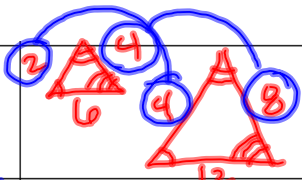


Similar	polygons that have \cong angles and proportional sides - marked with \sim	
Ratio	a proportion that compares 2 quantities using a fraction, words, or colon	$\frac{2}{4} = \frac{4}{8} = \frac{1}{2}$ $\frac{1}{2}$ 1:2 1 to 2

Nov 6-8:51 AM

TOC pg 84- Similar Triangles

notation

\cong congruent

\sim similar

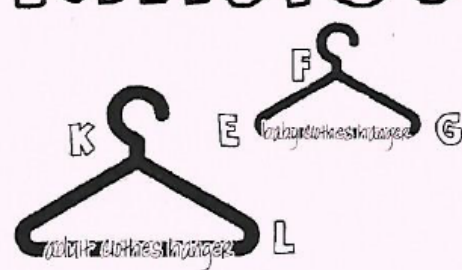
*ratio has to be the same for all 3 sides

Say it out loud!

Similar Triangles

Name: _____

Label and write congruent / equal statements.



$\triangle EFG \sim \triangle JKL$

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Properties


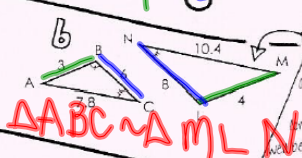
Corresponding angles are ...
always congruent!

Corresponding sides are ...
proportional in length!

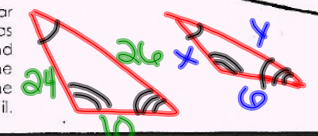
Similar polygons have the same interior angle measure but different side lengths

Try It $\frac{6}{8} = \frac{5}{12} = \frac{6.5}{8}$ $\frac{3}{4} = \frac{6}{8} = \frac{7.8}{10.4}$

For each, determine whether the triangles are similar. If they are, write a similarity statement.

1 **Not ~**  $\Delta ABC \sim \Delta MLN$  The third angle pair must be congruent as well because of

2 The two sails on a sailboat are similar triangles. The large sail has sides that are 10 m, 26 m, and 24 m. The shortest side of the small sail is 6 m. Find the perimeter of the small sail.



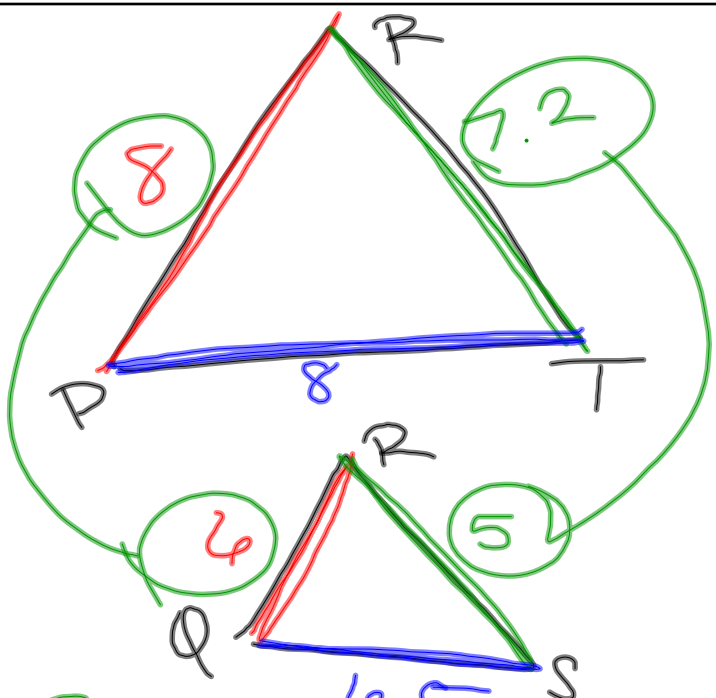
$\frac{10}{6} \times \frac{24}{x}$ $\frac{10}{6} \times \frac{26}{y}$ $P = 6 + 14.4 + 15.6 = 36$

