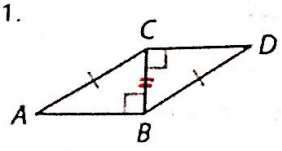
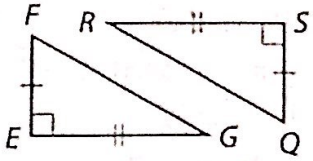
Are the two triangles congruent? Explain how you know.

1.



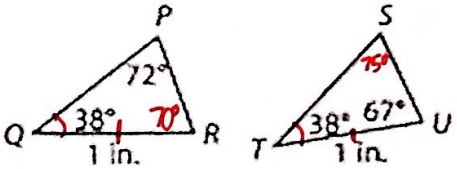
Yes; HL

2.



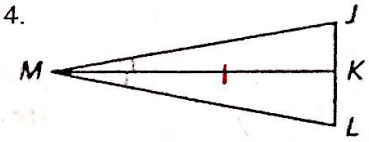
Yes; SAS

3.



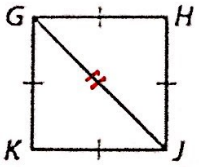
No; only 1 side & 1 angle congruent

4.



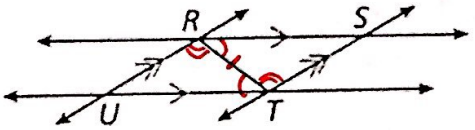
No; only one side & 1 angle congruent

5.



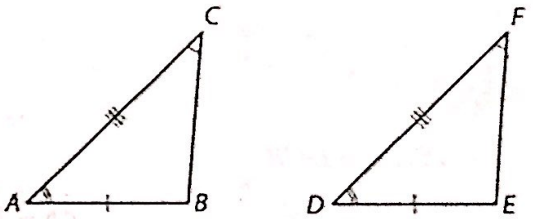
Yes; SSS

6. $\triangle RST$ and $\triangle TUR$



Yes; ASA

7. Which of the following are reasons that justify why the triangles are congruent? Select all that apply.



A. SSA Triangle Congruence Theorem

B. SAS Triangle Congruence Theorem

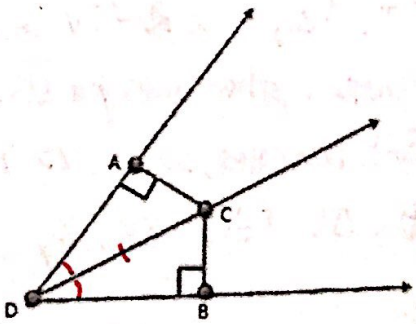
C. ASA Triangle Congruence Theorem

8. What does CPCTC stand for? What do we use it for in proofs?

Corresponding Parts of Congruent Triangles are Congruent
We use it in proofs after we have already proven that 2 triangles are congruent.
It lets you say that other pairs of sides or angles are congruent that you didn't already know

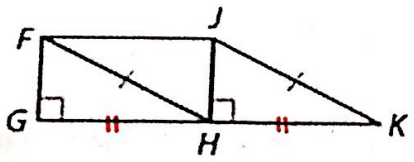
9. Given: $\overline{DC}$ bisects $\angle ADB$
Prove: $\overline{AC} \cong \overline{BC}$

Write a paragraph proof.



We know $\angle A \cong \angle B$.
Since $\overline{DC}$ bisects $\angle ADB$, $\angle ADC \cong \angle BDC$.
Also, $\overline{DC} \cong \overline{DC}$ by the reflexive property.
So $\triangle DAC \cong \triangle DBC$ by AAS.
By CPCTC, $\overline{AC} \cong \overline{BC}$. □

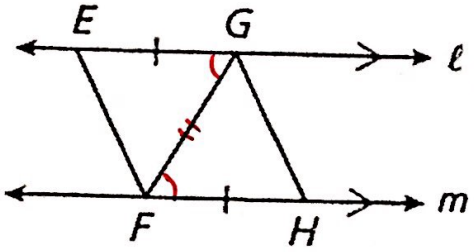
10. Given: $\angle FGH$ and $\angle JHK$ are right angles.
H is the midpoint of $\overline{GK}$. $\overline{FH} \cong \overline{JK}$
Prove: $\triangle FGH \cong \triangle JHK$



Write a two column proof.

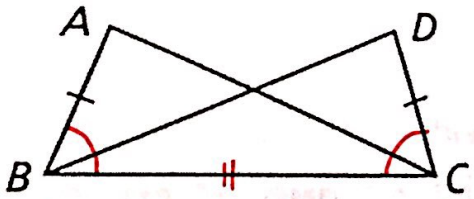
1) $\angle FGH$ & $\angle JHK$ are right angles	Given
2) $\overline{FH} \cong \overline{JK}$	Given
3) H is midpoint of $\overline{GK}$.	Given
4) $\overline{GH} \cong \overline{HK}$	Def. of midpoint
5) $\triangle FGH \cong \triangle JHK$	HL □

11. Given: $\ell \parallel m$, $\overline{EG} \cong \overline{HF}$
Prove: $\triangle EGF \cong \triangle HFG$



Write a flow chart proof.

12. Given: $\overline{AB} \cong \overline{DC}$, $\angle ABC \cong \angle DCB$
Prove: $\angle A \cong \angle D$

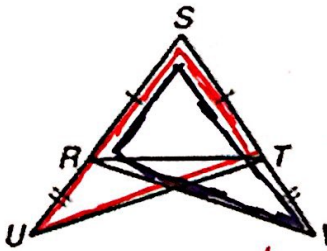


Write a two column proof.

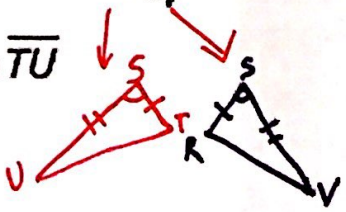
1) $\overline{AB} \cong \overline{DC}$	Given
2) $\angle ABC \cong \angle DCB$	Given
3) $\overline{BC} \cong \overline{BC}$	Reflexive Property
4) $\triangle ABC \cong \triangle DCB$	SAS
5) $\angle A \cong \angle D$	CPCTC □

Challenge!

Given: $\overline{RU} \cong \overline{TV}$, $\overline{RS} \cong \overline{TS}$



Prove: $\overline{RV} \cong \overline{TU}$



Write a paragraph proof.

We know that $\overline{SR} \cong \overline{ST}$. Also, since $\overline{RU} \cong \overline{TV}$ and $\overline{RS} \cong \overline{TS}$, combining these segments together gives you $\overline{US} \cong \overline{VS}$. $\angle S$ corresponds to itself in both triangles, so $\angle S \cong \angle S$ by the reflexive property. By SAS, $\triangle UST \cong \triangle VSR$. By CPCTC, $\overline{RV} \cong \overline{TU}$. □