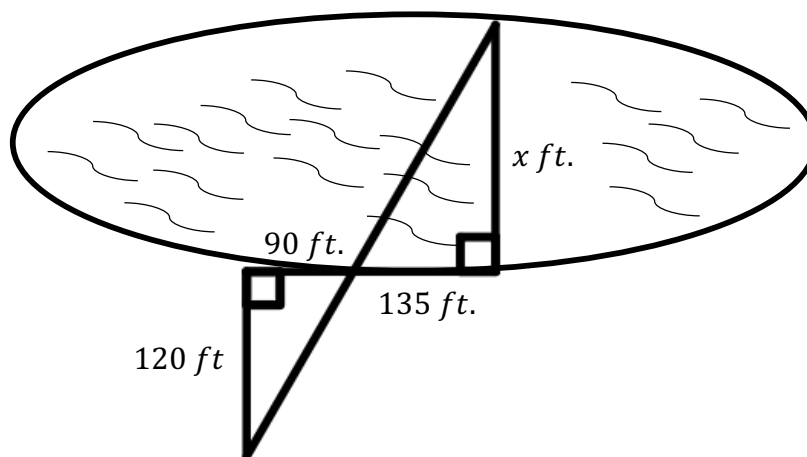| Statement	Reason
1.	**1.** Given
2.	**2.** Alternate Interior Angles are Congruent
3.	**3.** Alternate Interior Angles are Congruent
4. $\triangle GRA \sim \triangle TRE$	**4.**

5. Before rock climbing, Fernando, who's 5.5 $ft.$ tall, wants to know how high he will climb. He places a mirror on the ground and walks six feet backwards until he can see the top of the cliff in the mirror.

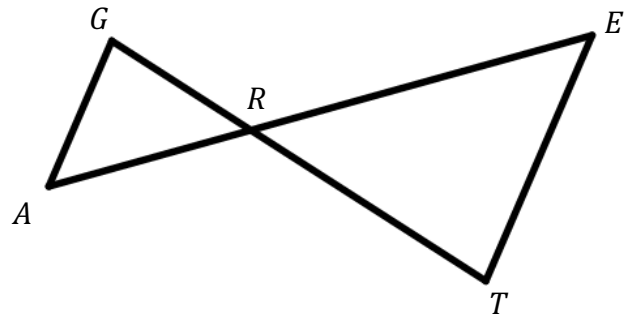Determine the similarity theorem or postulate that you can use to determine the height of the cliff.

6. Determine what similarity postulate or theorem we can use to determine the value of x, the width of the river.

$x\ ft.$

$90\ ft.$

$135\ ft.$

$120\ ft$

7. Consider the following figure and proof.

Given: $RE = 2AR$ and $RT = 2GR$
Prove: $\Delta GAR \sim \Delta TER$

Statement	Reason
1.	**1.** Given
2.	**2.** Vertical Angles
3.	**3.** Proportionality of Sides
4. $\Delta GAR \sim \Delta TER$	**4.**