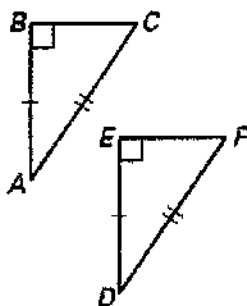


# (CPCTC) Worksheet

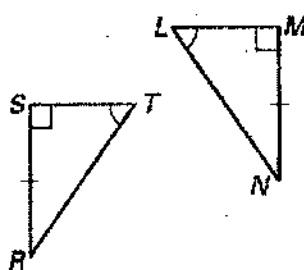
- What does CPCTC stand for? \_\_\_\_\_
- What must you show in your prove BEFORE using CPCTC? \_\_\_\_\_
- What do you use CPCTC for in a proof? \_\_\_\_\_

**Tell how the triangles are congruent (SSS, SAS, ASA, AAS, or HL) if you want to state the given segments or angles congruent. BE CAREFUL....YOU DON'T USE THOSE GIVEN SEGMENTS OR ANGLES TO HELP GET YOUR ANSWER!!!**

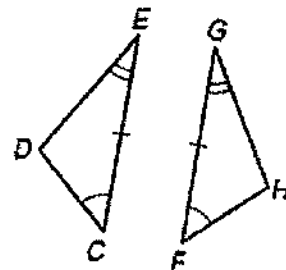
5.  $\angle C \cong \angle F$



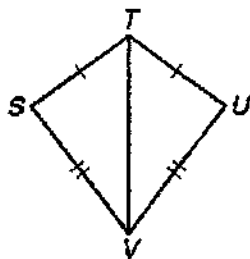
6.  $\overline{RT} \cong \overline{LN}$



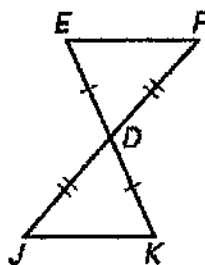
7.  $\angle D \cong \angle H$



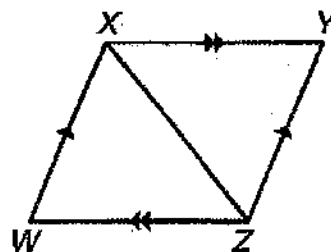
8.  $\angle STV \cong \angle UTV$



9.  $\overline{EF} \cong \overline{KJ}$



10.  $\overline{XY} \cong \overline{ZW}$



Match each statement to its correct congruency method at the right.

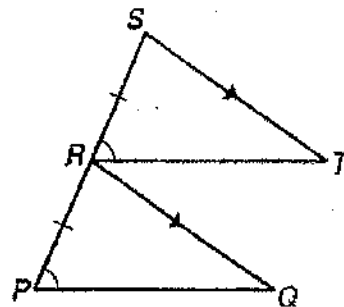
- Right triangles that have a pair of hypotenuses and a pair of legs congruent.
- Triangles that have 2 pairs of sides congruent and 1 pair of included angles congruent.
- Triangles that have 2 pairs of angles congruent and 1 pair of non-included sides congruent.
- Triangles that have 3 pairs of sides congruent.
- Triangles that have 2 pairs of angles congruent and 1 pair of included sides congruent.

- |        |
|--------|
| A. SSS |
| B. SAS |
| C. ASA |
| D. AAS |
| E. HL  |

Complete each proof.

16. Given:  $\overline{ST} \parallel \overline{RQ}$ ,  $\overline{SR} \cong \overline{RP}$ ,  $\angle SRT \cong \angle RPQ$

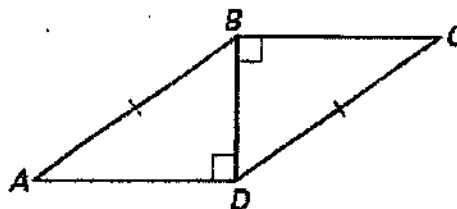
Prove:  $\overline{RT} \cong \overline{PQ}$



Statements	Reasons
1.	1.
2. $\angle RST \cong \angle RPQ$	2.
3. $\triangle RST \cong \triangle RPQ$	3.
4.	4.

17. Given:  $\overline{AB} \cong \overline{CD}$ ,  $\angle ADB$  and  $\angle DBC$  are right angles

Prove:  $\angle ABD \cong \angle CDB$



Statements	Reasons
1.	1.
2.	2. Reflexive
3.	3. HL
4.	4.

Your Turn !!

