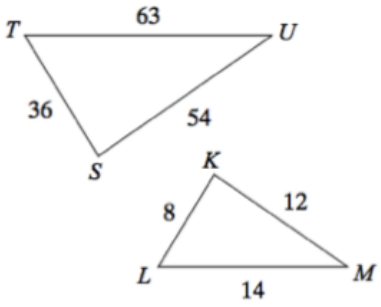
Geometry Honors
Unit 3: Similar Figures and Dilation
3.1 Proportions, Corresponding Parts in Similar Figures

Mathematician: _____
Period:_____

LEVEL: EMERGING

Directions: Determine if the two triangles are similar. If they are, determine the linear scale factor and write a similarity statement.

1)

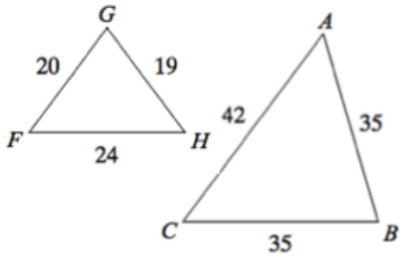


Similar? YES or NO

Linear Scale Factor: _____

Similarity Statement: _____

2)

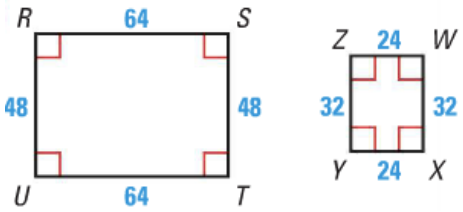


Similar? YES or NO

Linear Scale Factor: _____

Similarity Statement: _____

3)



Similar? YES or NO

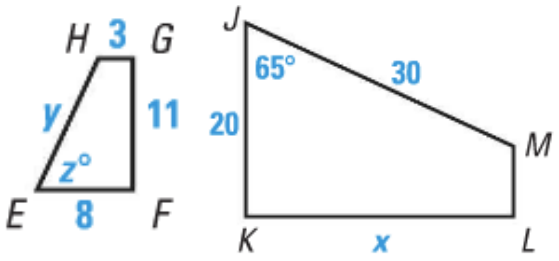
Linear Scale Factor: _____

Similarity Statement: _____

LEVEL: PROFICIENT

Directions: In the diagram, $JKLM \sim EFGH$.

4)

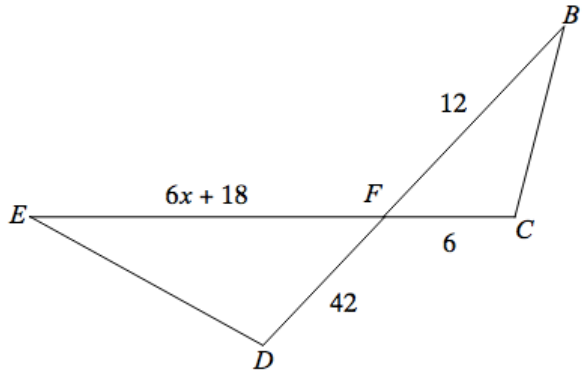


a) Find the scale factor of $JKLM$ to $EFGH$.

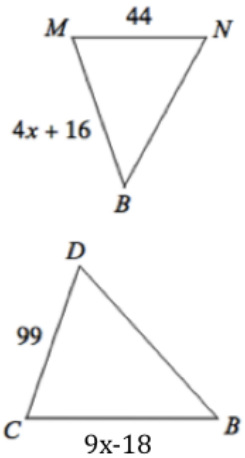
b) Find the values of x, y, and z.

$x =$ _____ $y =$ _____ $z =$_____

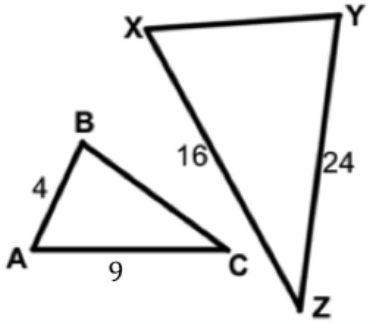
5) Solve for x given that $\Delta FDE \sim \Delta FCB$



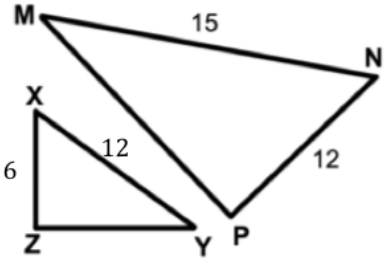
6) Solve for x given that $\Delta NMB \sim \Delta DCB$



7) $\Delta ABC \sim \Delta XYZ$. What is $\overline{XY}$?



8) $\Delta XYZ \sim \Delta MNP$. What is $\overline{YZ}$?



9) Which of the following triangle measurements represents a similar triangle to one with measurements of 32, 11, and 15 inches?

(a) 10.66 in, 3.66 in, and 1.66 in
(b) 8 in, 2.75 in, and 5 in
(c) 16 in, 5.5 in, and 7.5 in
(d) 64 in, 22 in, and 30 in
(e) 96 in, 22 in, and 15 in

10) Which of the following triangle measurements represents a similar triangle to one with measurements of 25, 33, and 42 feet?

(a) 10 ft, 13.2 ft, and 16.8 ft
(b) 12.5 ft, 1.5 ft, and 10.5 ft
(c) 75 ft, 99 ft, and 126 ft
(d) 100 ft, 132 ft, and 168 ft
(e) 50 ft, 66 ft, and 84 ft

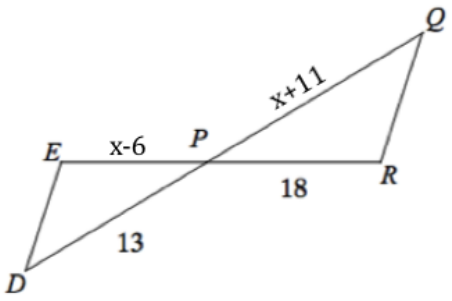
LEVEL: MASTERY

11) Draw and label the sides and angles of two similar triangles.

12) What does it mean if two triangles are similar? Describe relationship between the angles and sides.

13) Given that $\Delta STU \sim \Delta FED$ and $\overline{ST} = 5x - 12, \overline{UT} = x^2 + 3x - 4, \overline{FE} = 2,$ and $\overline{DE} = 6,$ find $\overline{ST}$.

14) Given that $\Delta PED \sim \Delta PRQ$ find $\overline{EP}$



15) The lengths of the sides of a triangle have the ratio 2:6:7. If the perimeter of the triangle is 45 yards, what is the length of the smallest side?