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) $\triangle ABD \cong \Delta ______$

Reason:

2) $\triangle EFG \cong \Delta ______$

Reason:

3) $\triangle EMN \cong \Delta ______$

Reason:

4) $\triangle STU \cong \Delta ______$

Reason:

5) $\triangle YZA \cong \Delta ______$

Reason:

6) $\triangle CDE \cong \Delta ______$

Reason:
7) Congruence: \( \triangle KJM \cong \triangle \)_______

Reason:

8) Congruence: \( \triangle NPR \cong \triangle \)_______

Reason:

9) Congruence: \( \triangle STU \cong \triangle \)_______

Reason:

10) Congruence: \( \triangle XYZ \cong \triangle \)_______

Reason:

11) Congruence: \( \triangle DEG \cong \triangle \)_______

Reason:

12) Congruence: \( \triangle HJK \cong \triangle \)_______

Reason:

13) Congruence: \( \triangle STV \cong \triangle \)_______

Reason:

14) Congruence: \( \triangle WXY \cong \triangle \)_______

Reason:

15) Congruence: \( \triangle BCF \cong \triangle \)_______

Reason:
16) Congruence: \( \triangle GJK \cong \triangle \)_______

Reason: ________

17) Congruence: \( \triangle KLP \cong \triangle \)_______

Reason: ________

18) Congruence: \( \triangle NSQ \cong \triangle \)_______

Reason: ________

19) Congruence: \( \triangle LMN \cong \triangle \)_______

Reason: ________

20) Congruence: \( \triangle STV \cong \triangle \)_______

Reason: ________

21) Congruence: \( \triangle WXY \cong \triangle \)_______

Reason: ________

22) Congruence: \( \triangle BCE \cong \triangle \)_______

Reason: ________

23) Congruence: \( \triangle GHJ \cong \triangle \)_______

Reason: ________

24) Congruence: \( \triangle NPM \cong \triangle \)_______

Reason: ________
25) Congruence: \( \Delta TUV \cong \Delta \underline{\text{_______}} \)
Reason: 

26) Congruence: \( \Delta ABC \cong \Delta \underline{\text{_______}} \)
Reason: 

27) Congruence: \( \Delta EFG \cong \Delta \underline{\text{_______}} \)
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: \( \Delta CDE \cong \Delta \underline{\text{_______}} \)
Reason: 

29) Given: \( \overline{JN} \cong \overline{LM}; \overline{NK} \cong \overline{MK}; \angle N \cong \angle M \)

Congruence: \( \Delta JKN \cong \Delta \underline{\text{_______}} \)
Reason: 

30) Given: \( \overline{AC} \cong \overline{BD}; \overline{AD} \cong \overline{BC} \)

Congruence: \( \Delta ABC \cong \Delta \underline{\text{_______}} \)
Reason: 

31) Given: \( \overline{SQ} \) and \( \overline{PR} \) bisect each other

Congruence: \( \Delta RST \cong \Delta \underline{\text{_______}} \)
Reason: 

32) Given: \( GH \) bisects \( \angle EGF \);
\[
\overline{EG} \cong \overline{FG}
\]

Congruence: \( \triangle EGH \cong \triangle \) ________

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.