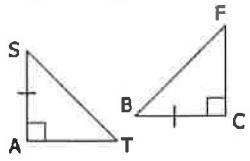
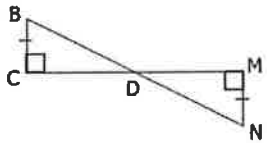
Name _____ Date _____

I. Complete each correspondence statement.

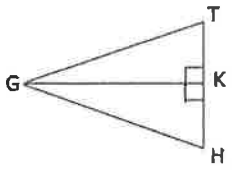
1) $\Delta SAT \cong \Delta$ BCF



2) $\Delta BCD \cong \Delta$ NMD

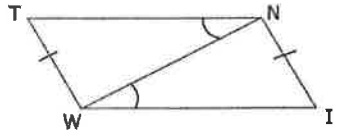


3) $\Delta GHK \cong \Delta$ GTK

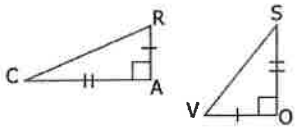


II. Write a congruence statement for each pair of congruent triangles.

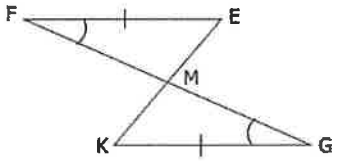
4) Δ TWN $\cong \Delta$ INW



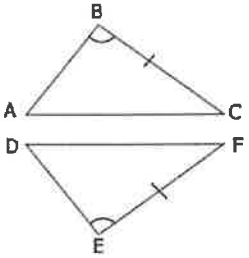
5) Δ RAC $\cong \Delta$ VOS



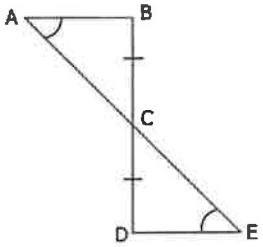
6) Δ MEF $\cong \Delta$ MKG



7) Δ ABC $\cong \Delta$ DEF



8) Δ CBA $\cong \Delta$ CDE



III. Draw ΔEDG and ΔQRS. Label the corresponding parts if ΔEDG ≅ ΔQRS. Then complete each statement.

7) $\angle E \cong$ $\angle Q$

8) $\overline{DG} \cong$ $\overline{RS}$

9) $\angle EDG \cong$ $\angle QRS$

10) $\overline{GE} \cong$ $\overline{SQ}$

11) $\overline{ED} \cong$ $\overline{QR}$

12) $\angle EGD \cong$ $\angle QSR$

IV. Label the corresponding part if ΔRST ≅ ΔABC. Use the figures to complete each statement.

13) $\angle ACB \cong$ $\angle RTS$

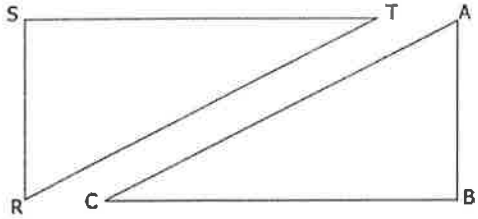
14) $\angle TSR \cong$ $\angle CBA$

15) $\overline{AC} \cong$ $\overline{RT}$

16) $\overline{ST} \cong$ $\overline{BC}$

17) $\overline{RS} \cong$ $\overline{AB}$

18) $\angle CBA \cong$ $\angle TSR$



V. Find the value of "x".

19) Given ΔABC ≅ ΔDEF, AB=15, BC=20, AC=25, and FE=3x-7

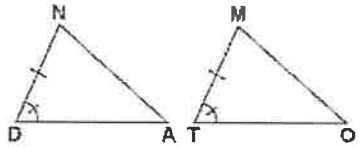
$x = 9$

20) Given ΔABC ≅ ΔDEF, DE=10, EF=13, DF=16, and AC=4x-8

$x = 6$

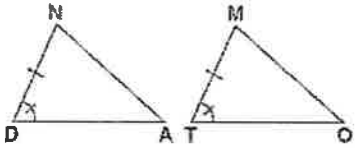
The pair of triangles below has two corresponding parts marked as congruent.

