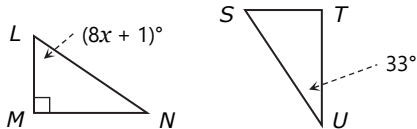


LESSON 162 Review: Congruent Triangles

1. $\triangle ABC \cong \triangle DEF$. Which statement is correct? Select all that apply.

- A) $\overline{AB} \cong \overline{DE}$ B) $\angle A \cong \angle E$
 C) $\overline{BC} \cong \overline{DF}$ D) $\angle C \cong \angle F$

2. $\triangle LMN \cong \triangle STU$. Find the value of x .



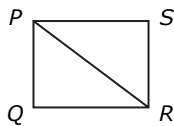
3. Write $\triangle LMN \cong \triangle STU$ in different ways.

- A) $\triangle MNL \cong$?
 B) $\triangle MLN \cong$?

4. Complete the proof.

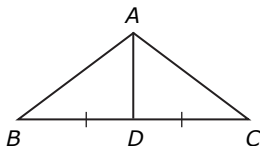
Given: $\overline{PQ} \cong \overline{RS}$,
 $\overline{QR} \cong \overline{SP}$

Prove: $\angle Q \cong \angle S$



STATEMENTS	REASONS
1. $\overline{PQ} \cong \overline{RS}$ $\overline{QR} \cong \overline{SP}$	1. Given
2. $\overline{PR} \cong \overline{RP}$	2.
3. $\triangle PQR \cong \triangle RSP$	3.
4. $\angle Q \cong \angle S$	4. CPCTC

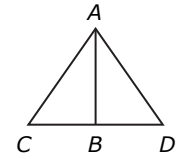
5. What is the minimum additional information needed to prove that the triangles are congruent by SSS?



6. Complete the proof.

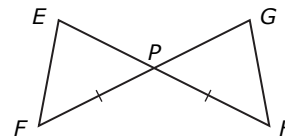
Given: B bisects \overline{CD} .
 $\overline{AB} \perp \overline{CD}$

Prove: $\triangle ABC \cong \triangle ABD$



STATEMENTS	REASONS
1. B bisects \overline{CD} .	1. Given
2. $\overline{BC} \cong \overline{BD}$	2.
3. $\overline{AB} \perp \overline{CD}$	3. Given
4. $\angle ABC$ and $\angle ABD$ are right angles.	4. Def. of perpendicular
5. $\angle ABC \cong \angle ABD$	5.
6. $\overline{AB} \cong \overline{AB}$	6. Reflexive Prop.
7. $\triangle ABC \cong \triangle ABD$	7.

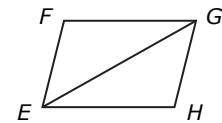
7. What is the minimum additional information needed to prove that the triangles are congruent by SAS?



8. Complete the proof.

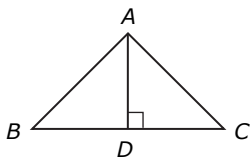
Given: $\overline{FG} \parallel \overline{EH}$,
 $\overline{FE} \parallel \overline{GH}$

Prove: $\angle F \cong \angle H$

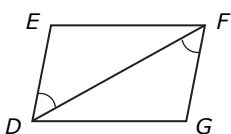


STATEMENTS	REASONS
1. $\overline{FG} \parallel \overline{EH}$, $\overline{FE} \parallel \overline{GH}$	1. Given
2. $\angle FGE \cong \angle HEG$ $\angle FEG \cong \angle HGE$	2. If lines are \parallel , then ? are \cong .
3. $\overline{EG} \cong \overline{GE}$	3.
4. $\triangle EFG \cong \triangle GHE$	4.
5. $\angle F \cong \angle H$	5.

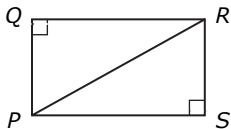
9. What is the minimum additional information needed to prove that the triangles are congruent by ASA?



10. What is the minimum additional information needed to prove that the triangles are congruent by AAS?



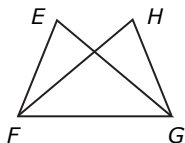
11. What is the minimum additional information needed to prove that the triangles are congruent by HL?



12. Complete the proof.

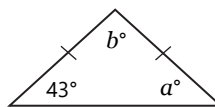
Given: $\angle EFG \cong \angle HGF$,
 $\angle E \cong \angle H$

Prove: $\overline{EF} \cong \overline{HG}$

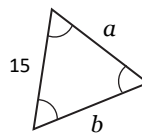


STATEMENTS	REASONS
1. $\angle EFG \cong \angle HGF$ $\angle E \cong \angle H$	1. Given
3. $\overline{FG} \cong \overline{GF}$	3.
4. $\triangle EFG \cong \triangle HGF$	4.
5. $\overline{EF} \cong \overline{HG}$	5.

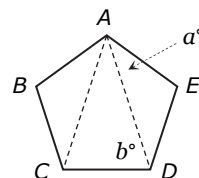
13. Find the values of a and b .



14. Find the values of a and b .



15. (HONORS) $ABCDE$ is a regular pentagon. Find the values of a and b . (*Hint:* What is the measure of an interior angle of a regular pentagon?)

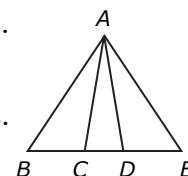


16. (HONORS) Complete the proof.

Given: $\triangle ACD$ is isosceles.

$$\overline{BD} \cong \overline{CE}$$

Prove: $\triangle ABE$ is isosceles.



STATEMENTS	REASONS
1. $\triangle ACD$ is isosceles.	1. Given
2. $\overline{AC} \cong \overline{AD}$	2. Def. of iso. \triangle
3. $\angle ACE \cong \angle ADB$	3.
4. $\overline{BD} \cong \overline{CE}$	4. Given
5. $\triangle ABD \cong \triangle AEC$	5.
6. $\overline{AB} \cong \overline{AE}$	6.
7. $\triangle ABE$ is isosceles.	7.