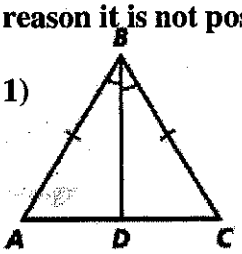
Geometry NAME _____

Worksheet – Congruent Triangles

Date _____HR _____

a) Determine whether the following triangles are congruent.
b) If they are, name the triangle congruence (pay attention to proper correspondence when naming the triangles) and then identify the Theorem or Postulate (SSS, SAS, ASA, AAS, HL) that supports your conclusion.
c) Be sure to show any additional congruence markings you used in your reasoning.
d) If the triangles cannot be proven congruent, state "not possible." Then given the reason it is not possible.

1)

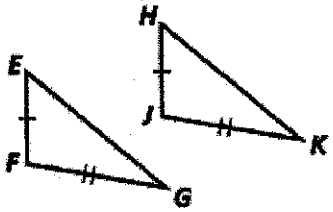


Congruence:

$\Delta ABD \cong \Delta$_____

Reason:

2)

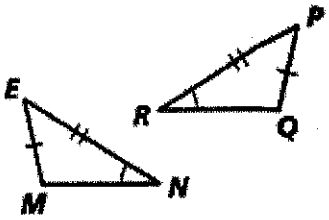


Congruence:

$\Delta EFG \cong \Delta$_____

Reason:

3)

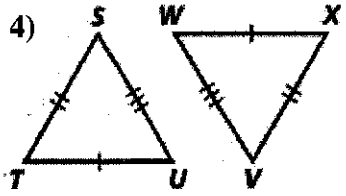


Congruence:

$\Delta EMN \cong \Delta$_____

Reason:

4)

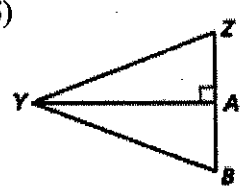


Congruence:

$\Delta STU \cong \Delta$_____

Reason:

5)

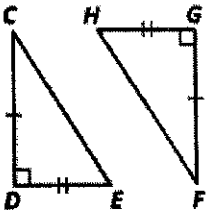


Congruence:

$\Delta YZA \cong \Delta$_____

Reason:

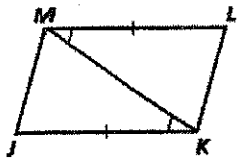
6)



Congruence:

$\Delta CDE \cong \Delta$_____

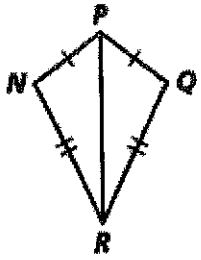
Reason:

7) 

Congruence:

$\Delta KJM \cong \Delta$ _____

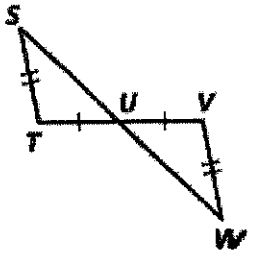
Reason:

8) 

Congruence:

$\Delta NPR \cong \Delta$ _____

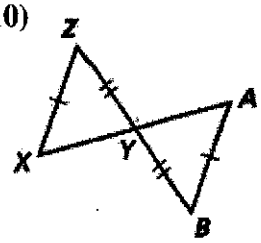
Reason:

9) 

Congruence:

$\Delta STU \cong \Delta$ _____

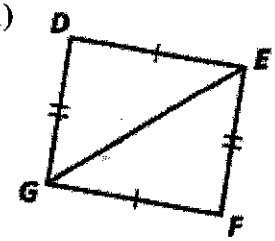
Reason:

10) 

Congruence:

$\Delta XYZ \cong \Delta$ _____

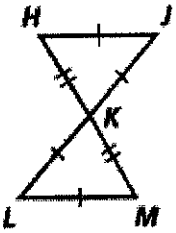
Reason:

11) 

Congruence:

$\Delta DEG \cong \Delta$ _____

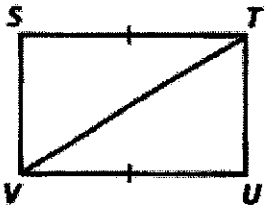
Reason:

12) 

Congruence:

$\Delta HJK \cong \Delta$ _____

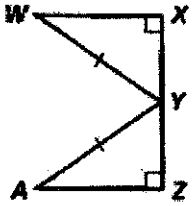
Reason:

13) 

Congruence:

$\Delta STV \cong \Delta$ _____

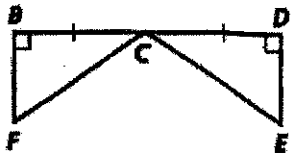
Reason:

14) 

Congruence:

$\Delta WXY \cong \Delta$ _____

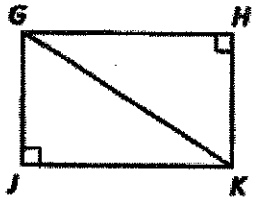
Reason:

15) 

Congruence:

$\Delta BCF \cong \Delta$ _____

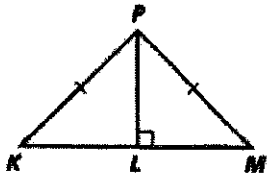
Reason:

16) 