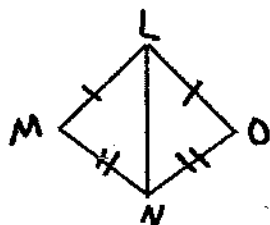
Analytic Geometry

More Practice with Proving Triangles

Name: \_\_\_\_\_ Date: \_\_\_\_\_

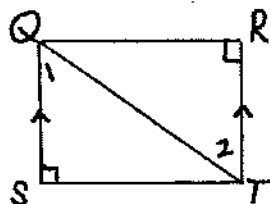
**Matching:** Use the choices listed at the bottom in the box for problems #1 – 4

Problem 1:



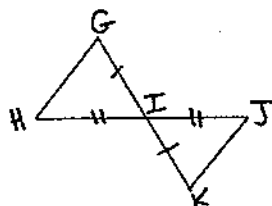
Statement	Reason
1. $\overline{LM} \cong \overline{LO}$	1. Given
2. $\overline{MN} \cong \overline{ON}$	2. Given
3. $\overline{LN} \cong \overline{LN}$	3.
4. $\triangle LMN \cong \triangle LON$	4.

Problem 2:



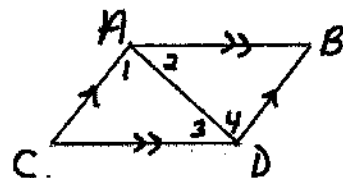
Statement	Reason
1. $\overline{QS} \parallel \overline{RT}$	1. Given
2. $\angle R \cong \angle S$	2. Given
3. $\angle 1 \cong \angle 2$	3.
4. $\overline{QT} \cong \overline{QT}$	4.
5. $\triangle QST \cong \triangle TRQ$	5.

Problem 3:



Statement	Reason
1. $\overline{GI} \cong \overline{KI}$	1. Given
2. $\overline{HI} \cong \overline{JI}$	2. Given
3. $\angle GIH \cong \angle KIJ$	3.
4. $\triangle GIH \cong \triangle KIJ$	4.

Problem 4:



Statement	Reason
1. $\overline{AC} \parallel \overline{BD}, \overline{AB} \parallel \overline{CD}$	1. Given
2. $\angle 1 \cong \angle 4, \angle 2 \cong \angle 3$	2.
3. $\overline{AD} \cong \overline{AD}$	3.
4. $\triangle ADC \cong \triangle DAB$	4.

Choices for problems #1 – 4 (some will be used more than once):

AAS

ASA

Alternate Interior Angles are  $\cong$

Reflexive Property

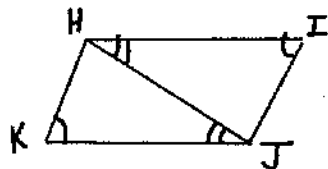
SAS

SSS

Vertical Angles are  $\cong$

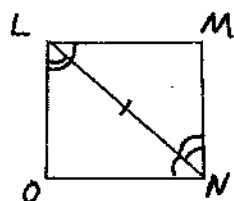
Fill in the blank proofs:

Problem 5:



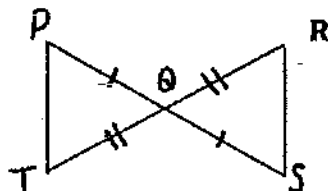
Statement	Reason
1. $\angle I \cong \angle K$	1. Given
2. $\angle IHJ \cong \angle KJH$	2. Given
3. $\overline{HJ} \cong \overline{JH}$	3.
4. $\triangle HJK \cong \triangle JHI$	4.

Problem 6:



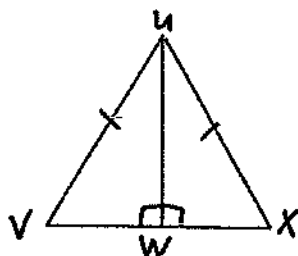
Statement	Reason
1. $\angle MLN \cong \angle ONL$	1. Given
2. $\angle OLN \cong \angle MNL$	2. Given
3.	3. Reflexive Property
4. $\triangle LNO \cong \triangle NLM$	4.

Problem 7:



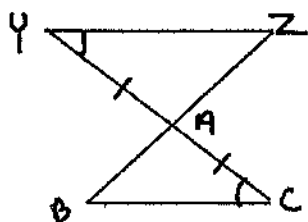
Statement	Reason
1. $\overline{PQ} \cong \overline{RS}$	1. Given
2.	2. Given
3. $\angle PQT \cong \angle RSQ$	3.
4. $\triangle PQT \cong \triangle RSQ$	4.

Problem 8:



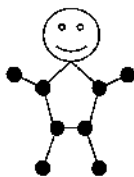
Statement	Reason
1. $\overline{UV} \cong \overline{UX}$	1. Given
2. $\angle VWU \cong \angle XWU$	2. Given
3.	3. Reflexive Property
4. $\angle V \cong \angle X$	4.
5. $\triangle UWV \cong \triangle UWX$	5.

Problem 9:



Statement	Reason
1. $\angle Y \cong \angle C$	1.
2.	2. Given
3.	3. Vertical Angles are $\cong$
4. $\triangle YZA \cong \triangle CBA$	4.

