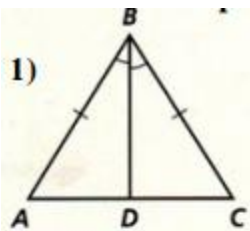


Congruent Triangles Worksheet **KEY**

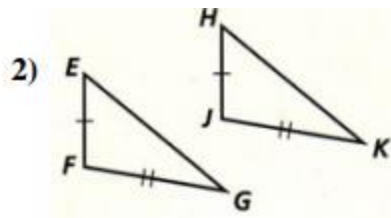
Name: _____ Hr: _____

- 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 give the reason it is not possible.



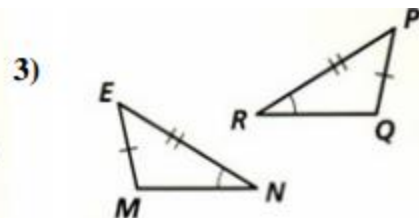
Congruence: SAS
 $\triangle ABD \cong \triangle CBD$

Reason:



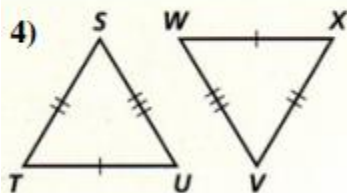
Congruence: Not Possible
 $\triangle EFG \cong \triangle \underline{\hspace{2cm}}$

Reason:



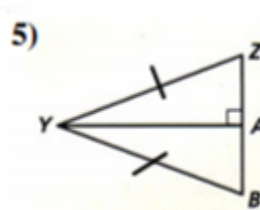
Congruence: Not Possible
 $\triangle EMN \cong \triangle \underline{\hspace{2cm}}$

Reason:



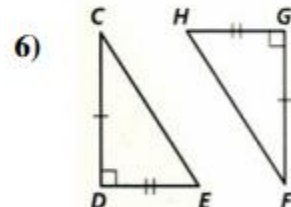
Congruence: SSS
 $\triangle STU \cong \triangle \underline{VXW}$

Reason:



Congruence: HL
 $\triangle YZA \cong \triangle \underline{YBA}$

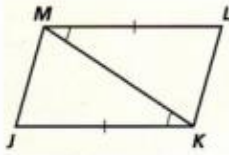
Reason:



Congruence: SAS
 $\triangle CDE \cong \triangle \underline{FGH}$

Reason:

7)

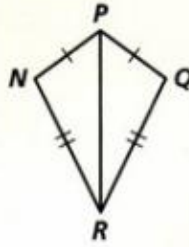


Congruence: SAS

$$\triangle KJM \cong \triangle \underline{MLK}$$

Reason:

8)

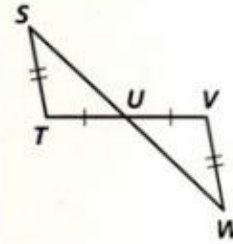


Congruence: SSS

$$\triangle NPR \cong \triangle \underline{QPR}$$

Reason:

9)

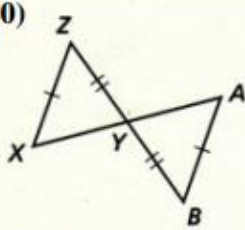


Congruence: Not Possible

$$\triangle STU \cong \triangle \underline{\hspace{2cm}}$$

Reason:

10)

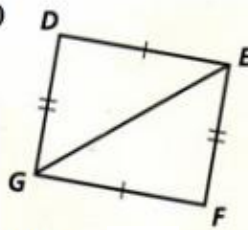


Congruence: Not Possible

$$\triangle XYZ \cong \triangle \underline{\hspace{2cm}}$$

Reason:

11)

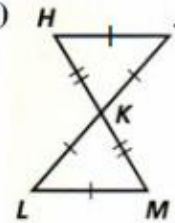


Congruence: SSS

$$\triangle DEG \cong \triangle \underline{FGE}$$

Reason:

12)

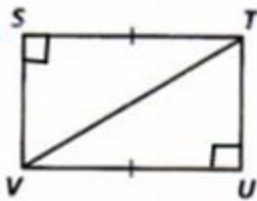


Congruence: SAS or SSS

$$\triangle HJK \cong \triangle \underline{MLK}$$

Reason:

13)

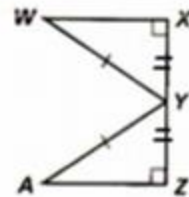


Congruence: HL

$$\triangle STV \cong \triangle \underline{UVT}$$

Reason:

14)

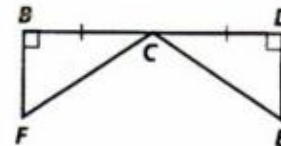


Congruence: HL

$$\triangle WXY \cong \triangle \underline{AZY}$$

Reason:

15)

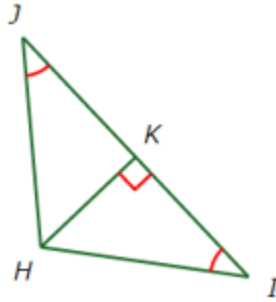


Congruence: Not Possible

$$\triangle BCF \cong \triangle \underline{\hspace{2cm}}$$

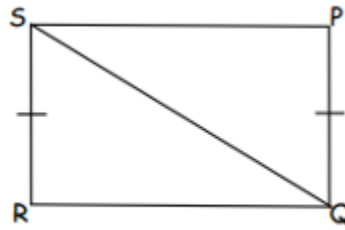
Reason:

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