

P. 14 ↘

Triangle Similarity

AA~

Angle-Angle Similarity

SSS~

Side-Side-Side Similarity

SAS~

Side-Angle-Side Similarity

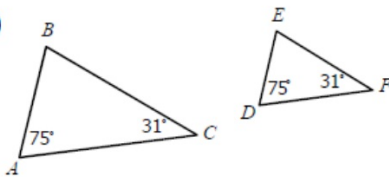
AA~

Angle-Angle Similarity

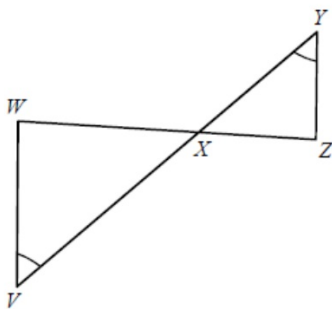
If two corresponding angles are congruent, then the triangles are similar.

Determine if the examples below are similar by AA~. If yes, write a similarity statement.

1)



2)



$$\textcircled{1} \angle A \cong \angle D$$
$$\angle C \cong \angle F$$

$\triangle ABC \sim \triangle DEF$
by AA~

$$\textcircled{2} \angle V \cong \angle Y$$
$$\angle YXZ \cong \angle VXW$$

vertical angles

$\triangle VZW \sim \triangle YXZ$
by AA~

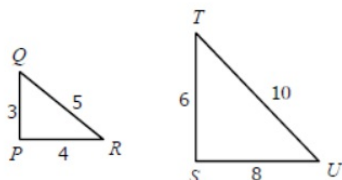
SSS~

Side-Side-Side Similarity

If all corresponding sides are proportional, then the triangles are similar.

Determine if the examples below are similar by SSS~. If yes, write a similarity statement.

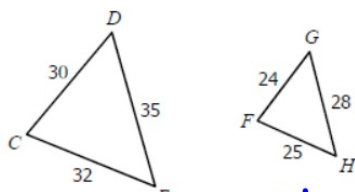
3)



$$\begin{aligned} \textcircled{3} \quad \frac{QP}{TS} & \stackrel{?}{=} \frac{QR}{TU} \stackrel{?}{=} \frac{PR}{SU} \\ \frac{3}{6} & \stackrel{?}{=} \frac{5}{10} \stackrel{?}{=} \frac{4}{8} \\ \frac{1}{2} & = \frac{1}{2} = \frac{1}{2} \end{aligned}$$

$\triangle PQR \sim \triangle STU$
by SSS~

4)



Not Similar

$$\begin{aligned} \textcircled{4} \quad \frac{CD}{FG} & \stackrel{?}{=} \frac{DE}{GH} \stackrel{?}{=} \frac{CE}{FH} \\ \frac{30}{24} & \stackrel{?}{=} \frac{35}{28} \stackrel{?}{=} \frac{32}{25} \\ \frac{5}{4} & \quad \frac{5}{4} \quad \quad X \end{aligned}$$

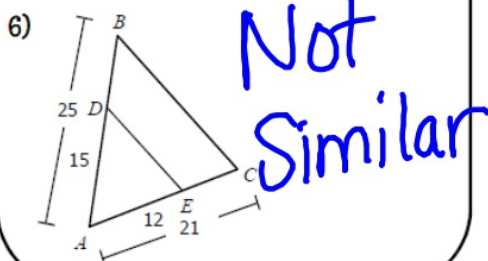
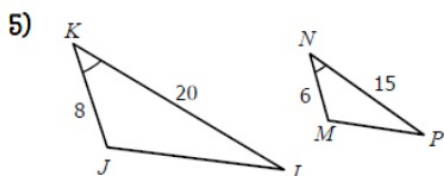
$\triangle CDE \not\sim \triangle FGH$

SAS~

Side-Angle-Side Similarity

If two corresponding sides are proportional and the included angles are congruent, then the triangles are similar.

Determine if the examples below are similar by SAS~. If yes, write a similarity statement.



$$\textcircled{5} \angle K \cong \angle N$$

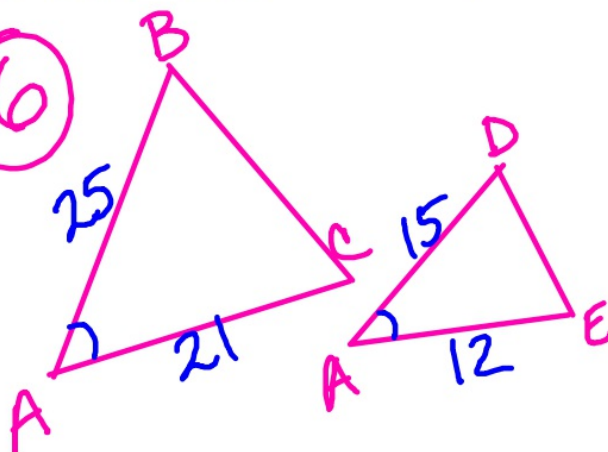
$$\frac{KJ}{NM} \stackrel{?}{=} \frac{KL}{NP}$$

$$\frac{8}{6} \stackrel{?}{=} \frac{20}{15}$$

$$\frac{4}{3} = \frac{4}{3} \checkmark$$

$\triangle KJL \sim \triangle NMP$ by SAS~

$\textcircled{6}$



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

$$\frac{AB}{AD} \stackrel{?}{=} \frac{AC}{AE}$$

$$\frac{25}{15} \stackrel{?}{=} \frac{21}{12}$$

$$\frac{5}{3} \neq \frac{7}{4}$$