

Worksheet # 79

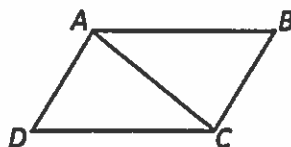
Name _____

Using CPCTC with Triangle Congruence

Period _____

1. Fill in the missing statements and reasons.

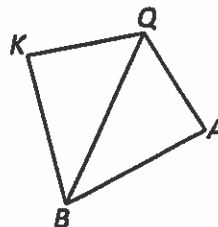
Given: $AB \parallel DC$, $\angle B \cong \angle D$
 Prove: $BC \cong DA$



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.

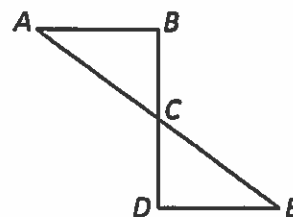
Given: $QK \cong QA$, QB bisects $\angle KQA$
 Prove: $KB \cong AB$



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.

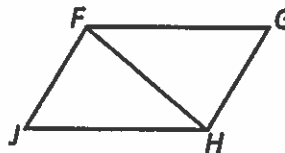
Given: $BD \perp AB$, $BD \perp DE$, $AB \cong DE$
 Prove: $\angle A \cong \angle E$



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.

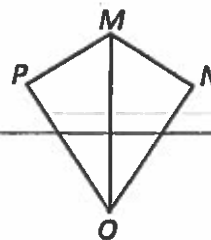
Given: $FJ \cong GH$, $\angle JFH \cong \angle GHF$
 Prove: $FG \cong JH$



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

5. Fill in the missing statements and reasons.

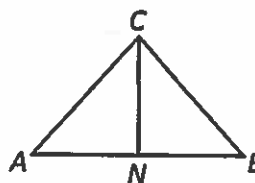
Given: $MN \cong MP$, $MP \perp PO$, $MN \perp NO$
 Prove: $\angle NOM \cong \angle POM$



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. Δ _____ \cong Δ _____	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. $\triangle ANC \cong \triangle$ _____	7. _____ Congruence Postulate
8. $AC \cong$ _____	8. _____
9. _____	9. Definition of _____ Triangle

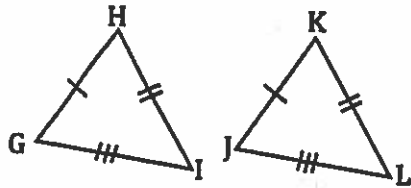
Name: _____

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proofs Notes & wksht

Date: _____

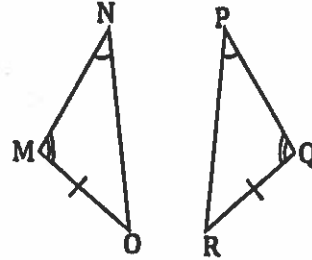
Write a two column proof for each.

16. Given: $\overline{GH} \cong \overline{JK}$, $\overline{HI} \cong \overline{KL}$, and $\overline{IG} \cong \overline{LJ}$



Prove: $\angle I \cong \angle L$

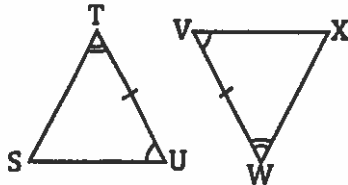
17. Given: $\angle N \cong \angle P$, $\angle M \cong \angle Q$, and $\overline{MO} \cong \overline{QR}$



Prove: $\angle O \cong \angle R$

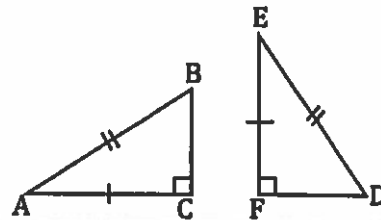
18.

Given: $\angle U \cong \angle V$, $\angle T \cong \angle W$, and $\overline{TU} \cong \overline{VW}$



Prove: $\angle S \cong \angle X$

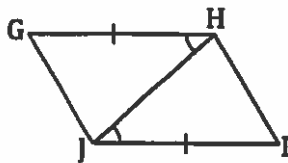
19. Given: $\overline{AC} \cong \overline{EF}$, and $\overline{AB} \cong \overline{ED}$



Prove: $\overline{BC} \cong \overline{FD}$

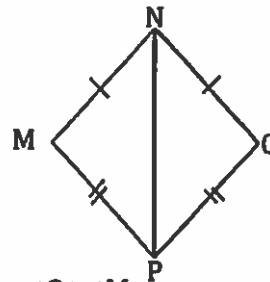
20.

