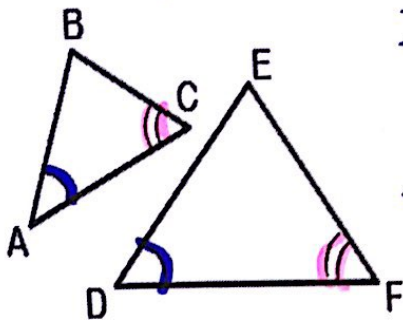


Similarity Postulates

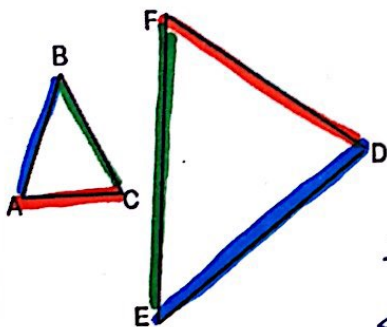
Angle Angle Similarity Postulate



If $\angle A \cong \angle D$
 and $\angle C \cong \angle F$
 then by **AA**
 $\triangle ABC \sim \triangle DEF$

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

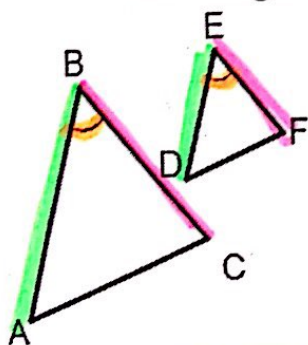
Side Side Side Similarity Theorem



If
 $\frac{AC}{FD} = \frac{BC}{FE} = \frac{AB}{DE}$
 then by **SSS**
 $\triangle ABC \sim \triangle DEF$

If the corresponding side lengths of two triangles are proportional, then the triangles are similar.

Side Angle Side Similarity Theorem



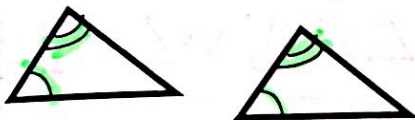
If $\angle B \cong \angle E$
 AND $\frac{AB}{DE} = \frac{BC}{EF}$
 then by **SAS**
 $\triangle ABC \sim \triangle DEF$

If the lengths of two sides of one triangle are proportion to the lengths of two corresponding sides of another triangle and the included angles are congruent, then the triangles are similar.

Triangle Similarity

AAA

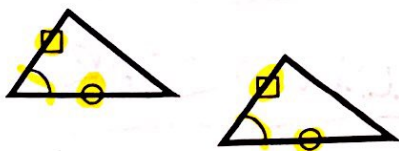
Similarity



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

SAS

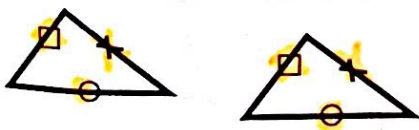
Similarity



In two triangles, if a pair of corresponding angles is congruent and the sides including the angle are proportional, then the triangles are similar.

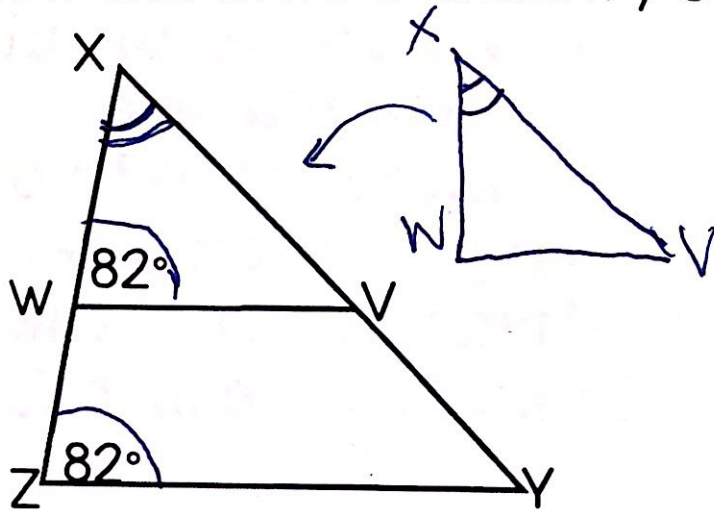
SSS

Similarity



If all three pairs of corresponding sides of two triangles are proportional, then the two triangles are similar.

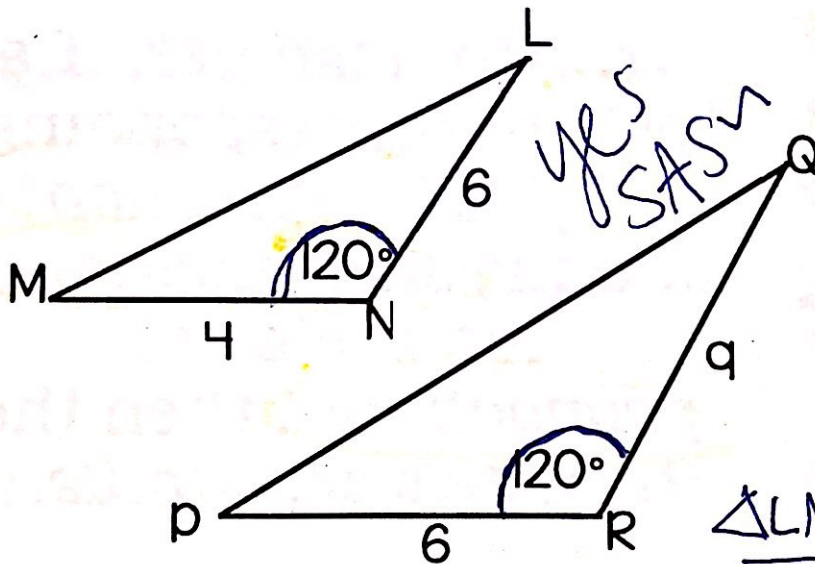
EX 1: Are the two triangles similar? If so, state how and write a similarity statement.



yes
AA

$\triangle XWV \sim \triangle XYZ$

EX 3: Are the two triangles similar? If so, state how and write a similarity statement.



