

Please solve each proportion.

1)  $\frac{x}{x+3} = \frac{7}{10}$

2)  $\frac{x-3}{2x+3} = \frac{10}{15}$

1) \_\_\_\_\_

2) \_\_\_\_\_

Please set up a proportion and solve.

3) A photo that is 4 inches wide and 5 inches high was enlarged so that it is 16 inches wide. How high is the enlargement?

3) \_\_\_\_\_

4) Philip had been eating 3 hamburgers every 5 days. At that rate, how many hamburgers will he eat in 30 days?

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

Please find the indicated measures.

5) The ratio of the measures of the sides of a triangle is 7:9:12, and its perimeter is 84 inches. Find the measures of the lengths of all three sides.

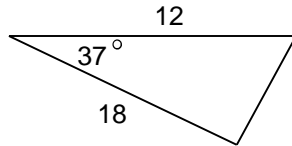
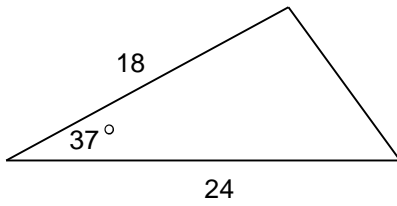
5) \_\_\_\_\_

6) The ratio of the measures of the angles in a triangle is 4:5:6. Find all three angle measures.

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

(a) Determine whether each pair of triangles is similar.  
 (b) If YES, give a reason. (AA $\sim$ , SSS $\sim$ , or SAS $\sim$ )

7)

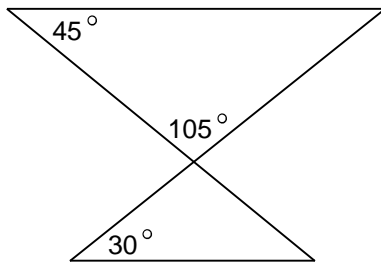


7)

(a) YES NO

(b) \_\_\_\_\_

8)

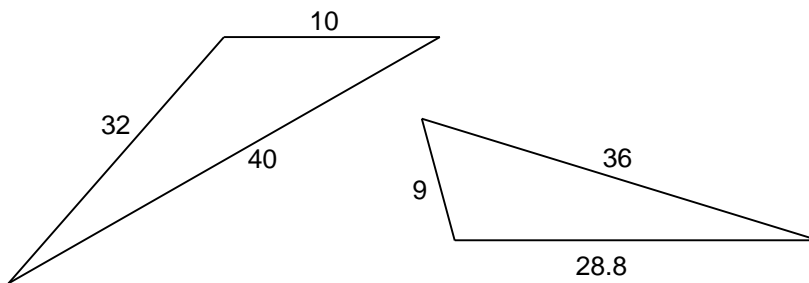


8)

(a) YES NO

(b) \_\_\_\_\_

9)

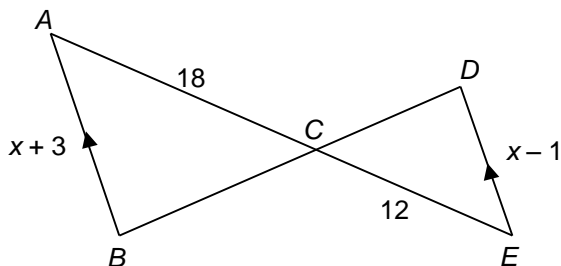


9)

(a) YES NO

(b) \_\_\_\_\_

Use the diagram below for problems 10 – 12.



10) Write a similarity statement for the triangles.

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

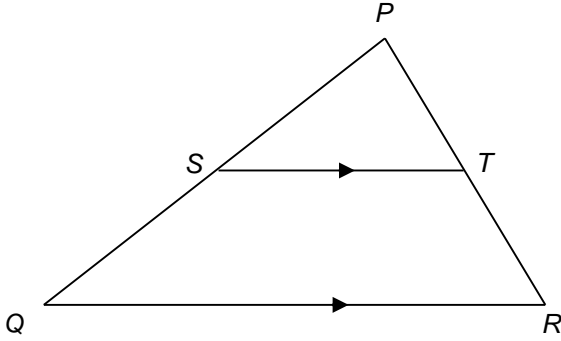
11) Find the scale factor.

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

12) Solve for x.

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

In  $\triangle PQR$ ,  $\overline{ST} \parallel \overline{QR}$  for problems 13 – 15. Please treat each problem independently.



13) If  $PS = 14$ ,  $SQ = 12$ , and  $TR = 7$ , find  $PT$ .

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

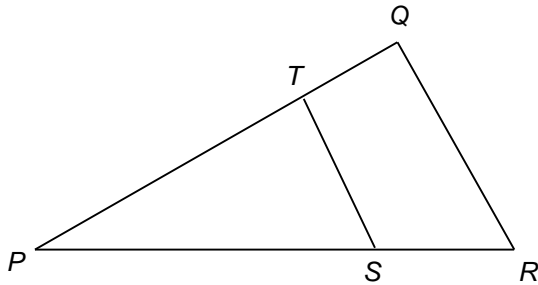
14) If  $PS = 8$ ,  $SQ = 7$ , and  $QR = 21$ , find  $ST$ .

