

8-2 Similar Polygons

Two figures that have the same shape, but not necessarily the same size are **SIMILAR** (\sim).

Two polygons are similar if

- (1) Corresponding angles are congruent
- (2) corresponding sides are proportional

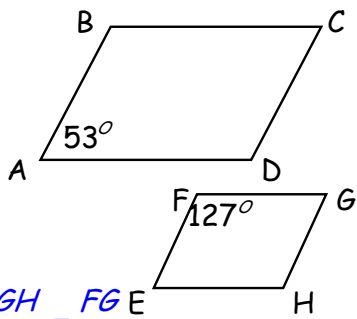
The ratio of the lengths of the corresponding sides is the similarity ratio.

$ABCD \sim EFGH$

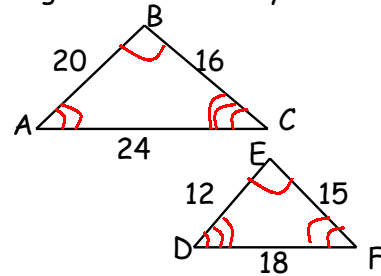
$$m\angle E = ?$$

$$\frac{AB}{EF} = \frac{AD}{?}$$

$$\angle B = ? \text{ and } \frac{GH}{CD} = \frac{FG}{?}$$



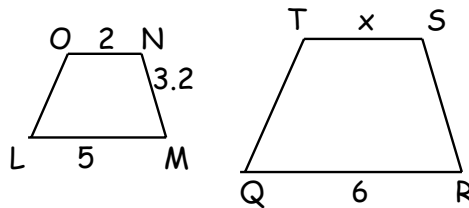
Determine whether the triangles are similar. If they are, write a similarity statement and give the similarity ratio.



Sketch $\triangle XYZ$ and $\triangle MNP$ with $\angle X \cong \angle M$, $\angle Y \cong \angle N$, and $\angle Z \cong \angle P$.
Also $XY = 12$, $YZ = 14$, $ZX = 16$,
 $MN = 18$, $NP = 21$, and $PM = 24$.

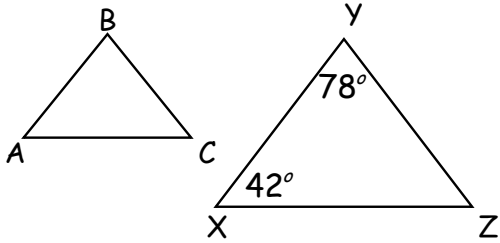
Can you conclude that the two triangles are similar? Why?

$LMNO \sim QRST$. Find the value of x .



Find SR.

The triangles are similar. Complete each statement.



a. $m\angle B = ?$

b. $\frac{BC}{YZ} = \frac{?}{XZ}$

Determine whether the parallelograms are similar. Explain.

