

Level 3 Review - Similar Triangles

Facts about similar triangles:

- 1) Corresponding angles are congruent
- 2) Corresponding sides have the same ratio

Three ways to prove similarity

AA

SSS

SAS

Must show corresponding sides have the same ratio!

Facts about dilations

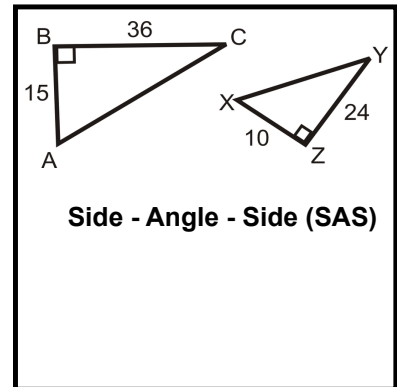
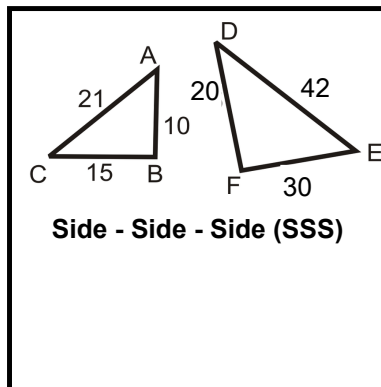
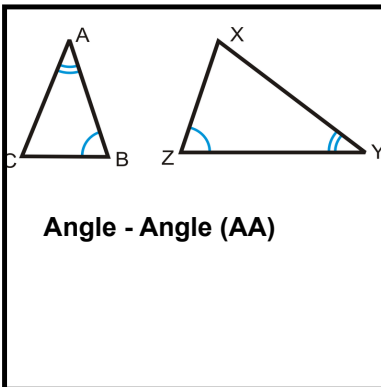
- 1) After dilation, image is parallel to the pre-image (will have same slope)
- 2) Angle measures stay the same after dilation
- 3) Dilations produce similar figures

Distance from image to
center of dilation

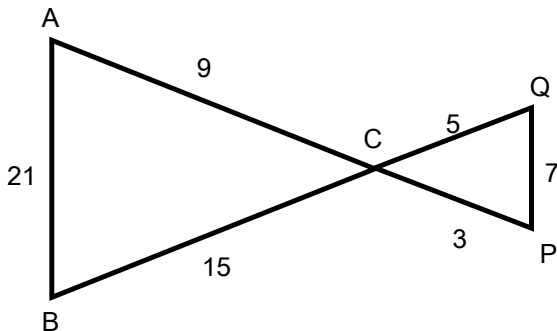
- 4) Scale factor:

Distance from pre-image to
center of dilation

Proving Similarity

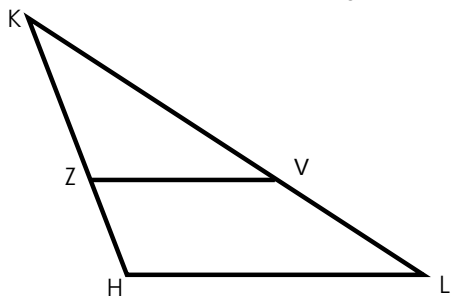


Prove $\triangle ABC \sim \triangle PQC$

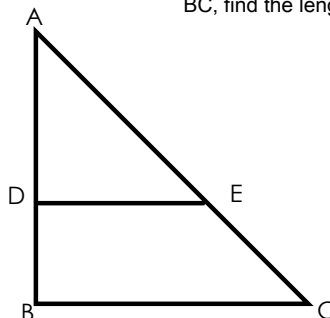


Describe a sequence of transformations that maps $\triangle PQC$ onto $\triangle ABC$

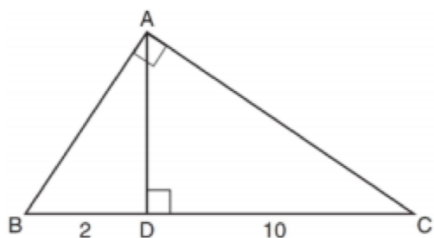
In the figure drawn below $ZV \parallel HL$. If $KZ = 10$, $ZH = 15$, and $KV = 6$, what is the length of KL ?



In triangle ABC , $AD = 6$, $DB = 3$ and $DE = 10$. If $DE \parallel BC$, find the length of BC



Triangle ABC shown below is a right triangle with altitude AD drawn to the hypotenuse BC .



If $BD = 2$ and $DC = 10$, what is the length of AB ?

In triangle SCU shown below, points T and O are on segment SU and segment CU , respectively. Segment OT is drawn so that $\angle C$ is congruent to $\angle OTU$. If $TU = 6$, $OU = 3$, and $OC = 15$, what is the length of segment ST ?

Note: Drawing is not to scale