$\frac{10x}{6} = 144$ $\frac{10y}{6} = 156$

$x = 14.4$ $y = 15.6$

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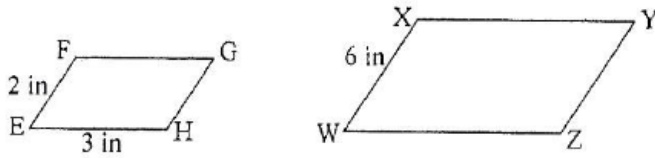


$\frac{8}{6} = \frac{7.2}{5}$ $40 = 43.2$

Nov 6-10:14 AM

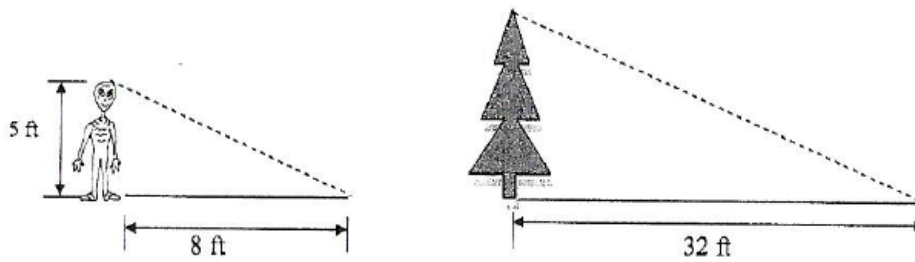
Show proportions for all problems.

1. Parallelogram EFGH is similar to parallelogram WXYZ.



What is the length of \overline{WZ} ?

2. Lance the alien is 5 feet tall. His shadow is 8 feet long.



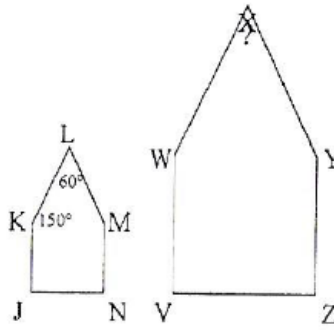
At the same time of day, a tree's shadow is 32 feet long. What is the height of the tree?

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Nov 6-10:02 AM

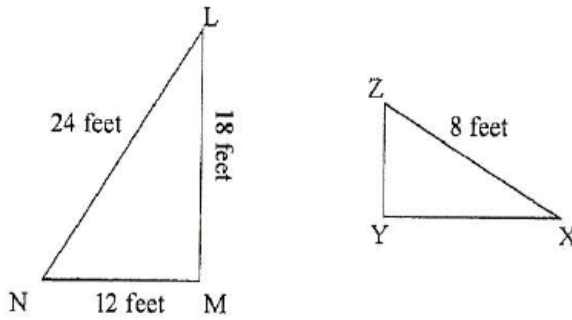
3. Pentagon JKLMN is similar to pentagon VWXYZ.

What is the measurement of angle X?



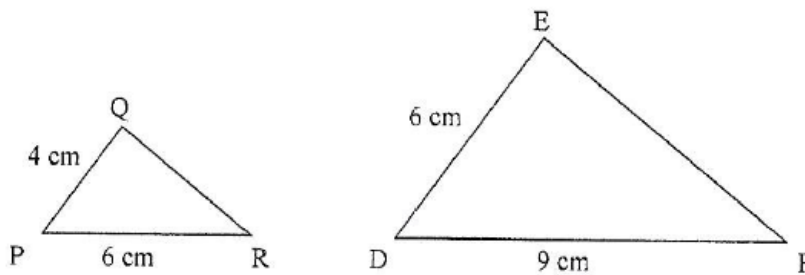
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4. Triangle LMN is similar to triangle XYZ.



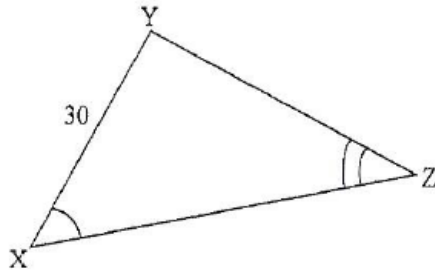
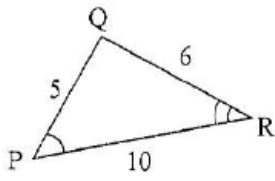
What is the length of \overline{YX} ?

5. Triangle PQR is similar to triangle DEF as shown. Write the ratio three ways.



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6. $\triangle PQR$ is similar to $\triangle XYZ$.



What is the perimeter of $\triangle XYZ$?

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