19. 1. $\angle 1 \cong \angle 2$;
$\angle PQR \cong \angle SRQ$ (Given)
2. $\overline{QR} \cong \overline{QR}$ (Refl. Prop.)
3. $\triangle PQR \cong \triangle SRQ$ (ASA)
4. $\overline{PR} \cong \overline{SQ}$ (Corr. parts of $\cong \triangle$ are $\cong$.)

20. 1. $\overline{WZ} \perp$ plane M (Given)
2. $\overline{WZ} \perp \overline{XZ}$; $\overline{WZ} \perp \overline{YZ}$ (Def. of line $\perp$ plane)
3. $m\angle WZX = 90$ $= m\angle WZY$ (Def. of $\perp$ lines, rt. $\angle$)
4. $\angle ZXY \cong \angle ZYX$ (Given)
5. $\overline{ZX} \cong \overline{ZY}$ (If 2 $\angle$ of a $\triangle$ are $\cong$, then the sides opp. those $\angle$ are $\cong$.)
6. $\overline{WZ} \cong \overline{WZ}$ (Refl. Prop.)
7. $\triangle WZX \cong \triangle XZY$ (SAS)
8. $\overline{WX} \cong \overline{WY}$ (Corr. parts of $\cong \triangle$ are $\cong$.)

4. The congruence method that applies only to right triangles is the __?__ method. **HL**

5. If $\triangle JKL$ is equilateral, then $m\angle K = $ __?__ (numerical answer). **60**

6. A perpendicular segment from a vertex of a triangle to the line that contains the opposite side is called a(n) __?__ of the triangle. **altitude**

7. A point lies on the perpendicular bisector of a segment if and only if it is equidistant from __?__. **the endpoints of the segment**

8. Use inductive reasoning to complete: 100, 99, 97, 94, 90, 85, __?__, __?__. **79, 72**

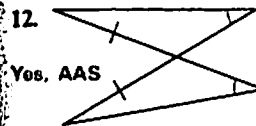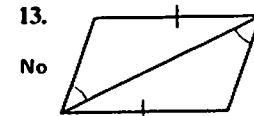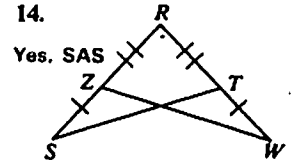**Can the triangles be proved congruent? If so, by which method, SSS, SAS, ASA, AAS, or HL?**

9.

Yes, SSS

10.

Yes, HL

11.

No

12.

Yes, AAS

13.

No

14.
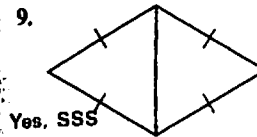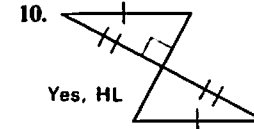
Yes, SAS

$\overline{AC}$ **is the perpendicular bisector of** $\overline{BD}$.

15. a. A is equidistant from __?__ and __?__. **B, D**
b. C is equidistant from __?__ and __?__. **B, D**
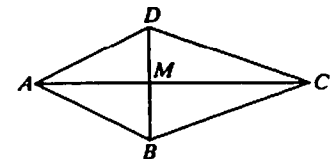
16. Name two isosceles triangles. **$\triangle ABD$, $\triangle CBD$**

17. Name three pairs of congruent triangles.
$\triangle AMB \cong \triangle AMD$, $\triangle CMB \cong \triangle CMD$, $\triangle ADC \cong \triangle ABC$

18. In $\triangle JKL$, $\overline{JL} \cong \overline{KL}$. If $m\angle J = x + y$, $m\angle K = 2x + 10$, and $m\angle L = x + 2y$, find the values of x and y. **$x = 20$, $y = 30$**

19. Given: $\angle 1 \cong \angle 2$; $\angle PQR \cong \angle SRQ$
Prove: $\overline{PR} \cong \overline{SQ}$

20. Given: $\overline{WZ} \perp$ plane M; $\angle ZXY \cong \angle ZYX$
Prove: $\overline{WX} \cong \overline{WY}$
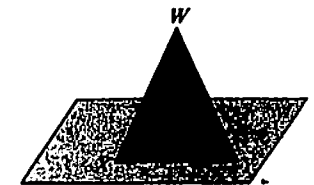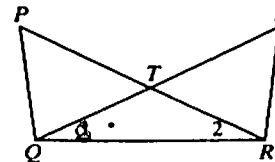
Chapter Test

Complete.

1. If $\triangle LEG \cong \triangle ARM$, then $\overline{GL} \cong$ __?__ and $\triangle RMA \cong$ __?__. **$\overline{MA}$** **$\triangle EGL$**

2. In isosceles $\triangle ABC$, $m\angle A = 130$. The legs are sides __?__ and __?__. $m\angle B = $ __?__ (numerical answer). **$\overline{AB}, \overline{AC}$** **25**

3. You want to prove $\triangle RST \cong \triangle XYZ$ by SAS. If you have $\overline{ST} \cong \overline{YZ}$ and $\angle T \cong \angle Z$, you must show that __?__ $\cong$ __?__. **$\overline{RT}, \overline{XZ}$**