1. What additional information is needed for a SAS congruence correspondence?



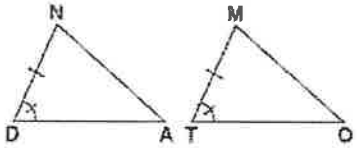
Answer: $\overline{DA} \cong \overline{TO}$

2. What additional information is needed for an ASA congruence correspondence?



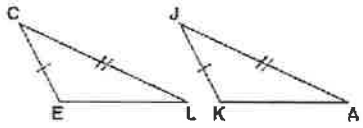
Answer: $\angle N \cong \angle M$

3. What additional information is needed for an AAS congruence correspondence?



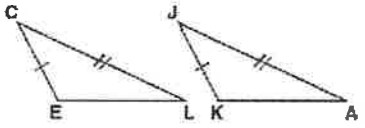
Answer: $\angle A \cong \angle O$

4. What additional information is needed for a SSS congruence correspondence?



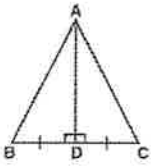
Answer: $\overline{EL} \cong \overline{KA}$

5. What additional information is needed for a SAS congruence correspondence.



Answer: $\angle C \cong \angle J$

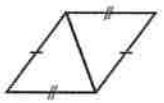
6. What additional information is needed for an ASA congruence correspondence?



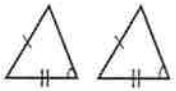
Answer: $\angle B \cong \angle C$

Using the tick marks for each pair of triangles, name the method {SSS, SAS, ASA, AAS} that can be used to prove the triangles congruent. If not, write ***not possible.***
(Hint: Remember to look for the <u>reflexive side</u> and vertical angles!!!!)

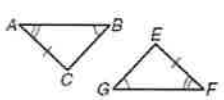
SAS



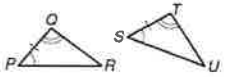
SSS



Not possible

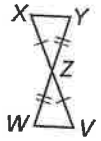


AAS

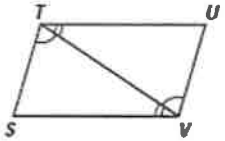


ASA

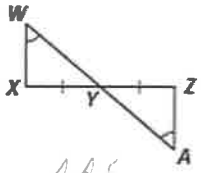
Not possible



SAS



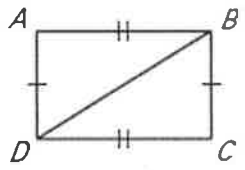
ASA



AAS

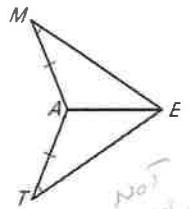
Decide whether the congruence statement is true.
Explain your reasoning using SSS≅, SAS≅, AAS≅, HL≅, or ASA≅.
If it is not true, state "not enough info given".