Congruence:

$\Delta GJK \cong \Delta$ _____

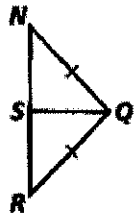
Reason:

17) 

Congruence:

$\Delta KLP \cong \Delta$ _____

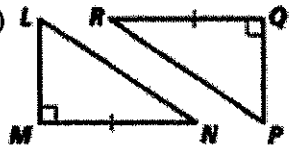
Reason:

18) 

Congruence:

$\Delta NSQ \cong \Delta$ _____

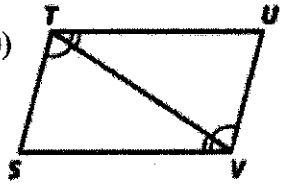
Reason:

19) 

Congruence:

$\Delta LMN \cong \Delta$ _____

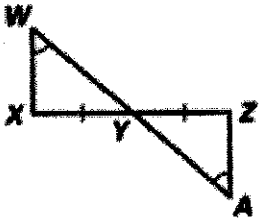
Reason:

20) 

Congruence:

$\Delta STV \cong \Delta$ _____

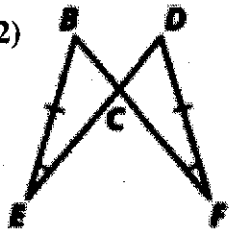
Reason:

21) 

Congruence:

$\Delta WXY \cong \Delta$ _____

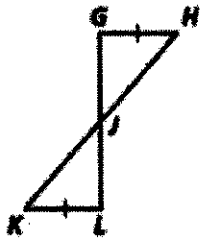
Reason:

22) 

Congruence:

$\Delta BCE \cong \Delta$ _____

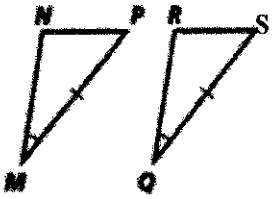
Reason:

23) 

Congruence:

$\Delta GHJ \cong \Delta$ _____

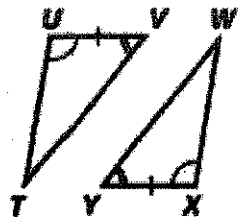
Reason:

24) 

Congruence:

$\Delta NPM \cong \Delta$ _____

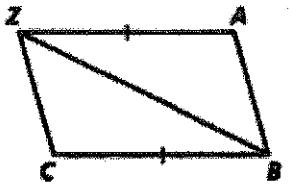
Reason:

25) 

Congruence:

$\Delta TUV \cong \Delta$_____

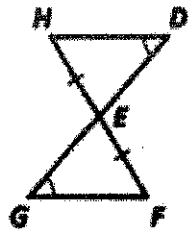
Reason:

26) 

Congruence:

$\Delta BCZ \cong \Delta$_____

Reason:

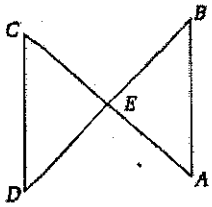
27) 

Congruence:

$\Delta EFG \cong \Delta$_____

Reason:

Use the given information to mark the diagram appropriately. Name the triangle congruence (pay attention to proper correspondence when naming the triangles) and then identify the Theorem or Postulate (SSS, SAS, ASA, AAS, HL) that would be used to prove the triangles congruent. If the triangles cannot be proven congruent, state "not possible."

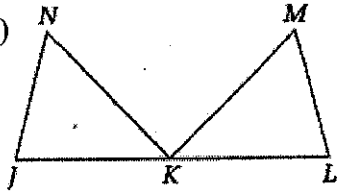
28) 

Given: $\overline{CD} \cong \overline{AB}$; $\angle B \cong \angle D$

Congruence:

$\Delta CDE \cong \Delta$_____

Reason:

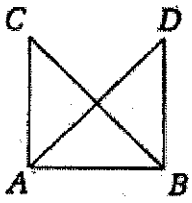
29) 

Given: $\overline{JN} \cong \overline{LM}$; $\overline{NK} \cong \overline{MK}$; $\angle N \cong \angle M$

Congruence:

$\Delta JKN \cong \Delta$_____

Reason:

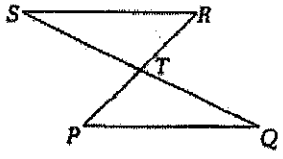
30) 

Given: $\overline{AC} \cong \overline{BD}$; $\overline{AD} \cong \overline{BC}$

Congruence:

$\Delta ABC \cong \Delta$_____

Reason:

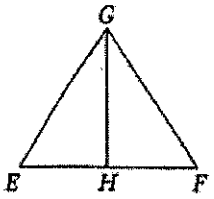
31) 

Given: $\overline{SQ}$ and $\overline{PR}$ bisect each other

Congruence:

$\Delta RST \cong \Delta$_____

Reason:

32) 

Given: $\overline{GH}$ bisects $\angle$**EGF** ;
$\overline{EG} \cong \overline{FG}$

Congruence: $\Delta EGH \cong \Delta$ _____

Reason:

Now choose one of the problems from 28-32 and create a flow chart proof. Then transform your flow chart proof into a 2 column proof. Your "given" will be the "Given" from the problem and your "prove" will be the "Congruence" statement you created.