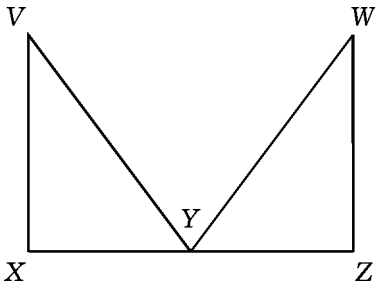
Unit 2: Triangles AND Congruence Day 6

Name: _____ **Date:** _____

1. Given: $VY = WY$
$VX = WZ$
Y is the midpoint of $\overline{XZ}$

Prove: $\triangle VXY \cong \triangle WYZ$



statement	reason
Y is the midpoint of $\overline{XZ}$	(1)
$XY = YZ$	(2)
$VY = WY$	(3)
$VX = WZ$	(4)
$\triangle VXY \cong \triangle WYZ$	(5)

In the above proof, what is reason (2)?

A. definition of angle bisector

B. definition of midpoint

C. definition of bisector

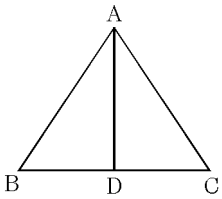
D. definition of perpendicular bisector

2. Given: $\overline{AD}$ is the perpendicular bisector of $\overline{BC}$

Prove: $\triangle ABC$ is isosceles

Statement	Reason
1. $\overline{AD}$ is $\perp$ bisector of $\overline{BC}$	given
2. _____	def'n of $\perp$ bisector
3. _____	def'n of $\perp$ bisector
4. $\overline{AD} \cong \overline{AD}$	_____
5. $\triangle ABD \cong \triangle ACD$	SAS
6. $AB = AC$	_____
7. $\triangle ABC$ is isosceles	_____

What is the reason for step 7?



A. $m\angle B = m\angle C$

B. definition of isosceles ($AB = AC$)

C. angles opposite = sides are =

D. sides opposite = angles are =

3. Given: $\overline{WY}$ is the angle bisector of $\angle XWZ$
$m\angle XYW = m\angle ZYW$

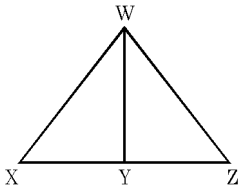
Prove: $\triangle WXY \cong \triangle WZY$

Statement	Reason
$\overline{WY}$ is the bisector of $\angle XWZ$	(1)
$m\angle XWY = m\angle ZWY$	(2)
$WY = WY$	(3)
$m\angle XYW = m\angle ZYW$	(4)
$\triangle WXY \cong \triangle WZY$	(5)

In the above proof, what is reason (5)?

A. AAA B. AAS

C. ASA D. SSS



4. Given: $\overline{VT}$ bisects $\overline{RW}$
$\overline{RW}$ bisects $\overline{TV}$

Prove: $\triangle RSV \cong \triangle WST$

Statement	Reason
$\overline{VT}$ bisects $\overline{RW}$	(1)
$RS = WS$	(2)
$m\angle RSV = m\angle WST$	(3)
$\overline{RW}$ bisects $\overline{TV}$	(4)
$TS = VS$	(5)
$\triangle RSV \cong \triangle WST$	(6)

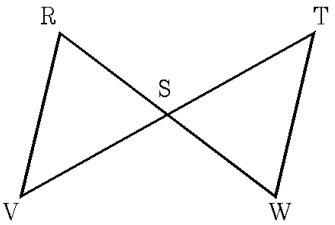
In the proof, what is the reason for (6)?

A. AAS

B. ASA

C. SAS

D. SSS

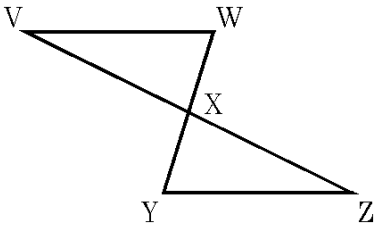


5. Given: $\overline{VW} \parallel \overline{ZY}$
$WX = YX$

Prove: $\triangle VWX \cong \triangle XYZ$

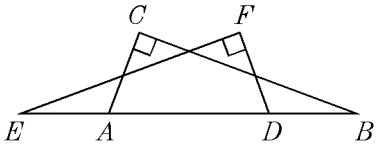
Statement	Reason
$\overline{VW} \parallel \overline{ZY}$	(1)
$m\angle W = m\angle Y$	(2)
$WX = YX$	(3)
$m\angle VXW = m\angle ZXY$	(4)
$\triangle VWX \cong \triangle ZYX$	(5)

In this proof, what is the reason for (5)?



A. SAS B. ASA C. SSS D. HL

6. In the figure, $\angle C$ and $\angle F$ are right angles with $\overline{AB} \cong \overline{DE}$ and $\overline{AC} \cong \overline{DF}$. What postulate or theorem proves $\triangle DEF \cong \triangle ABC$?



A. AA B. ASA C. H-L D. SSS

7. A contractor built two triangular supports. He wants both triangular supports to be congruent. Which of these processes will enable the contractor to determine that these two triangular supports are congruent?

A. measure all three sides of each triangular support

B. measure all three angles of each triangular support

C. measure the smallest angle and the longest side in each triangular support

D. measure the smallest angle and the shortest and longest sides in each triangular support

8. Which equation describes the line with an undefined slope and containing the point $(-3, -1)$?

A. $x = -3$ B. $y = -3$

C. $y = -3x - 1$ D. $x = -1$

9. A line has slope -1. It passes through the points $Q(2, -n)$ and $R(4, -3)$. What is the value of n?

A. -5 B. 1 C. 4 D. 5

10. What is the solution to the following system?

$3y = 6 + 2x$
$8x = 12y - 24$

A. $(-6, -2)$ B. $(-3, 0)$ C. $(9, 8)$

D. infinite number of solutions