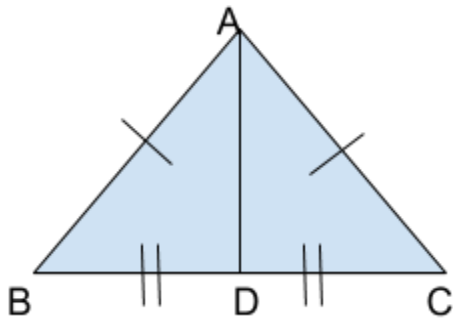


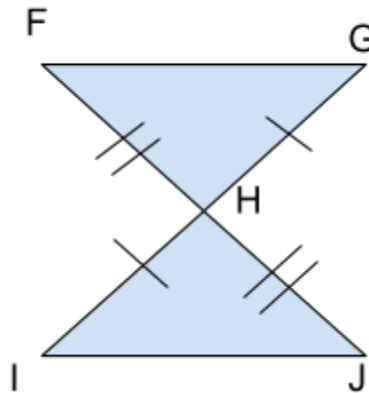
Chapter 4 Replacement Quiz review

1. Why are the triangles congruent and why would $\angle B$ be congruent to $\angle C$?



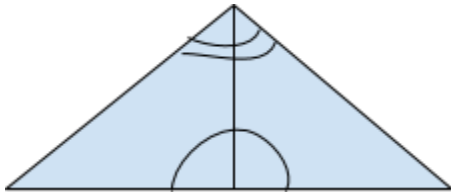
Since $AD = AD$ that makes the third side congruent. Therefore, the above triangles are congruent by SSS. That makes $\angle B$ congruent to $\angle C$ by CPCTC

2. Why are these triangles congruent? Write a correct congruence statement.



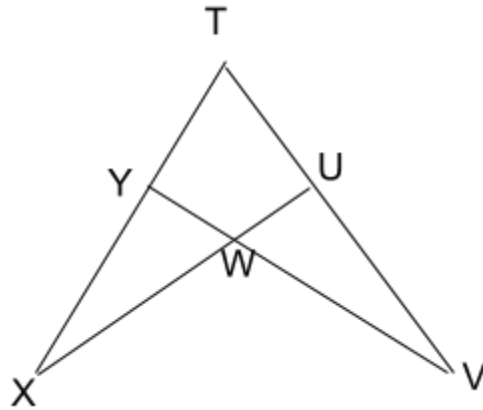
Since $\angle FHG$ is congruent to $\angle JHI$ by vertical angles, that makes the triangles congruent by SAS. A potential congruence statement is:
 $\triangle GHF \cong IHJ$

3. How are these triangles congruent?



Since the line down the middle is congruent to both triangles by Reflexive Property, that makes the triangles congruent by ASA

4. $\triangle TYV \cong \triangle TUX$; What is their common angle or side?

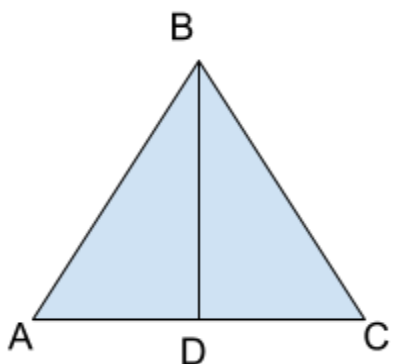


Angle T

5. Given:

$\overline{AB} \cong \overline{CB}$; \overline{BD} bisects $\angle ABC$

Prove: $\overline{AD} \cong \overline{CD}$

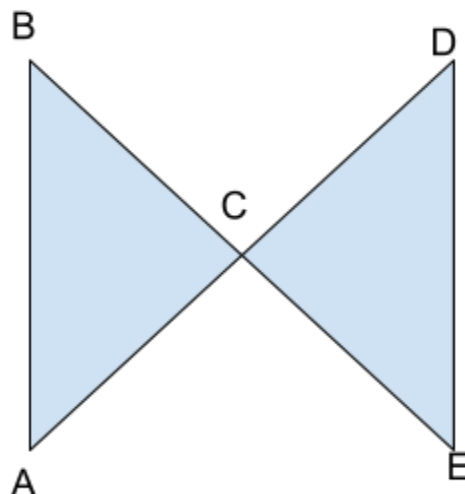


1. $\overline{AB} \cong \overline{CB}$ \overline{BD} bisects $\angle ABC$	1. Given
2. $\angle ABD \cong \angle CBD$	2. Def of angle bisector
3. $\overline{BD} \cong \overline{BD}$	3. Reflexive property
4. $\triangle ABD \cong \triangle CBD$	4. SAS
5. $\overline{AD} \cong \overline{CD}$	5. CPCTC

6. Given: C is the midpoint of

\overline{BE} and $\overline{AB} \parallel \overline{DE}$

Prove: $\overline{AC} \cong \overline{DC}$



1. $\overline{AB} \parallel \overline{DE}$ C is the midpoint of \overline{BE}	Given
2. $\overline{BC} \cong \overline{EC}$	Def of a midpoint
3. $\angle A \cong \angle D$ $\angle B \cong \angle E$	Alternate Interior angles are congruent
4. $\triangle ABC \cong \triangle DEC$	AAS
5. $\overline{AC} \cong \overline{DC}$	CPCTC

7. $\triangle RST \cong \triangle UVW$

- Name all the corresponding parts.
- Rewrite the congruence statement in a different way that is also correct.

$$\begin{aligned} \angle R &\cong \angle U, \angle S \cong \angle V \\ \angle T &\cong \angle W; \overline{RS} \cong \overline{UV} \\ \overline{ST} &\cong \overline{VW}, \overline{RT} \cong \overline{UW} \end{aligned}$$

8. If $\triangle DEF \cong \triangle GHI$, if $m\angle E = 5x - 24$ and $m\angle H = 2x + 33$ solve for x and determine the measure of $\angle E$ and H .

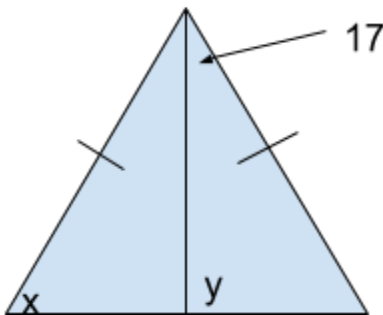
$$5x - 24 = 2x + 33$$

$$3x = 57$$

$$x = 19$$

So substitute and $m\angle H = m\angle E$
 $5(19) - 24 = 71 = 2(19) + 33$

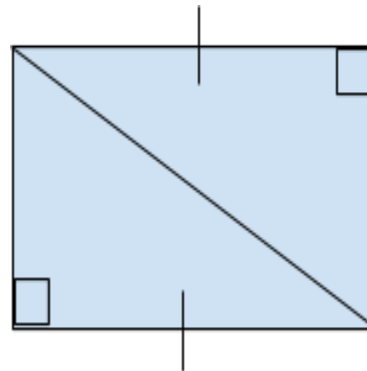
9. What are the measures of angles x and y ?



Since the given big triangle is isosceles the base angles will be congruent and then line down the middle is perpendicular to the base.

Therefore $y = 90$ and
 $90 - 17 = 73 = x$

10. Why are these triangles congruent?



The line down the middle is congruent to both triangles by reflexive property. This line also acts as the hypotenuse for both triangles. Given is a side which happens to be a leg of a right triangle. Therefore triangles congruent by Hypotenuse-Leg or HL

