

**Geometry Test - Unit 6**  
**Similarity**

☺ Name: \_\_\_\_\_ ☺

Date: \_\_\_\_\_ Pd: \_\_\_\_\_

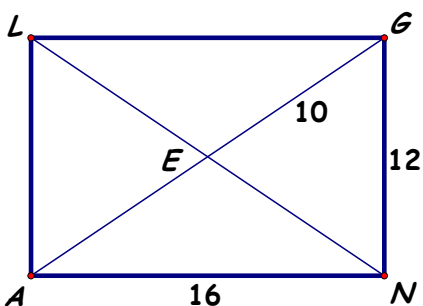
*Definitions (1-3)*

1) Ratio

2) Similarity

3) Extremes of a proportion

4) Quadrilateral *ANGL* is a rectangle. Express the ratio of *AN* : *AG* in simplest form.



4) \_\_\_\_\_

5) Complete the statement. If  $\frac{3}{x} = \frac{7}{2}$ , then  $6 = \underline{\quad? \quad}$ .

5) \_\_\_\_\_

*Solve the following proportions:*

6)  $\frac{7x}{5} = \frac{42}{3}$

6) \_\_\_\_\_

7)  $\frac{4x-1}{5x+1} = \frac{3}{4}$

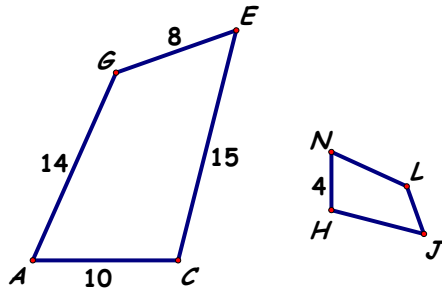
7) \_\_\_\_\_

8)  $\frac{2x}{40} = \frac{5}{4x}$

8) \_\_\_\_\_

9) The ratio of the lengths of the three sides of a triangle is 5 : 8 : 10. If its perimeter is 276 inches, find the length of the longest side.

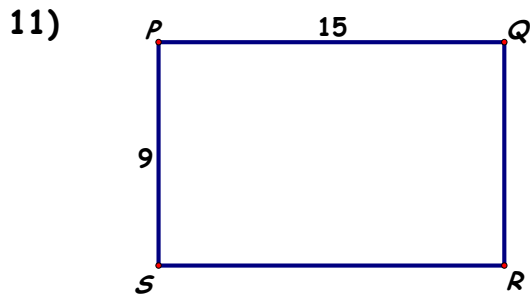
10) Given that quadrilateral  $ACEG \sim$  quadrilateral  $NHJL$ ,  $HJ = \underline{\quad? \quad}$ .



9) \_\_\_\_\_

10) \_\_\_\_\_

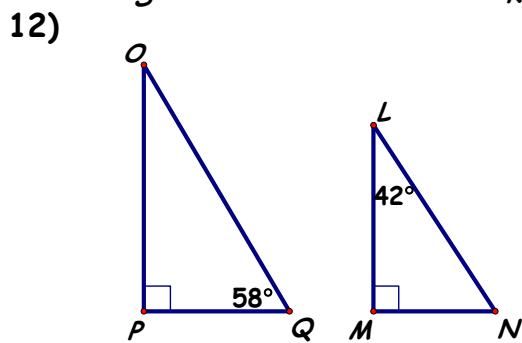
Determine whether each pair of figures is similar. If so, write a similarity statement and scale factor. If not, explain your reasoning.



11) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

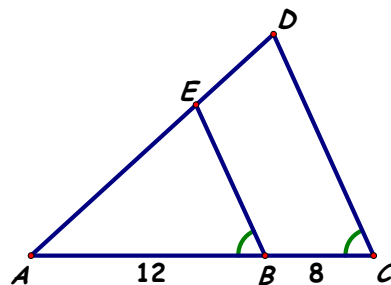


12) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

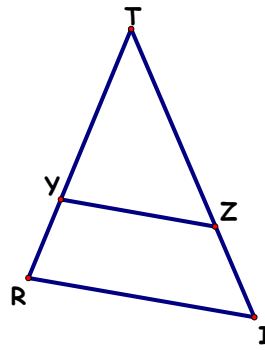
13) Complete:  $\triangle EAB \sim \underline{\quad? \quad}$ .



13) \_\_\_\_\_

14) Tell whether the proportion is correct:

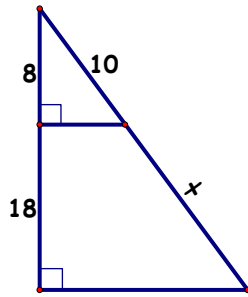
$$\frac{YR}{ZI} = \frac{TY}{TZ}$$



14) \_\_\_\_\_

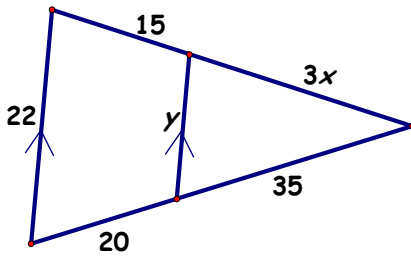
Find the values of each variable.

15)



15) \_\_\_\_\_

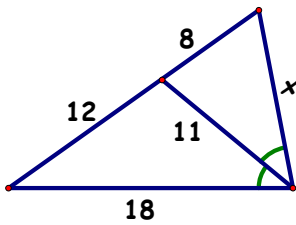
16)



16) \_\_\_\_\_

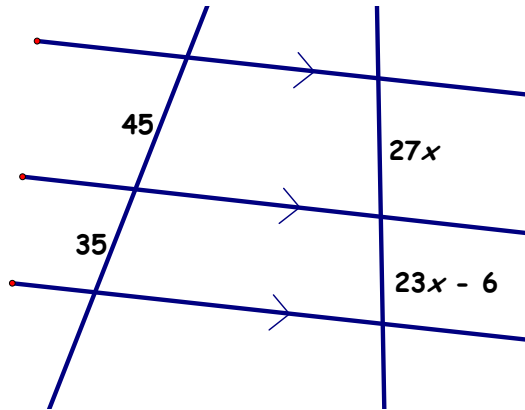
\_\_\_\_\_

17)



17) \_\_\_\_\_

18)



18) \_\_\_\_\_

19) Two similar trapezoids have a scale factor of 3:2. The perimeter of the larger trapezoid is 21 yards. What is the perimeter of the smaller trapezoid?

19) \_\_\_\_\_

20) The ratio of North Carolina residents to Americans is about 295 to 10,000. If there are approximately 300,000,000 Americans, how many of them are North Carolina residents?

- A) 7,950,000
- B) 8,400,000
- C) 8,850,000
- D) 9,125,000

20) \_\_\_\_\_