

Name: _____

Date: _____

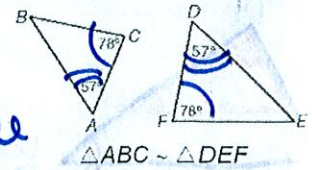
Similar

3 Ways to Prove Triangles are Similar

AA~ Postulate:

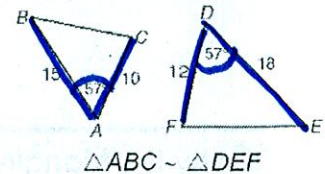
If two angles of one triangle are congruent to two angles of another, then the triangles are similar.

*might need to find your 3rd angle



SAS~ Postulate:

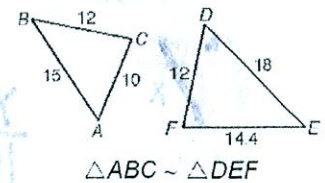
If one angle of one triangle is congruent to the one angle of another triangle and the adjacent sides are proportional, then the triangles are similar.



$$\frac{10}{15} \stackrel{?}{=} \frac{15}{18}$$

SSS~ Postulate:

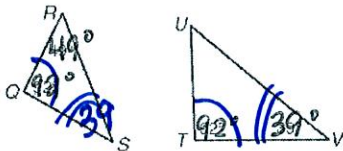
If all three sides of one triangle are proportional to corresponding sides of another triangle, then the triangles are similar.



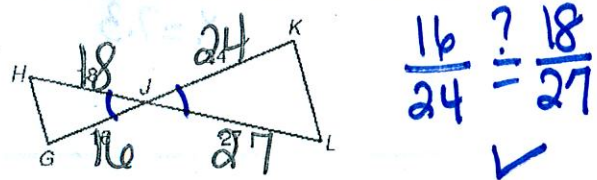
$$\frac{10}{12} \stackrel{?}{=} \frac{12}{14.4} \stackrel{?}{=} \frac{15}{18}$$

Practice: Explain why the triangles are similar (SSS~, SAS~, or AA~) and write a similarity statement.

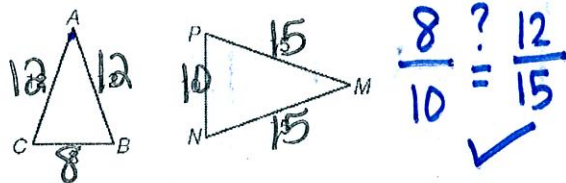
1) $\triangle RQS \sim \triangle TVU$ by AA~



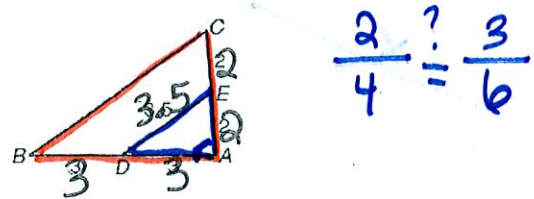
2) $\triangle HGJ \sim \triangle LKJ$ by SAS~



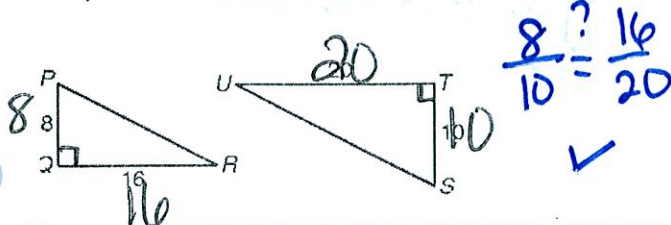
3) $\triangle ABC \sim \triangle MPN$ by SSS~



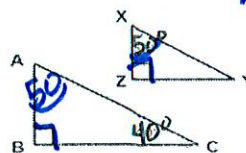
4) $\triangle ADE \sim \triangle ABC$ by SAS~



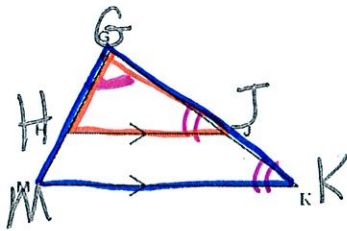
5) $\triangle QPR \sim \triangle TSU$ by SAS~



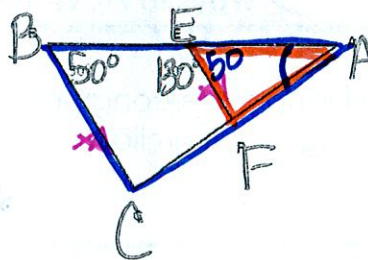
6) $\triangle ABC \sim \triangle XYZ$ by AA~



7) $\triangle GHJ \sim \triangle GMK$ by AA

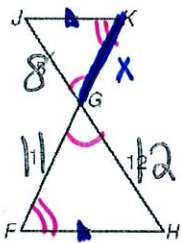


8) $\triangle AEF \sim \triangle ABC$ by AA



Explain why the triangles are similar (SSS~, SAS~, or AA~) and find each length.

9) Similar by AA and GK = 7.3



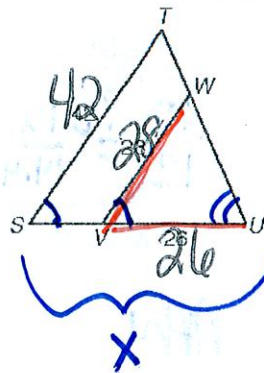
$$\frac{x}{11} = \frac{8}{12}$$

$$12x = 88$$

$$\frac{12x}{12} = \frac{88}{12}$$

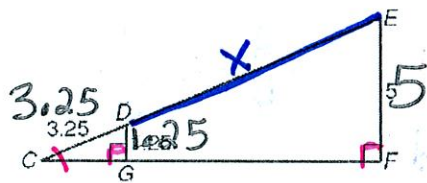
$$x = 7.3$$

10) Similar by AA and SU = 39



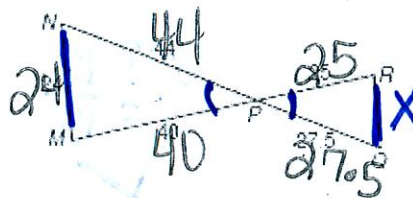
$$\frac{26}{28} = \frac{x}{42}$$

11) Similar by AA and DE = 9.75



$$\frac{1.25}{3.25} = \frac{5}{x + 3.25}$$

12) Similar by SAS and RQ = 15



$$\frac{25}{40} = \frac{x}{24}$$