

Name: \_\_\_\_\_  
 Geometry

Date: \_\_\_\_\_  
 Band: \_\_\_\_\_

### Unit 6: Similarity Study Guide

**LT#1:** Write ratios and solve proportions.

1. A high school has 16 math teachers for 1856 math students. What is the ratio of math teachers to math students?

2. The measures of two complementary angles are in the ratio 2:3. What is the measure of the smaller angle?

Solve each proportion.

3.  $\frac{x}{7} = \frac{18}{21}$

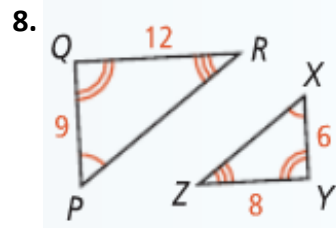
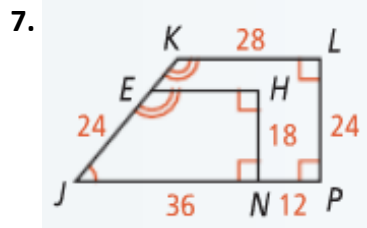
4.  $\frac{6}{11} = \frac{15}{2x}$

5.  $\frac{x}{3} = \frac{x+4}{5}$

6.  $\frac{8}{x+9} = \frac{2}{x-3}$

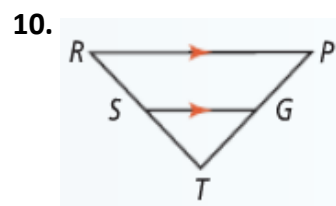
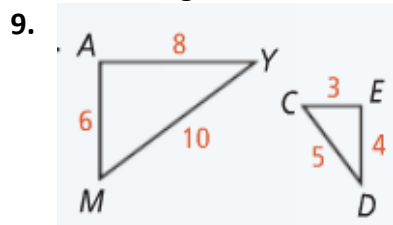
**LT#2:** Identify and apply similar polygons.

The polygons are similar. Write a similarity statement and give the scale factor.



**LT#3:** Use the AA Similarity Postulate and the SAS Similarity and SSS Similarity Theorems.

Are the triangles similar? How do you know?



**LT#4: Use similarity to find indirect measurements.**

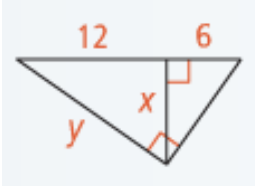
**11.** The length of a rectangular playground in a scale drawing is 12 in. If the scale is 1 in. = 10 ft, what is the actual length?

**12.** A 3-ft vertical post casts a 24-in. shadow at the same time a pine tree casts a 30-ft shadow. How tall is the pine tree?

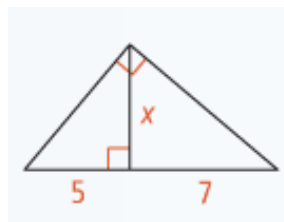
**LT#5: Find and use relationships in similar triangles.**

**Find the value of each variable. Write your answer in simplest radical form.**

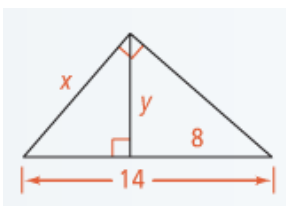
**13.**



**14.**



**15.**



**16.**

