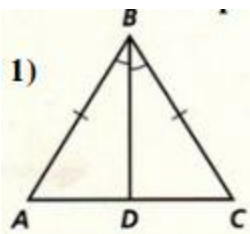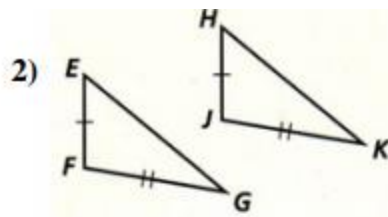Section 8.A
Congruent Triangle Worksheet

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.
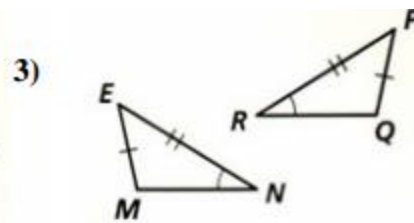D) If the triangles cannot be proven congruent, state "not possible." Then give the reason it is not possible.

1)

2)

3)

Congruence: SAS

ΔABD ≅ Δ ___CBD___

Reason:

Congruence: Not Possible

ΔEFG ≅ Δ _____

Reason:

Congruence: Not Possible

ΔEMN ≅ Δ _____

Reason:

4)

5)

6)
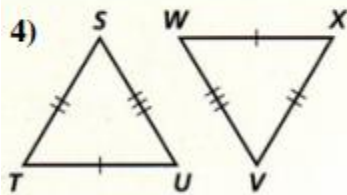
Congruence: SSS

ΔSTU ≅ Δ___VXW___
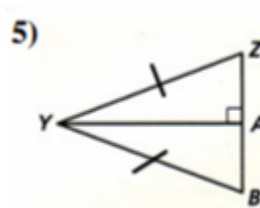
Reason:

Congruence: HL

ΔYZA ≅ Δ___YBA___
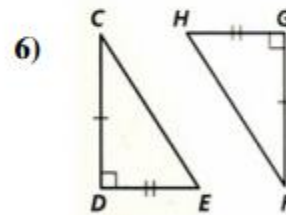
Reason:

Congruence: SAS

ΔCDE ≅ Δ___FGH___

Reason:

7)
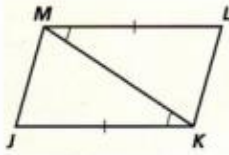
Congruence: SAS

ΔKJM ≅ Δ __MLK__

Reason:

8)
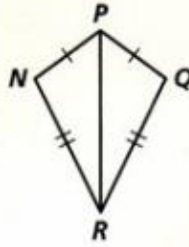
Congruence: SSS

ΔNPR ≅ Δ __QPR__

Reason:

9)

Congruence: Not Possible

ΔSTU ≅ Δ _____
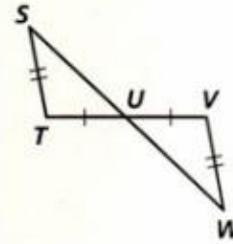
Reason:

10)

Congruence: Not Possible

ΔXYZ ≅ Δ _____
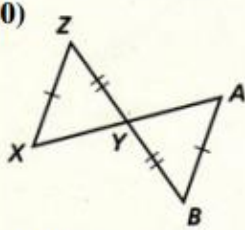
Reason:

11)
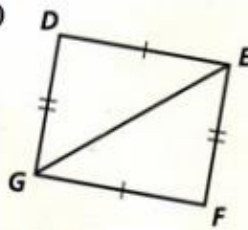
Congruence: SSS

ΔDEG ≅ Δ __FGE__

Reason:

12)
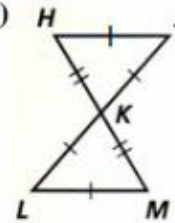
Congruence: SAS or SSS

ΔHJK ≅ Δ __MLK__

Reason:

13)
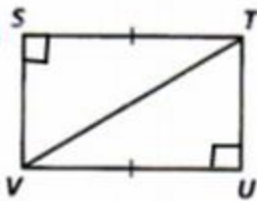
Congruence: HL

ΔSTV ≅ Δ __UVT__

Reason:

14)
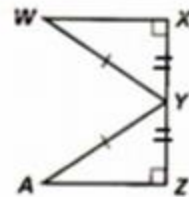
Congruence: HL

ΔWXY ≅ Δ __AZY__

Reason:

15)

Congruence: Not Possible

ΔBCF ≅ Δ _____
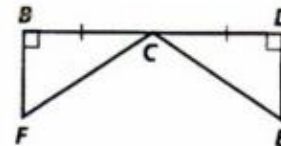
Reason:

16. Given: $\angle I \cong \angle J$

$\overline{HK} \perp \overline{IJ}$

Prove: $\overline{JK} \cong \overline{IK}$
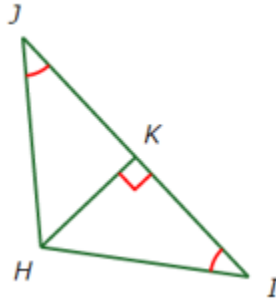
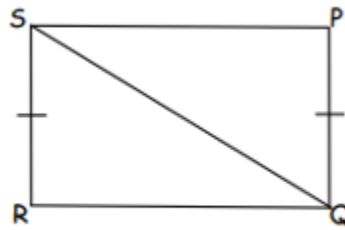| Statement	Reason
1. $\angle I \cong \angle J$	1. Given
2. $\overline{HK} \perp \overline{IJ}$	2. Given
3. $\angle HKI$ and $\angle HKJ$ are right angles	3. Definition of Perpendicular
4. $\angle HKI \cong \angle HKJ$	4. Right angles are congruent
5. $\overline{HK} \cong \overline{HK}$	5. Reflexive Property of Congruence
6. $\triangle HKI \cong \triangle HKJ$	6. AAS
7. $\overline{JK} \cong \overline{IK}$	7. CPCTC

17. Given: $\overline{RS} \cong \overline{PQ}$

$\angle P$ and $\angle R$ are right angles

Prove: $\triangle PQS \cong \triangle RSQ$

Statement	Reason
1. $\overline{RS} \cong \overline{PQ}$	1. Given
2. $\angle P$ and $\angle R$ are right angles	2. Given
3. $\triangle PQS$ and $\triangle RSQ$ are right triangles	3. Definition of Right Triangle
4. $\overline{SQ} \cong \overline{SQ}$	4. Reflexive Property of Congruence
5. $\triangle PQS \cong \triangle RSQ$	5. HL