1. $\triangle ABD \cong \triangle CDB$



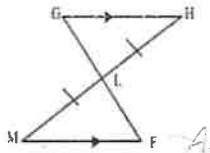
SSS

2. $\triangle MAE \cong \triangle TAE$



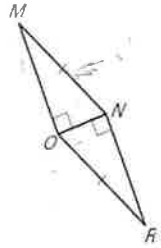
not enough info

3. $\triangle LGH \cong \triangle LFM$



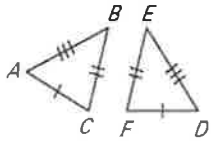
AAS
ASA

4. $\triangle MNO, \triangle RON$



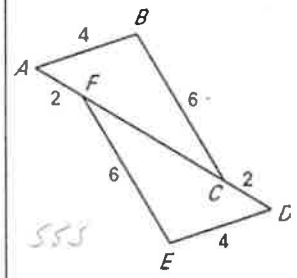
HL

5. $\triangle ABC \cong \triangle DEF$



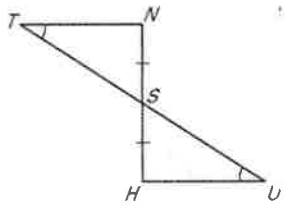
SSS

6. $\triangle ABC \cong \triangle DEF$



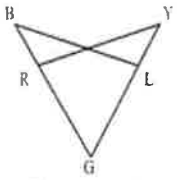
SSS

7. $\triangle NST \cong \triangle HSU$



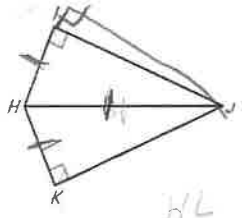
AAS

8. $\triangle BLG \cong \triangle YRG$



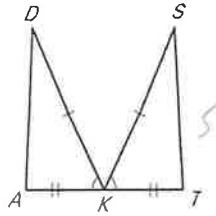
not enough info

9. $\triangle HIJ \cong \triangle KHJ$



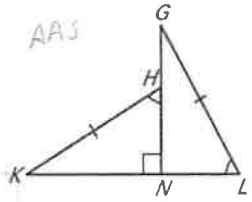
HL

10. $\triangle DKA \cong \triangle TKS$



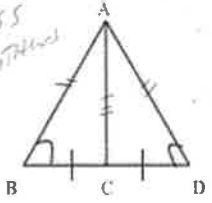
SAS

11. $\triangle NHK \cong \triangle NLG$



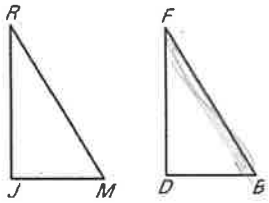
AAS

12. $\triangle ABC \cong \triangle ADC$



SSS + other

State the third congruence that must be given to prove that $\triangle JRM \cong \triangle DFB$.

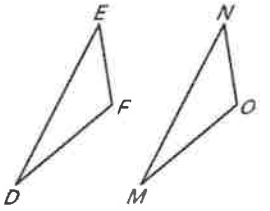


13. $\overline{JR} \cong \overline{DF}$, $\overline{JM} \cong \overline{DB}$, $\overline{RM} \cong \overline{FB}$ Using SSS ≅

14. $\overline{JR} \cong \overline{DF}$, $\overline{JM} \cong \overline{DB}$, $\angle J \cong \angle D$ Using SAS ≅

15. $\overline{RM} \cong \overline{FB}$, $\angle J \cong \angle D$; $\angle J$ is a right angle, $\overline{RJ} \cong \overline{FD}$ or $\overline{JM} \cong \overline{DB}$ Using HL ≅

State the third congruence that is needed to prove that $\triangle DEF \cong \triangle MNO$.

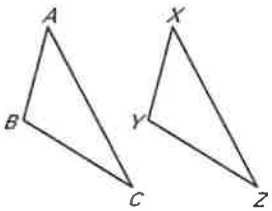


16. $\overline{DE} \cong \overline{MN}$, $\angle M \cong \angle D$, $\overline{DF} \cong \overline{MO}$ Using SAS ≅

17. $\overline{FE} \cong \overline{ON}$, $\angle F \cong \angle O$, $\angle D \cong \angle M$ Using AAS ≅

18. $\overline{DF} \cong \overline{MO}$, $\angle F \cong \angle O$, $\angle D \cong \angle M$ Using ASA ≅

State the third congruence that is needed to prove that $\triangle ABC \cong \triangle XYZ$.



19. $\angle A \cong \angle X$, $\angle B \cong \angle Y$, $\overline{BC} \cong \overline{YZ}$ or $\overline{AC} \cong \overline{XZ}$ Using AAS ≅

20. $\angle A \cong \angle X$, $\overline{AB} \cong \overline{XY}$, $\angle B \cong \angle Y$ Using ASA ≅

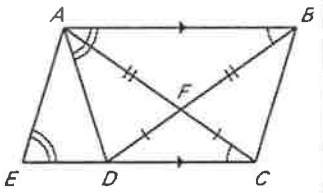
21. $\overline{BC} \cong \overline{YZ}$, $\angle C \cong \angle Z$, $\overline{AC} \cong \overline{XZ}$ Using SAS ≅

Write a congruence statement for the following triangles (it may help to re-draw them). State which method you used to find it.