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

15)  $\overline{ST}$  is midsegment of  $\triangle PQR$ . Find  $ST$  if  $QR = 30$ .

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

$\overline{TS} \parallel \overline{QR}$ ,  $TS = 6$ ,  $PS = x + 7$ ,  $QR = 8$ , and  $SR = x - 1$ .



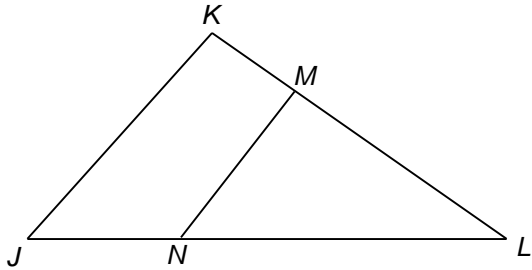
16) Find the value of  $x$ .

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

17) Find the lengths of  $PS$  and  $PR$ .

17)  $PS =$  \_\_\_\_\_  
 $PR =$  \_\_\_\_\_

Please determine whether  $\overline{JK} \parallel \overline{NM}$ .



18)  $JN = 18$ ,  $JL = 30$ ,  $KM = 21$ , and  $ML = 35$ .

18) YES NO

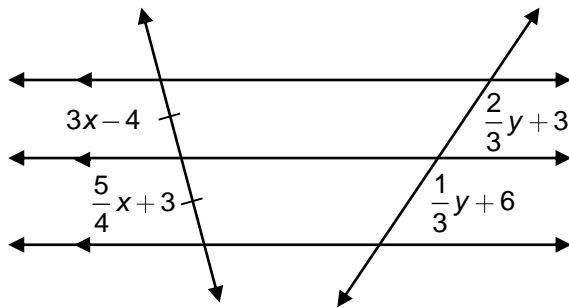
19)  $KM = 24$ ,  $KL = 44$ , and  $NL = \frac{5}{6}JN$ .

19) YES NO

20) Please find the value of  $x$  and  $y$ .

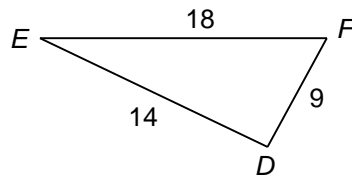
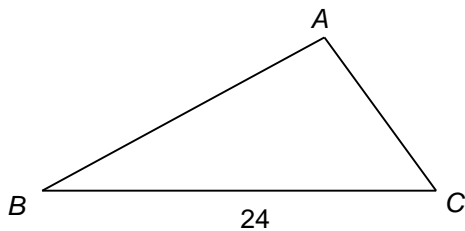
20)  $x = \underline{\hspace{2cm}}$

$y = \underline{\hspace{2cm}}$



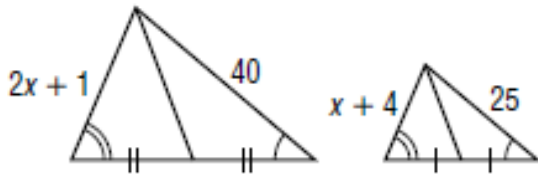
21) Find the perimeter of  $\triangle ABC$  if  $\triangle ABC \sim \triangle DEF$ .

21)  $\underline{\hspace{2cm}}$



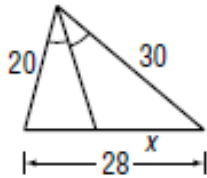
Please find the value of  $x$ .

22)



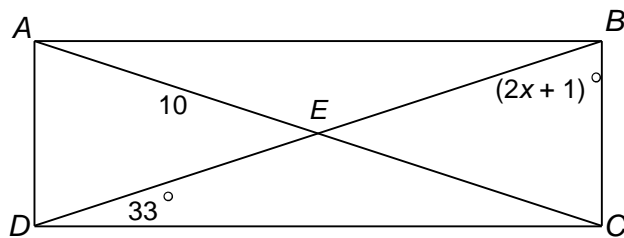
22) \_\_\_\_\_

23)



23) \_\_\_\_\_

$ABCD$  is a rectangle. Please find each missing angle measure of segment length.



24) Find the value of  $x$ .

24) \_\_\_\_\_

25) Find  $m\angle DEC$ .

25) \_\_\_\_\_

26) If  $DB = y - 1$ , find the value of  $y$ .

26) \_\_\_\_\_

27) What is the sum of the interior angles of a heptagon? (7 sides)

27) \_\_\_\_\_

30) How many sides does a regular polygon have if each interior angle measures  $160^\circ$  ?

30) \_\_\_\_\_

31) What is the measure of each interior and exterior angle of a 30-gon?

31) Ext Angle \_\_\_\_\_

Int Angle \_\_\_\_\_