Geometry  
CPCTC WORKSHEET

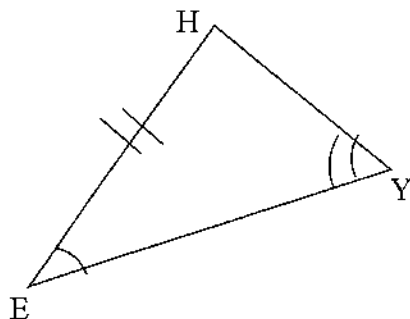


Name \_\_\_\_\_  
Date \_\_\_\_\_ Hour \_\_\_\_\_

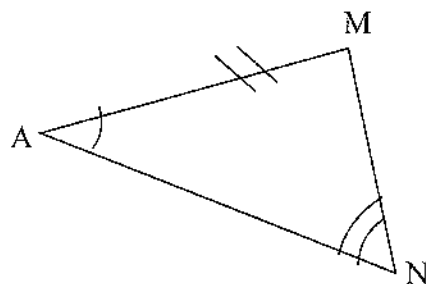
HW

#1:  $\triangle HEY$  is congruent to  $\triangle MAN$  by \_\_\_\_\_.

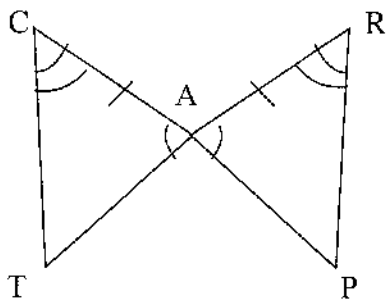
What **other** parts of the triangles are congruent by CPCTC?



\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



#2:



$\triangle CAT \cong$  \_\_\_\_\_, by \_\_\_\_\_

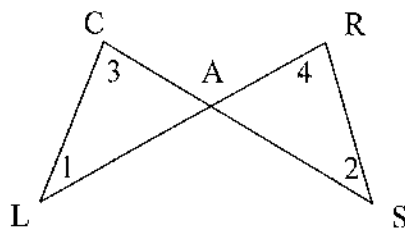
THEREFORE:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#3:

**Given:**  $\overline{AC} \cong \overline{AR}$  and  $\angle 1 \cong \angle 2$

**Prove:**  $\angle 3 \cong \angle 4$



**Proof:**

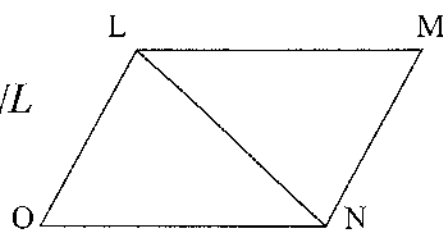
1.  $\overline{AC} \cong \overline{AR}$
2. \_\_\_\_\_
3.  $\angle CAL \cong \angle RAS$
4.  $\triangle LCA \cong \triangle SRA$
5.  $\angle 3 \cong \angle 4$

1. \_\_\_\_\_
2. Given
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

#4:

Given:  $\angle NLM \cong \angle LNO$  and  $\angle OLN \cong \angle MNL$

Prove:  $\angle M \cong \angle O$



Proof:

1.  $\angle NLM \cong \angle LNO$

2. \_\_\_\_\_

3. \_\_\_\_\_

4.  $\triangle LMN \cong \triangle$  \_\_\_\_\_

5. \_\_\_\_\_

1. \_\_\_\_\_

2. Given

3. Reflexive Property of  $\cong$

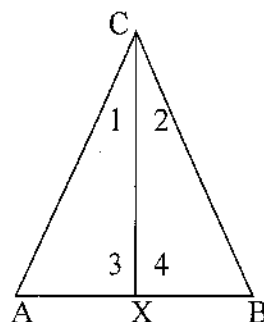
4. \_\_\_\_\_

5. \_\_\_\_\_

#5

Given:  $\overline{AC} \cong \overline{BC}$  and  $\overline{AX} \cong \overline{BX}$

Prove:  $\angle 1 \cong \angle 2$



Proof:

1. \_\_\_\_\_

2. \_\_\_\_\_

3.  $\triangle AXC \cong$  \_\_\_\_\_

4. \_\_\_\_\_

1. Given

2. Reflexive Prop. of Congruence

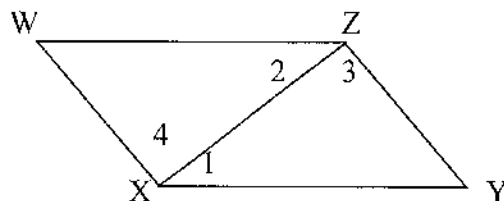
3. \_\_\_\_\_

4. \_\_\_\_\_

#6

Given:  $\angle 1 \cong \angle 2$  and  $\angle 3 \cong \angle 4$

Prove:  $\overline{XY} \cong \overline{ZW}$



Proof:

1. \_\_\_\_\_

2.  $\overline{XZ} \cong \overline{XZ}$

3.  $\triangle XWZ \cong$  \_\_\_\_\_

4. \_\_\_\_\_

1. Given

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_