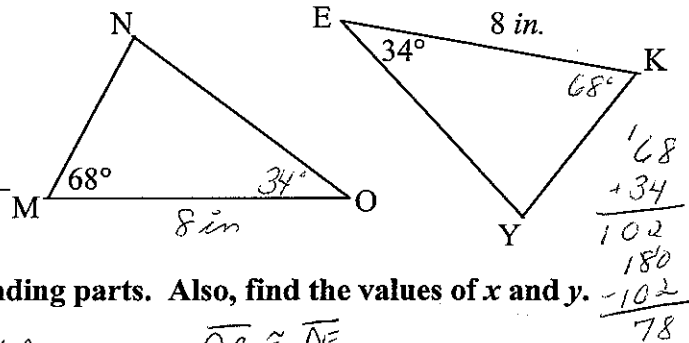


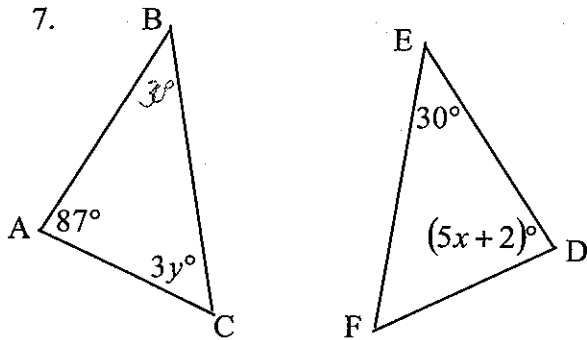
Accelerated Geometry
Review of Sections 4-1 & 4-2

I. In the picture at the right, $\triangle MON \cong \triangle KEY$. Complete each statement.

- $\angle K \cong \angle M$
- $\overline{NO} \cong \overline{YE}$
- $m\angle O = 34^\circ$
- $m\angle N = 78^\circ$
- $MO = 8 \text{ in}$
- $\triangle EYK \cong \triangle ONM$



II. Given $\triangle ABC \cong \triangle DEF$. List the six congruent corresponding parts. Also, find the values of x and y .



- $\angle A \cong \angle D$
 $\angle B \cong \angle E$
 $\angle C \cong \angle F$

- $\overline{AB} \cong \overline{DE}$
 $\overline{BC} \cong \overline{EF}$
 $\overline{AC} \cong \overline{DF}$

$$5x + 2 = 87$$

$$5x = 85$$

$$3y + 30 + 87 = 180$$

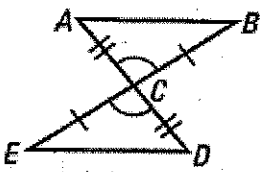
$$3y + 117 = 180$$

$$3y = 63$$

$x = 17$ $y = 21$

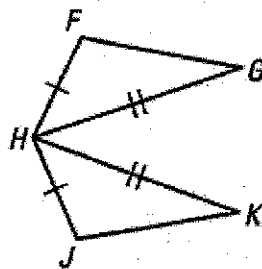
III. Is it possible to prove that the triangles are congruent? If so, state the postulate that you would use.

8. $\triangle ABC, \triangle DEC$



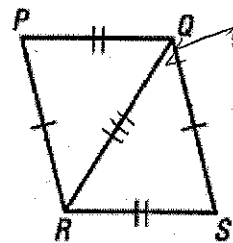
SAS Post

9. $\triangle FGH, \triangle JKH$



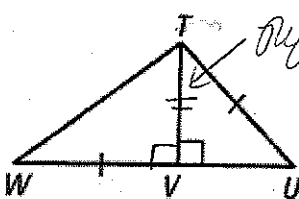
n/a

10. $\triangle PQR, \triangle SRQ$



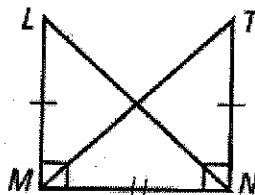
SSS Post

11. $\triangle UVT, \triangle WVT$



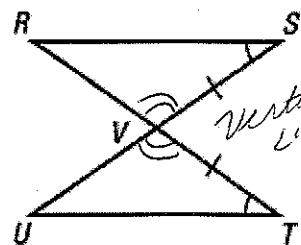
n/a

12. $\triangle LMN, \triangle TNM$



SAS Post

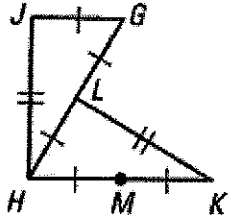
13. $\triangle RSV, \triangle TVS$



ASA Post

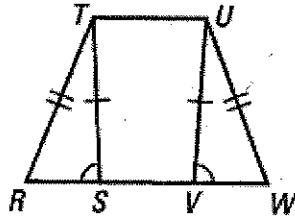
III. Is it possible to prove that the triangles are congruent? If so, state the postulate that you would use.

14. $\triangle GJH, \triangle HLK$



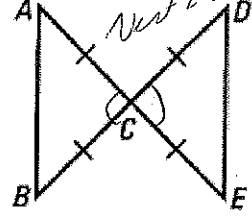
SSS Post

15. $\triangle RST, \triangle WVU$



n/a

16. $\triangle ACB, \triangle ECD$

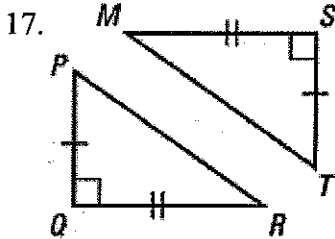


SAS Post

#6-10 Using the given information, decide whether the two triangles must be congruent. If so,

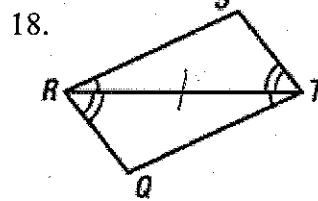
a. write the congruence statement

b. name the postulate used; If no congruence can be deduced, write *none* for both parts, a. and b.



