

3.5-3.6 (Extension): Similar Figures

Goals: *Determine if two figures are similar by setting up a proportion

*Find the missing side of a figure based on similarity

Congruent figures: two figures that are both the same _____ and the same

Symbol: \cong

Similar Figures: two figures that are the same _____ but do not have to be the

same _____. (They could be though)

Symbol: \sim

Corresponding parts: two _____ of two similar figures that have the same relative position. They are in the “same spot”

****SIDES OF SIMILAR FIGURES ARE _____****

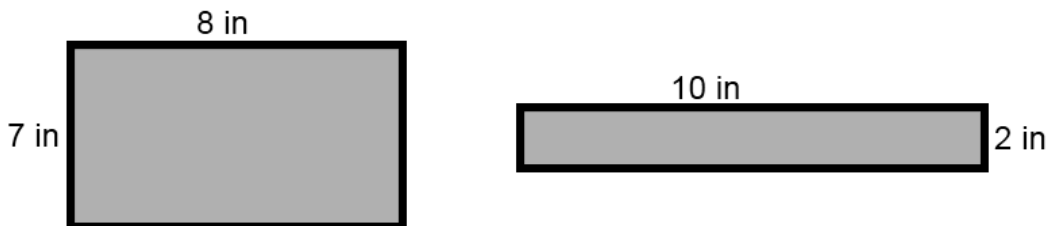
*this means they form a _____

****CORRESPONDING Angles of Similar figures are _____****

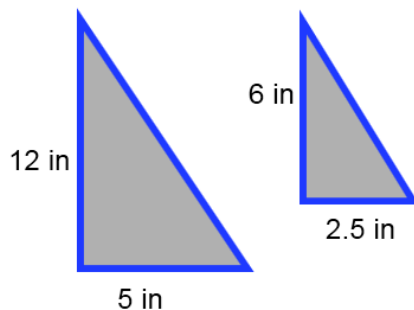
*this means they have the same _____

Decide if the given pairs of figures are similar or not.

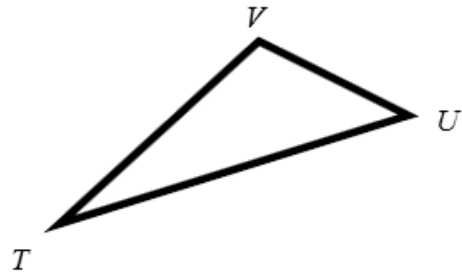
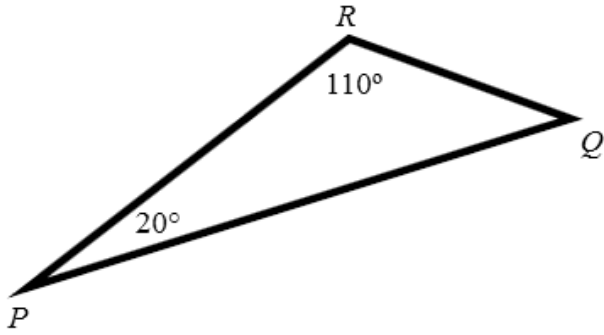
Ex:



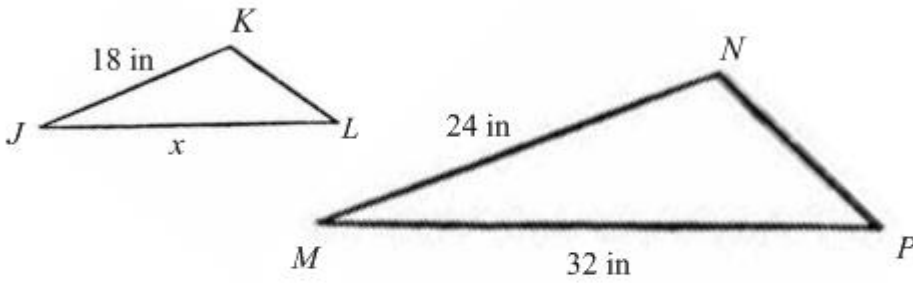
Ex:



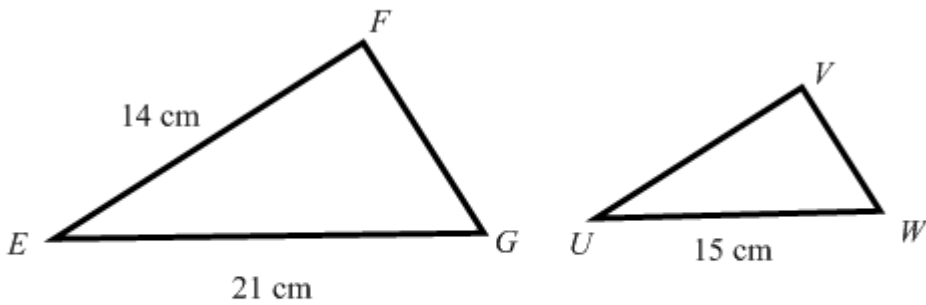
Ex: $\triangle PQR \sim \triangle TUV$. Find the measure of each missing angle measure.



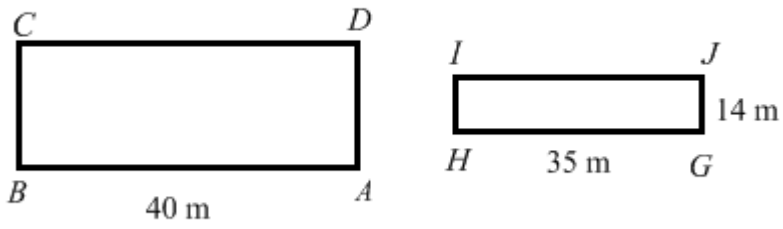
Ex: $\triangle JKL \sim \triangle MNP$. Find JL .



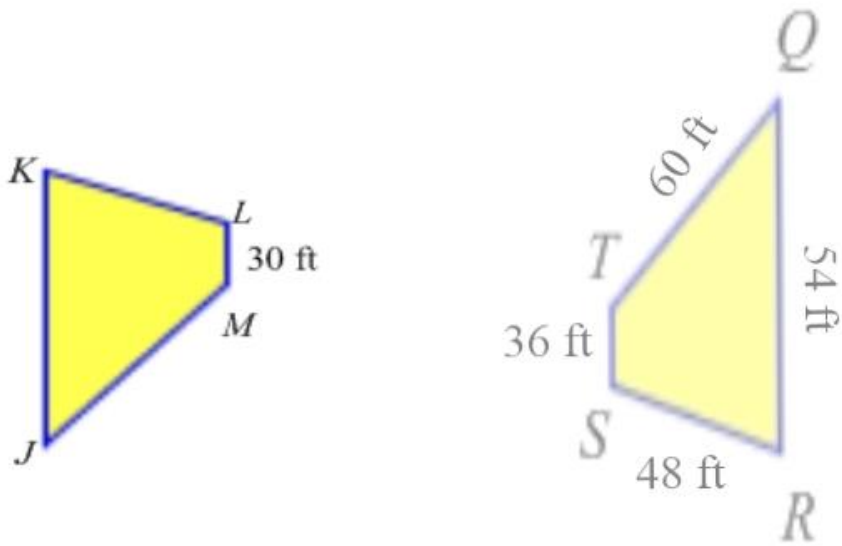
Ex: $\triangle EFG \sim \triangle UVW$. Find UV .



Ex: $ABCD \sim GHIJ$. Find AD .



Ex: $JKLM \sim QRST$. Find KL .



Ex: Cape Hatteras Lighthouse in North Carolina casts a shadow 83.2 feet long. A man who is 5.8 feet tall casts a shadow of 2.5 feet.

A) Draw a diagram to represent the situation.

B) PROVE the figures are similar by showing that all angle measurements are congruent.

C) Use similar figures to find the height of the lighthouse.