

# Worksheet # 79

Name \_\_\_\_\_

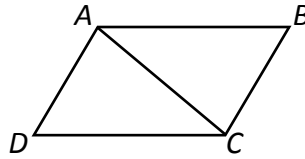
## Using CPCTC with Triangle Congruence

Period \_\_\_\_\_

1. Fill in the missing statements and reasons.

**Given:**  $AB \parallel DC$ ,  $\angle B \cong \angle D$

**Prove:**  $BC \cong DA$

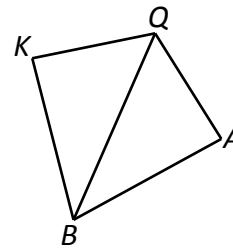


Statements	Reasons
1. _____	1. Given
2. $\angle BAC \cong \angle DCA$	2. _____
3. _____	3. Given
4. $AC \cong AC$	4. _____
5. $\triangle ABC \cong \triangle CDA$	5. _____ Congruence Theorem
6. _____	6. CPCTC

2. Complete the two-column proof.

**Given:**  $QK \cong QA$ ,  $QB$  bisects  $\angle KQA$

**Prove:**  $KB \cong AB$

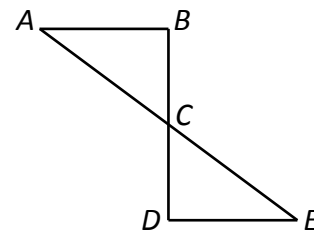


Statements	Reasons
1. _____	1. Given
2. $QB$ bisects $\angle KQA$	2. _____
3. _____	3. Definition of Bisector
4. _____	4. Reflexive Property of Congruence
5. $\triangle KBQ \cong \triangle ABQ$	5. _____ Congruence Postulate
6. _____	6. _____

3. Fill in the missing statements and reasons.

**Given:**  $BD \perp AB$ ,  $BD \perp DE$ ,  $AB \cong DE$

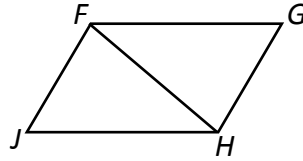
**Prove:**  $\angle A \cong \angle E$



Statements	Reasons
1. _____	1. _____
2. $\angle B$ & $\angle D$ are right angles	2. Definition of _____
3. _____	3. All _____ angles are congruent
4. $\angle BCA \cong \angle ECD$	4. _____
5. $AB \cong DE$	5. _____
6. $\triangle ABC \cong \triangle EDC$	6. _____ Congruence _____
7. _____	7. _____

4. Complete the two-column proof.

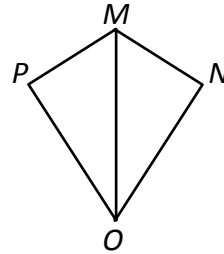
**Given:**  $FJ \cong GH$ ,  $\angle JFH \cong \angle GHF$   
**Prove:**  $FG \cong JH$



Statements	Reasons
1. _____	1. _____
2. $\angle JFH \cong \angle GHF$	2. Given
3. $FH \cong HF$	3. _____
4. $\Delta$ _____ $\cong \Delta$ _____	4. _____ Congruence _____
5. _____	5. _____

5. Fill in the missing statements and reasons.

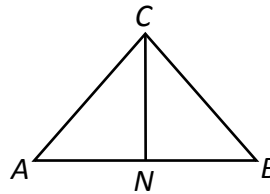
**Given:**  $MN \cong MP$ ,  $MP \perp PO$ ,  $MN \perp NO$   
**Prove:**  $\angle NOM \cong \angle POM$



Statements	Reasons
1. $MP \perp PO$ , $MN \perp NO$	1. _____
2. _____	2. Definition of Perpendicular
3. _____	3. Definition of Right Triangle
4. _____	4. Given
5. _____	5. _____
6. $\Delta$ _____ $\cong \Delta$ _____	6. _____ Congruence _____
7. _____	7. _____

6. Complete the two-column proof.

**Given:**  $CN \perp AB$ ,  $CN$  bisects  $\angle ACB$   
**Prove:**  $\triangle ABC$  is an isosceles triangle



Statements	Reasons
1. _____	1. _____
2. $\angle ANC$ & $\angle BNC$ are right angles	2. Definition of _____
3. _____	3. All right angles are _____
4. _____	4. Given
5. _____	5. Definition of _____
6. _____	6. _____
7. $\triangle ANC \cong \Delta$ _____	7. _____ Congruence Postulate
8. $AC \cong$ _____	8. _____
9. _____	9. Definition of _____ Triangle