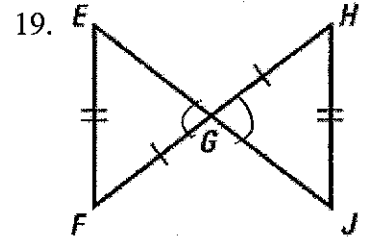
a. $\triangle PQR \cong \triangle TSM$

b. SAS Post



a. $\triangle RST \cong \triangle TQR$

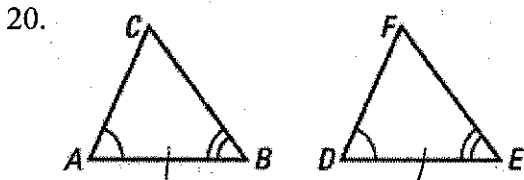
b. ASA Post



a. $\triangle GHJ \cong$ None

b. None

IV. State the third congruence that must be given to prove $\triangle ABC \cong \triangle DEF$ using ASA Congruence Postulate.



** Side must be "included."*

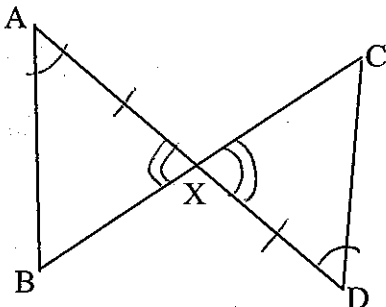
$\overline{AC} \cong \overline{DF}$

V. Complete the two-column proof by supplying the missing information.

21. Given: X is the midpoint of \overline{AD} .

$$\angle A \cong \angle D$$

Proof: $\triangle AXB \cong \triangle DXC$



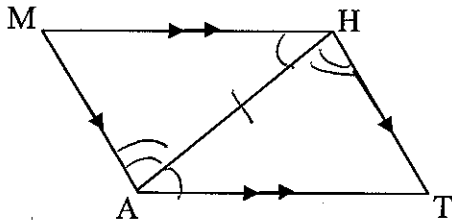
Statements	Reasons
1. X is the midpoint of \overline{AD}	1. <u>Given</u>
2. $\overline{AX} \cong \overline{XD}$	2. <u>Def'n of midpt</u>
3. $\angle A \cong \angle D$	3. <u>Given</u>
4. $\angle AXB \cong \angle DXC$	4. <u>Vertical \angle's are \cong</u>
5. $\triangle AXB \cong \triangle DXC$	5. <u>ASA Post.</u>

V. Complete the two-column proof by supplying the missing information.

22. Given: $\overline{MH} \parallel \overline{AT}$

$\overline{MA} \parallel \overline{HT}$

Prove: $\triangle MHA \cong \triangle TAH$

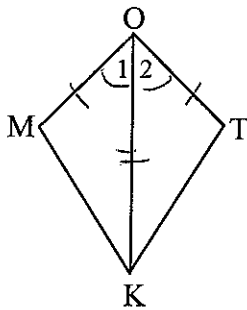


Statements	Reasons
1. $\overline{MH} \parallel \overline{AT}$	1. Given
2. $\angle MHA \cong \angle HAT$	2. Alt. angles, then all int. L's are
3. $\overline{MA} \parallel \overline{HT}$	3. Given
4. $\angle THA \cong \angle HAM$	4. Trans. then all int. L's are
5. $\overline{AH} \cong \overline{AH}$	5. Reflexive Property
6. $\triangle MHA \cong \triangle TAH$	6. ASA Post

VI. Complete the two-column proof.

23. Given: \overline{OK} bisects $\angle MOT$; $\overline{OM} \cong \overline{OT}$

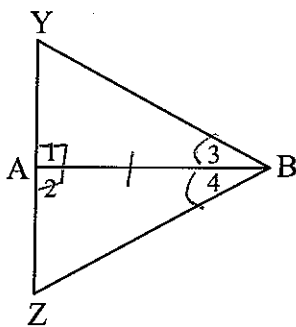
Prove: $\triangle MOK \cong \triangle TOK$



Statements	Reasons
① \overline{OK} bisects $\angle MOT$	① Given
② $\angle 1 \cong \angle 2$	② Def. of \angle bisector
③ $\overline{OM} \cong \overline{OT}$	③ Given
④ $\overline{OK} \cong \overline{OK}$	④ Reflexive Prop.
⑤ $\triangle MOK \cong \triangle TOK$	⑤ SAS Postulate

24. Given: $\overline{BA} \perp \overline{YZ}$; \overline{BA} bisects $\angle YBZ$

Prove: $\triangle AYB \cong \triangle AZB$



Statements	Reasons
① $\overline{BA} \perp \overline{YZ}$	① Given
② $\angle 1 \cong \angle 2$	② If 2 lines are \perp , they form \cong adj. \angle 's.
③ \overline{BA} bisects $\angle YBZ$	③ Given
④ $\angle 3 \cong \angle 4$	④ Def. of \angle bisector
⑤ $\overline{AB} \cong \overline{AB}$	⑤ Reflexive
⑥ $\triangle AYB \cong \triangle AZB$	⑥ ASA Postulate

