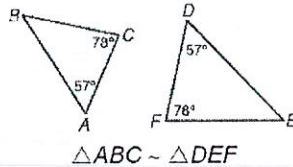


Name: _____ Date: _____

Ways to Prove Triangles are Similar

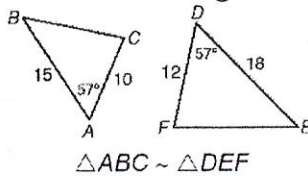
AA~ Postulate:

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



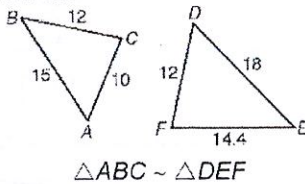
SAS~ Postulate:

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.



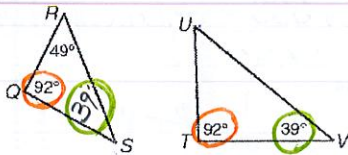
SSS~ Postulate:

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

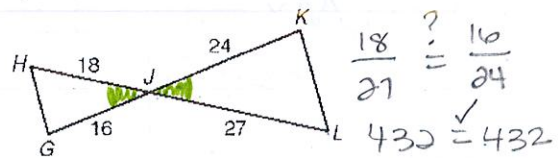


Practice: Explain why the triangles are similar and write a similarity statement.

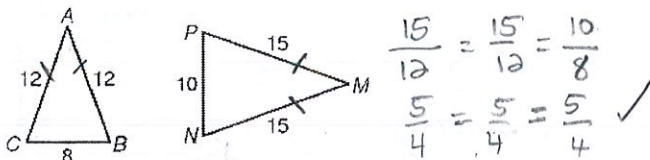
1) $\triangle RQS \sim \triangle UTV$ by AA~



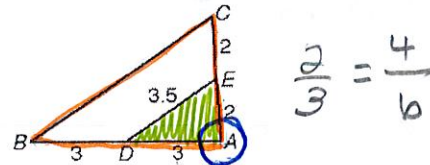
2) $\triangle HGJ \sim \triangle LKJ$ by SAS~



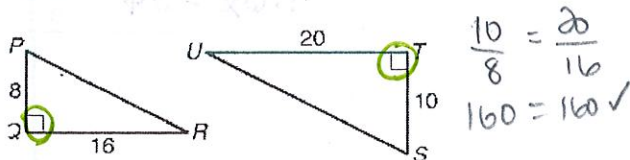
3) $\triangle ABC \sim \triangle MNP$ by SSS~



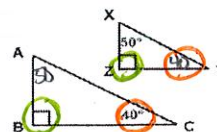
4) $\triangle ADE \sim \triangle ABC$ by SAS~



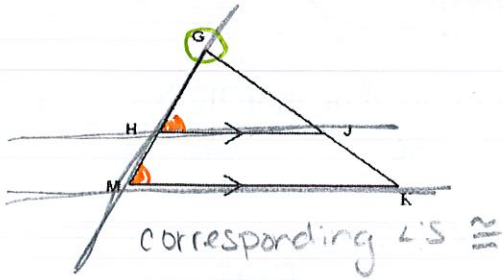
5) $\triangle QPR \sim \triangle TSU$ by SAS~



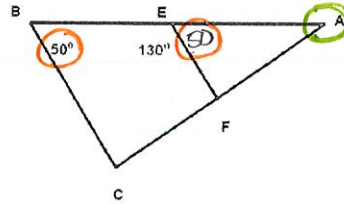
6) $\triangle ABC \sim \triangle XYZ$ by AA~



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

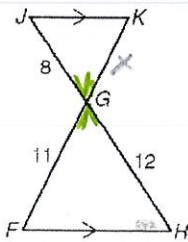


8) $\triangle AEF \sim \triangle ABC$ by AA



Explain why the triangles are similar and find each length.

9) Similar by SAS and $GK = 7.\bar{3}$

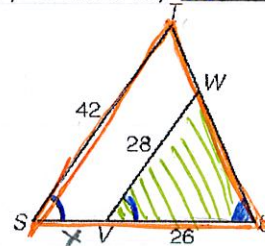


$$\frac{8}{12} = \frac{x}{11}$$

$$88 = 12x$$

$$= x$$

10) Similar by AA and $SU = 39$



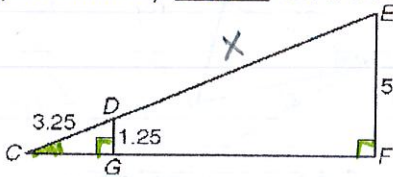
$$\frac{28}{26} = \frac{28}{x + 26}$$

$$1092 = 728 + 28x$$

$$364 = 28x$$

$$13 = x$$

11) Similar by AA and $DE = 9.75$



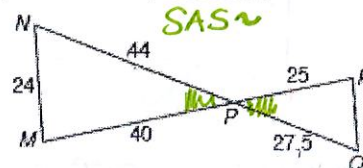
$$\frac{3.25}{1.25} = \frac{x + 3.25}{5}$$

$$16.25 = 1.25x + 4.0625$$

$$12.1875 = 1.25x$$

$$9.75 = x$$

12) Similar by SSS and $RQ = 15$



$$\frac{44}{27.5} = \frac{40}{25} = \frac{24}{x}$$

$$1.6 = 1.6 = \frac{24}{x}$$

$$1.6x = 24$$