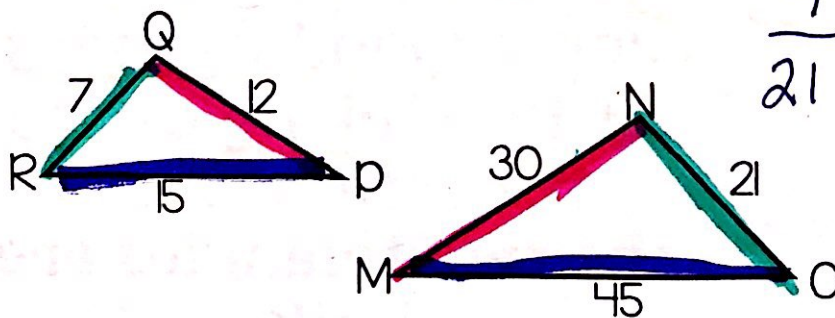
yes SAS

$$\frac{4}{6} \stackrel{?}{=} \frac{6}{9}$$

$$\frac{2}{3} = \frac{2}{3} \checkmark$$

$\triangle LMN \sim \triangle QPR$

EX 5: Are the two triangles similar? If so, state how and write a similarity statement.



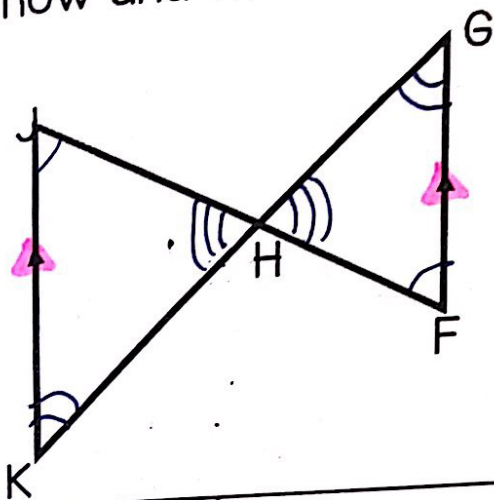
$$\frac{7}{21} \stackrel{?}{=} \frac{12}{30} \stackrel{?}{=} \frac{15}{45}$$

$$\frac{1}{3} \stackrel{?}{=} \frac{2}{5} \stackrel{?}{=} \frac{1}{3}$$

NOT SIMILAR

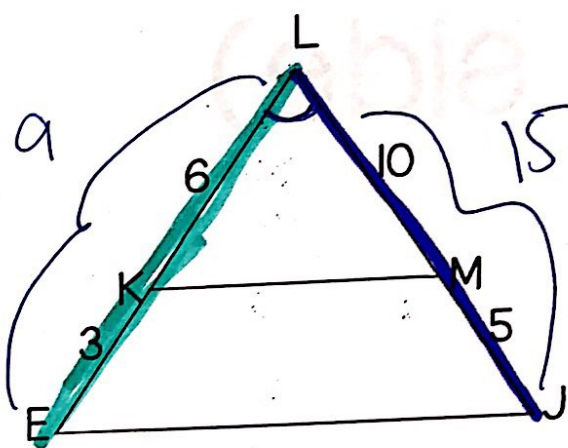
NO

EX 2: Are the two triangles similar? If so, state how and write a similarity statement.



AA ~
 $\triangle JHK \sim \triangle FHG$

EX 4: Are the two triangles similar? If so, state how and write a similarity statement.

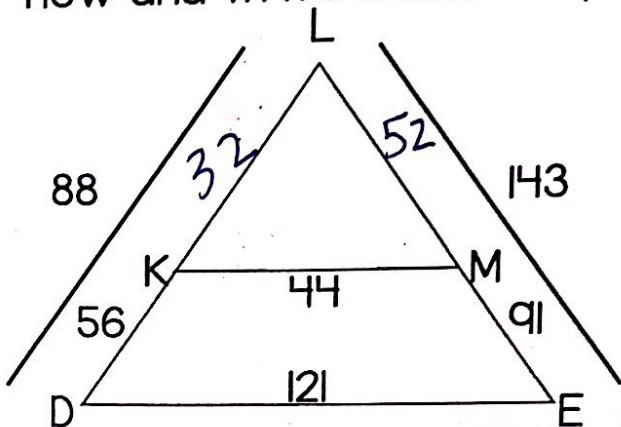


$$\frac{6}{9} \stackrel{?}{=} \frac{10}{15}$$

$$\frac{2}{3} \stackrel{\checkmark}{=} \frac{2}{3} \text{ by SAS}$$

$\triangle KLM \sim \triangle ELJ$

EX 6: Are the two triangles similar? If so, state how and write a similarity statement.



$$\frac{32}{88} \stackrel{?}{=} \frac{44}{121} \stackrel{?}{=} \frac{52}{143}$$

$$.36 = .36 = .36$$

yes SSS

$\triangle KLM \sim \triangle DLE$