22. $\triangle AFD \cong$ $\triangle BFC$ by SAS

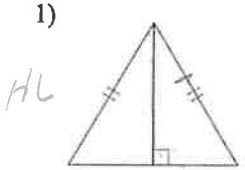
23. $\triangle ACE \cong$ $\triangle DBA$ by AAS

24. $\triangle ACD \cong$ $\triangle BDC$ by SAS



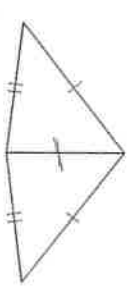
State if the two triangles are congruent. If they are, state how you know.

1)



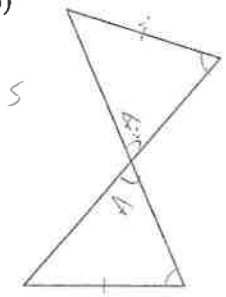
HL

2)



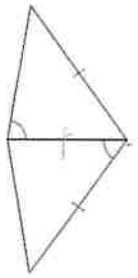
SSS

3)



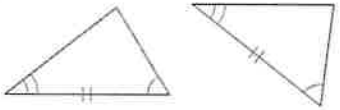
AAS

4)



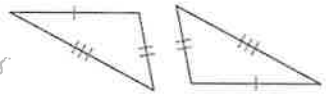
NOT ≅

5)



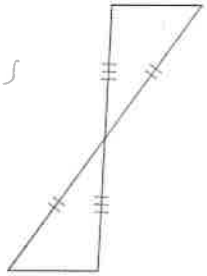
ASA

6)



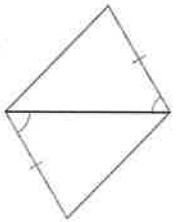
SSS

7)



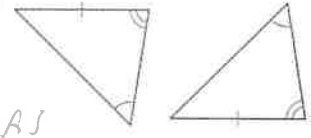
SAS

8)



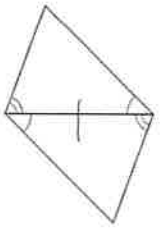
SAS

9)



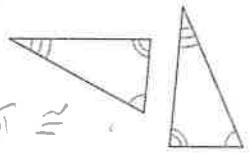
AAS

10)



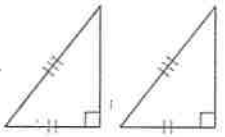
ASA

11)



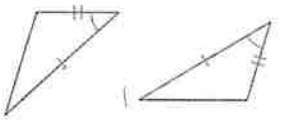
NOT ≅

12)



HL

13)



SAS

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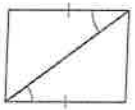

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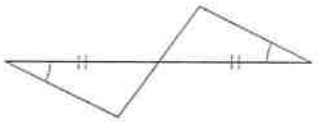
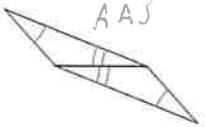


ASA

16)



AAS

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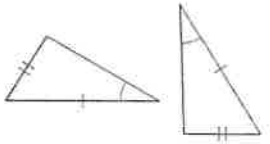
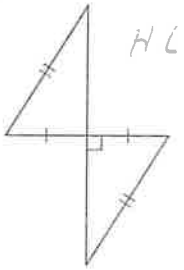


NOT ≅

18)



HL

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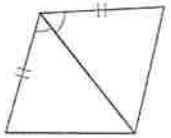

SAS

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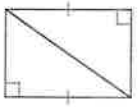

HL

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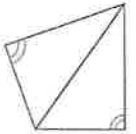

NOT ≅