

5-1 Congruence and Triangles

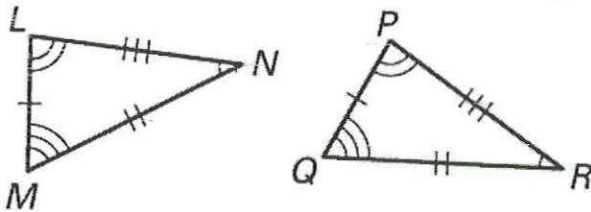
Objective: Identify congruent triangles and corresponding parts

Congruent figures: when all pairs of corresponding angles and sides are equal.

Examples:

✓ all corresponding angles/sides are =

1. The 2 triangles are congruent. List **all** the corresponding parts, and then write a triangle congruence.



Angles

$$\angle M \cong \angle Q$$

$$\angle L \cong \angle P$$

$$\angle N \cong \angle R$$

Sides

$$\overline{LM} \cong \overline{PQ}$$

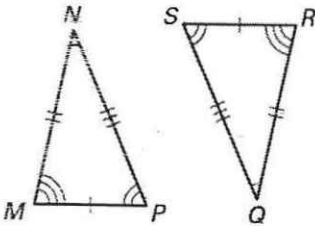
$$\overline{LN} \cong \overline{PR}$$

$$\overline{MN} \cong \overline{QR}$$

Congruence Statement

$$\triangle LMN \cong \triangle PQR$$

2. The 2 triangles are congruent. List **all** the corresponding parts, and then write a triangle congruence.



Angles

$$\angle N \cong \angle Q$$

$$\angle P \cong \angle S$$

$$\angle M \cong \angle R$$

Sides

$$\overline{NP} \cong \overline{QS}$$

$$\overline{PM} \cong \overline{SR}$$

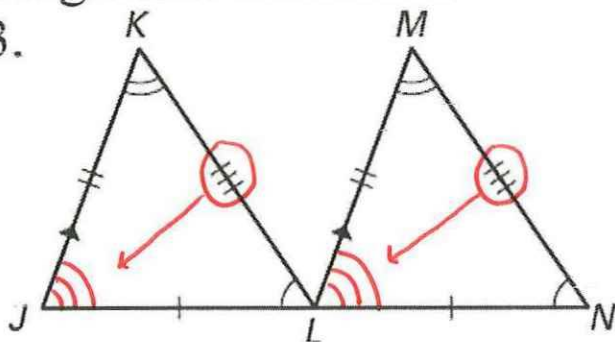
$$\overline{MN} \cong \overline{RQ}$$

Congruence Statement

$$\triangle MNP \cong \triangle RQS$$

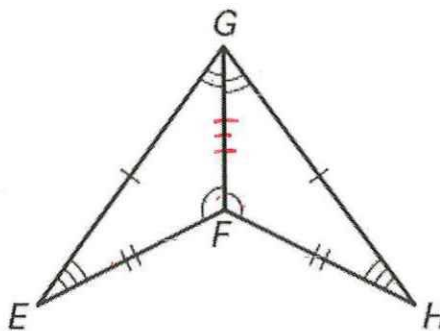
Determine if the triangles are congruent; if so write a congruence statement.

3.



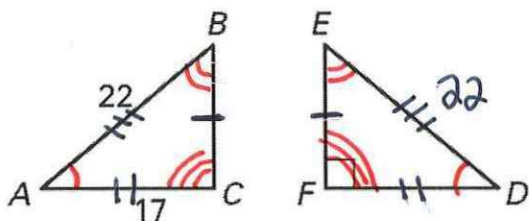
Yes they are
 $\triangle LKJ \cong \triangle NML$

4.



Yes they are
 $\triangle FEG \cong \triangle FHG$

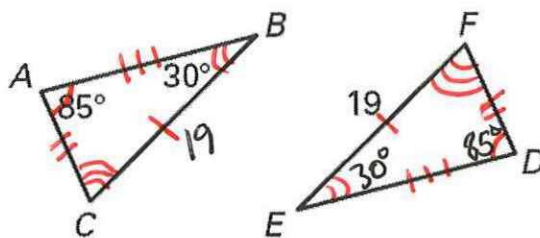
5. $\triangle ABC \cong \triangle DEF$. Find the length of \overline{DE} and $m\angle C$.



$$\overline{DE} = 22$$

$$m\angle C = 90^\circ$$

6. $\triangle ABC \cong \triangle DEF$. Find the length of \overline{BC} and $m\angle F$.



$$\overline{BC} = 19 \quad m\angle F = 65^\circ$$

$$? + 30 + 85 = 180$$

$$? + 115 = 180$$

$$-115 \quad -115$$

$$? = 65^\circ$$

p236
 #1-34, 37-45