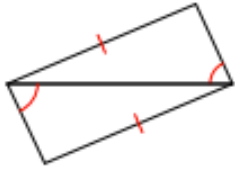


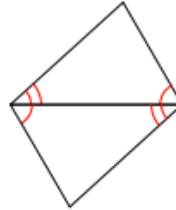
Activity 1: Congruent or not?

State if the following triangles are congruent. If they are, state how you know.

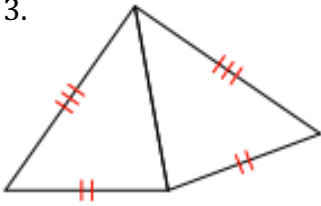
1.



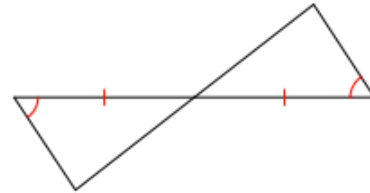
2.



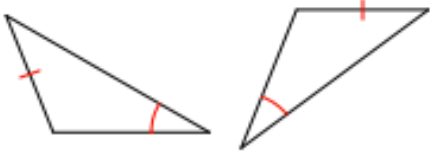
3.



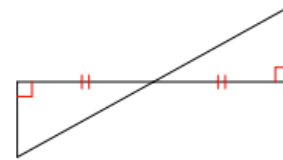
4.



5.



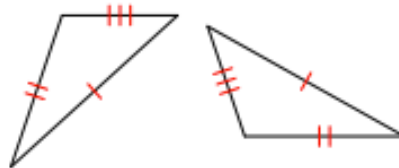
6.



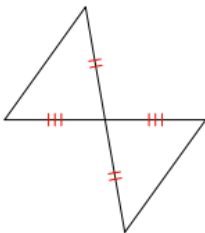
7.



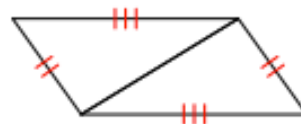
8.



9.

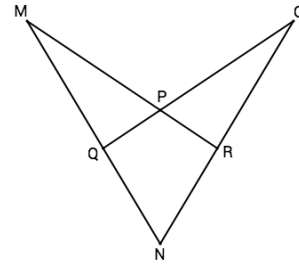


10.



Activity 2: Congruence Proofs

Complete the following proofs that two triangles are congruent.



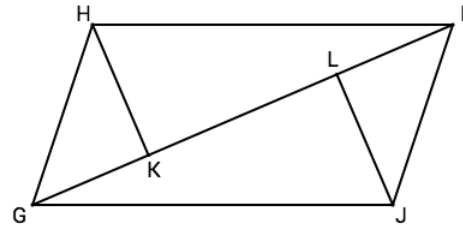
- a. **Given:** $\overline{MR} \perp \overline{ON}$, $\overline{OQ} \perp \overline{MN}$
 $\overline{MR} \cong \overline{OQ}$

Prove: $\Delta MRN \cong \Delta OQN$

Statements	Reasons
1.	1. Given
2.	2. Given
3. $m\angle MRN = m\angle OQN = 90^\circ$	3.
4. $\angle MNR \cong \angle ONQ$	4.
5. $\Delta MRN \cong \Delta OQN$	5.

- b. **Given:** $\overline{HK} \perp \overline{GI}$, $\overline{JL} \perp \overline{GI}$
 $\overline{GH} \cong \overline{JI}$, $\overline{GL} \cong \overline{KI}$

Prove: $\Delta GKH \cong \Delta ILJ$



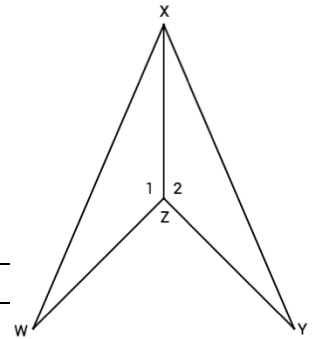
Statements	Reasons
1.	1. Given
2. $\overline{GH} \cong \overline{JI}$, $\overline{GL} \cong \overline{KI}$	2.
3. $GH = JI$, $GL = KI$	3.
4.	4. Segment Addition Postulate
5.	5.
6. $GK + KL = KL + IL$	6.
7.	7.
8. $\overline{GK} \cong \overline{IL}$	8.
9. $\Delta GKH \cong \Delta ILJ$	9.

Activity 3: Using cpoctac

In the following proofs, you will use triangle congruence to prove that particular angles or segments are congruent.

- a. **Given:** $\angle 1 \cong \angle 2$
 $\overline{WZ} \cong \overline{YZ}$

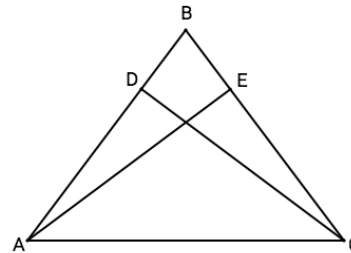
Prove: \overline{XZ} bisects $\angle WXY$



Statements	Reasons
1. $\angle 1 \cong \angle 2, \overline{WZ} \cong \overline{YZ}$	1.
2.	2. Reflexive Property
3. $\triangle WXZ \cong \triangle YXZ$	3.
4.	4. cpoctac
5. \overline{XZ} bisects $\angle WXY$	5.

- b. **Given:** $\overline{CD} \perp \overline{AB}, \overline{AE} \perp \overline{BC}$
 $\overline{CD} \cong \overline{AE}$

Prove: $\triangle ABC$ is isosceles



Statements	Reasons
1.	1. Given
2. $\overline{CD} \perp \overline{AB}, \overline{AE} \perp \overline{BC}$	2.
3. $m\angle ADC = m\angle CEA = 90^\circ$	3.
4.	4. Definition of right triangles
5.	5. Reflexive Property
6. $\triangle ADC \cong \triangle CEA$	6.
7.	7.
8. $\triangle ABC$ is isosceles	8.