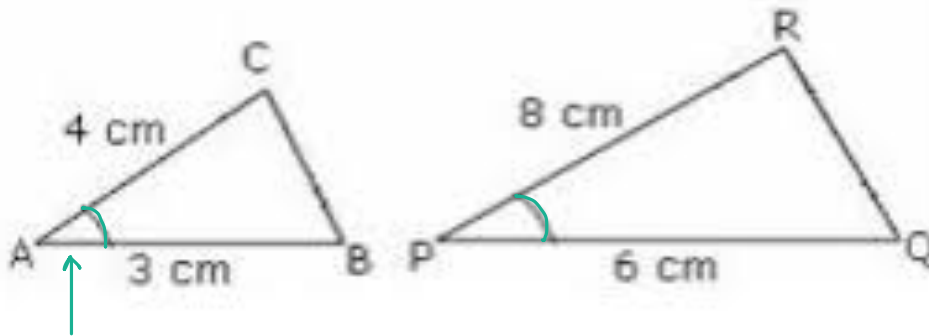


# Side-Angle-Side (SAS) Similarity Postulate

- If an angle of one triangle is congruent to an angle of another triangle and the sides including this angle are proportional, then the triangles are similar.



Included Angle - between proportional sides

$$\angle A \cong \angle P$$

Congruent angles

$$\frac{4}{8} = \frac{1}{2}$$

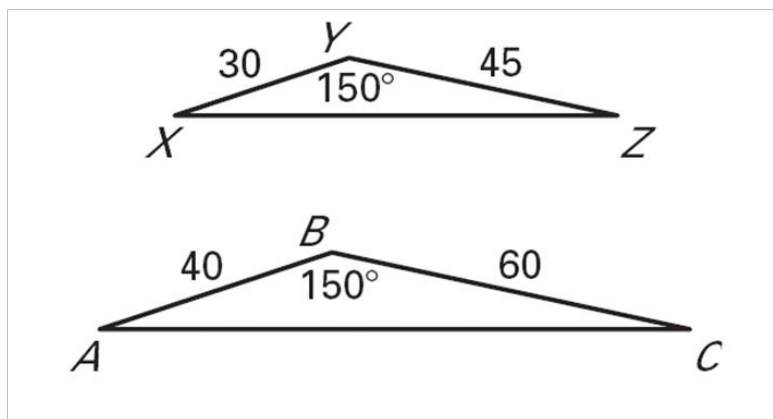
Proportional Sides (equal ratios)

$$\frac{3}{6} = \frac{1}{2}$$



EX:

2. Show that the triangles are similar and write a similarity statement. Explain your reasoning.



$$\angle Y \cong \angle B$$

$$\frac{30}{40} = \frac{3}{4}$$

$$\frac{45}{60} = \frac{3}{4}$$

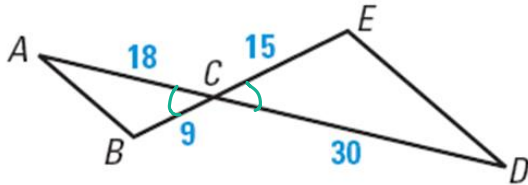
$$\triangle XYZ \sim \triangle ABC$$

by SAS

EX:

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**Tell what method you would use to show that the triangles are similar.**



$\angle C \cong \angle C$  (Vertical angles)

$$\frac{18}{30} = \frac{3}{5}$$

$$\frac{9}{15} = \frac{3}{5}$$

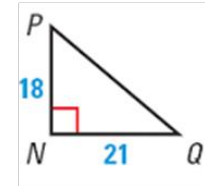
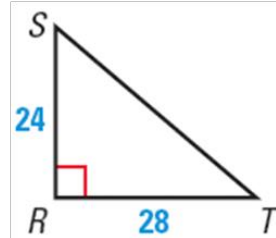
SAS



EX:

**Explain** how to show that the indicated triangles are similar.

3.  $\triangle SRT \sim \triangle PNQ$



$\angle R \cong \angle N$  (right angles)

$$\frac{24}{18} = \frac{4}{3}$$

$$\frac{28}{21} = \frac{4}{3}$$

SAS

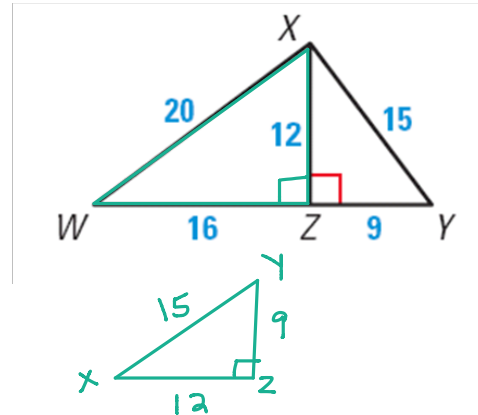


EX:

**Explain** how to show that the indicated triangles are similar.

4.  $\triangle XZW \sim \triangle YZX$

\*  $\left. \begin{array}{l} \frac{20}{15} = \frac{4}{3} \\ \frac{12}{9} = \frac{4}{3} \\ \frac{16}{12} = \frac{4}{3} \end{array} \right\} \text{SSS}$



\* Or SAS because the right angles are congruent