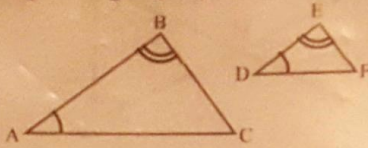


3 Methods for Proving 2 Triangles are Similar:

Angle-Angle (AA) Similarity



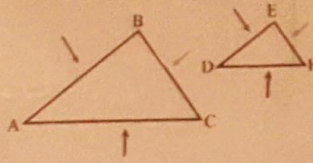
If two angles of one triangle are congruent to two angles of another triangle, the triangles are similar.

If  $\angle A \cong \angle D$

$\angle B \cong \angle E$

Then:  $\triangle ABC \sim \triangle DEF$

Side-Side-Side (SSS) for Similarity

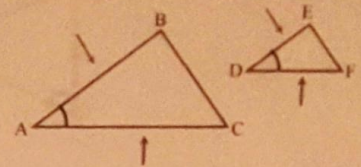


If the three sets of corresponding sides of two triangles are in proportion, the triangles are similar.

If  $\frac{AB}{DE} = \frac{AC}{DF} = \frac{BC}{EF}$

Then:  $\triangle ABC \sim \triangle DEF$

Side-Angle-Side (SAS) for Similarity



If an angle of one triangle is congruent to the corresponding angle of another triangle and the lengths of the sides including these angles are in proportion, the triangles are similar.

If  $\angle A \cong \angle D$

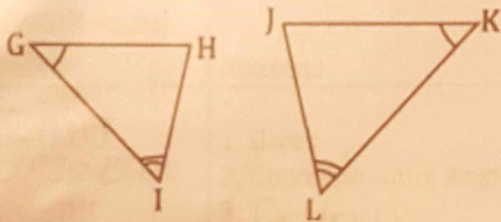
$\frac{AB}{DE} = \frac{AC}{DF}$

Then:  $\triangle ABC \sim \triangle DEF$

Fill in the blanks for each 2 column proof below.

1.

Given:  $\angle G \cong \angle K$ , and  $\angle I \cong \angle L$

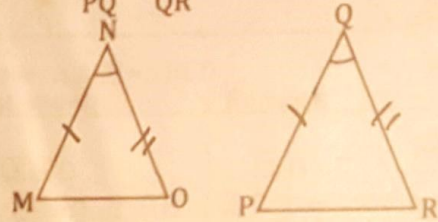


Prove:  $\triangle GHI \sim \triangle KJL$

Statements	Reasons
1. $\angle G \cong \angle K$	1. Given
2. $\angle I \cong \angle L$	2. Given
3. $\triangle GHI \sim \triangle KJL$	3. AA~

2.

Given:  $\frac{MN}{PQ} = \frac{NO}{QR}$ ,  $\angle N \cong \angle Q$

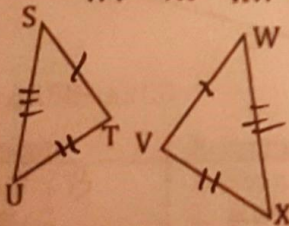


Prove:  $\triangle MNO \sim \triangle PQR$

Statements	Reasons
1. $\frac{MN}{PQ} = \frac{NO}{QR}$	1. Given
2. $\angle N \cong \angle Q$	2. Given
3. $\triangle MNO \sim \triangle PQR$	3. SAS~

3.

Given:  $\frac{ST}{WV} = \frac{TU}{VW} = \frac{US}{XW}$

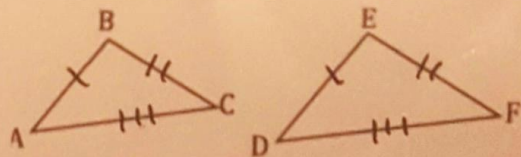


Prove:  $\triangle STU \sim \triangle WVX$

Statements	Reasons
1. $\frac{ST}{WV} = \frac{TU}{VW} = \frac{US}{XW}$	1. Given
2. $\triangle STU \sim \triangle WVX$	2. SSS

4.

Given:  $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$

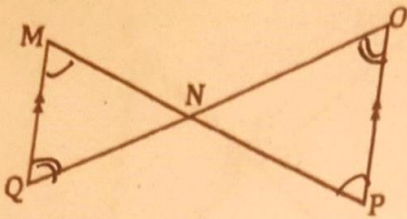


Prove:  $\triangle ABC \sim \triangle DEF$

Statements	Reasons
1. $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$	1. Given
2. $\triangle ABC \sim \triangle DEF$	2. SSS

5.

Given:  $\overline{MQ} \parallel \overline{OP}$

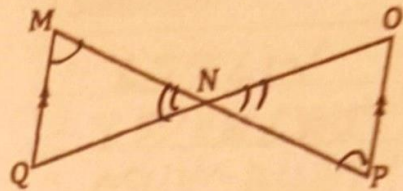


Prove:  $\triangle MQN \sim \triangle OPN$

Statements	Reasons
1. $\overline{MQ} \parallel \overline{OP}$	1. Given
2. $\angle QMN \cong \angle OPN$	2. Alt. Int
3. $\angle MQN \cong \angle OPN$	3. Alternate Interior
4. $\triangle MQN \sim \triangle OPN$	4. AA ~

6.

Given:  $\overline{MQ} \parallel \overline{OP}$

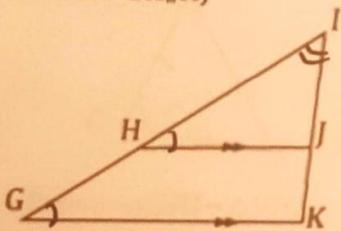


Prove:  $\triangle MNQ \sim \triangle PON$

Statements	Reasons
1. $\overline{MQ} \parallel \overline{OP}$	1. Given
2. $\angle QMN \cong \angle OPN$	2. Alt. Int $\angle$ s
3. $\angle QNM \cong \angle ONP$	3. Vertical Angles
4. $\triangle MNQ \sim \triangle PON$	4. AA ~

7.

Given:  $\overline{GK} \parallel \overline{HJ}$

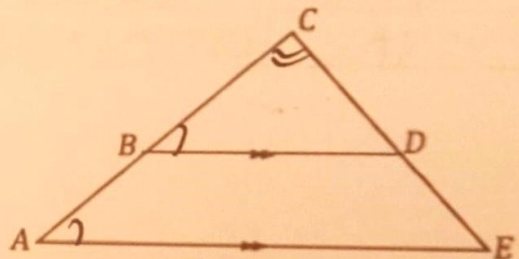


Prove:  $\triangle GIK \sim \triangle HIJ$

Statements	Reasons
1. $\overline{GK} \parallel \overline{HJ}$	1. Given
2. $\angle IHI \cong \angle IKI$	2. Corresponding Angles
3. $\angle G \cong \angle JHI$	3. Reflexive
4. $\triangle GIK \sim \triangle HIJ$	4. AA ~

8.

Given:  $\overline{AE} \parallel \overline{BD}$

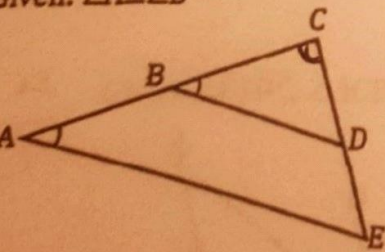


Prove:  $\triangle ACE \sim \triangle BCD$

Statements	Reasons
1. $\overline{AE} \parallel \overline{BD}$	1. Given
2. $\angle CBD \cong \angle CAE$	2. Corresponding Angles
3. $\angle C \cong \angle C$	3. Reflexive
4. $\triangle ACE \sim \triangle BCD$	4. AA

9.

Given:  $\angle A \cong \angle B$

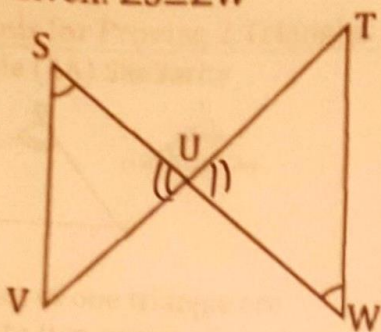


Prove:  $\triangle ABE \sim \triangle BCD$

Statements	Reasons
1. $\angle A \cong \angle B$	1. Given
2. $\angle C \cong \angle C$	2. Reflexive
3. $\triangle ABE \sim \triangle BCD$	3. AA ~

1. Create your own 2 column proof for the following similar triangles.

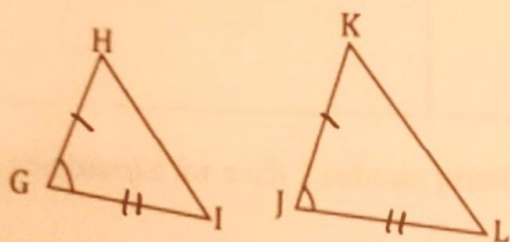
Given:  $\angle S \cong \angle W$



Prove:  $\Delta SUV \sim \Delta WUT$

Statement	Reason
1. $\angle S \cong \angle W$	Given
2. $\angle SUV \cong \angle WUT$	Vertical $\angle$ s.
3. $\Delta SUV \sim \Delta WUT$	AA $\sim$

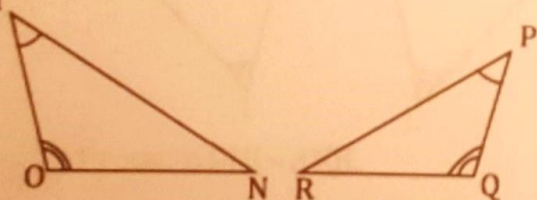
Given:  $\frac{GH}{KJ} = \frac{GI}{JL}$ ,  $\angle G \cong \angle J$



Prove:  $\Delta GHI \sim \Delta JKL$

Statement	Reason
1. $\frac{GH}{KJ} = \frac{GI}{JL}$	Given
2. $\angle G \cong \angle J$	Given
3. $\Delta GHI \sim \Delta JKL$	SAS $\sim$

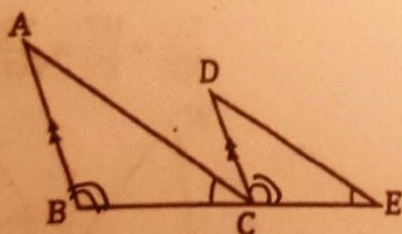
Given:  $\angle M \cong \angle P$ ,  $\angle O \cong \angle Q$



Prove:  $\Delta OMN \sim \Delta PQR$

Statement	Reason
1. $\angle M \cong \angle P$	Given
2. $\angle O \cong \angle Q$	Given
3. $\Delta OMN \sim \Delta PQR$	AA $\sim$

Given:  $\overline{AB} \parallel \overline{DC}$ ,  $\angle ACB \cong \angle E$



Prove:  $\Delta ABC \sim \Delta DCE$

Statement	Reason
1. $\overline{AB} \parallel \overline{DC}$	Given
2. $\angle ACB \cong \angle E$	Given
3. $\angle ABC \cong \angle DCE$	Corresponding $\angle$ s
4. $\Delta ABC \sim \Delta DCE$	AA $\sim$