Given: $\overline{GH} \cong \overline{JI}$, $\angle GHJ \cong \angle IJH$



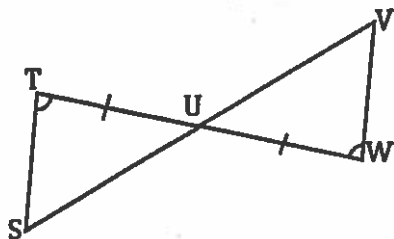
Prove: $\overline{GJ} \cong \overline{HI}$

21. Given: $\overline{MN} \cong \overline{NO}$, $\overline{MP} \cong \overline{OP}$



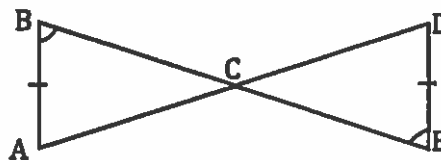
Prove: $\angle O \cong \angle M$

22. Given: $\overline{TU} \cong \overline{WU}$, $\angle T \cong \angle W$



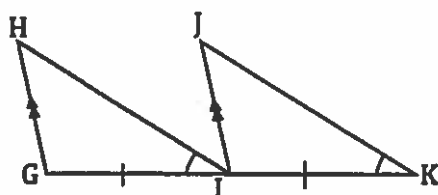
Prove: $\overline{TS} \cong \overline{WV}$

23. Given: $\overline{AB} \cong \overline{DE}$, $\angle B \cong \angle E$



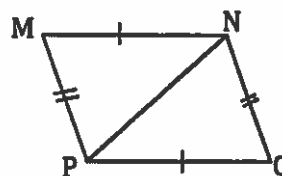
Prove: $\overline{AC} \cong \overline{DC}$

24. Given: $\overline{HG} \parallel \overline{JI}$, $\overline{GI} \cong \overline{IK}$, and $\angle HIG \cong \angle JKI$



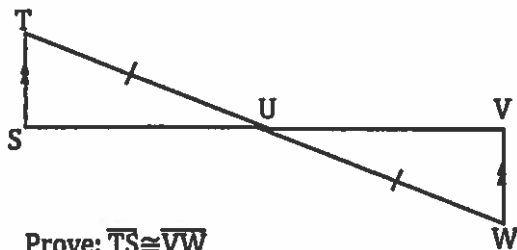
Prove: $\angle H \cong \angle J$

25. Given: $\overline{MN} \cong \overline{PO}$, $\overline{MP} \cong \overline{NO}$



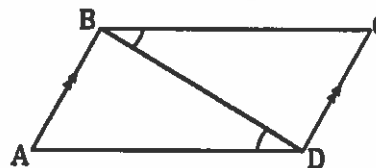
Prove: $\angle M \cong \angle O$

26. Given: $\overline{TS} \parallel \overline{VW}$, $\overline{TU} \cong \overline{WU}$



Prove: $\overline{TS} \cong \overline{VW}$

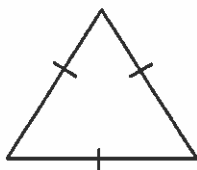
27. Given: $\overline{AB} \parallel \overline{DE}$, $\angle CBD \cong \angle ADB$



Prove: $\overline{BC} \cong \overline{AD}$

Classify each triangle as scalene, isosceles, or equilateral.

1)



2)

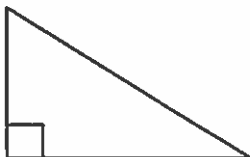


3)



Classify each triangle as acute, right, or obtuse.

4)



5)

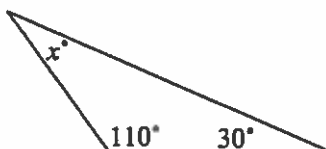


6)

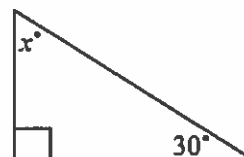


Find the missing value in each triangle.

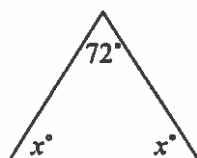
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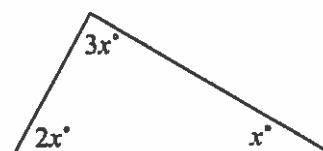
8)



9)

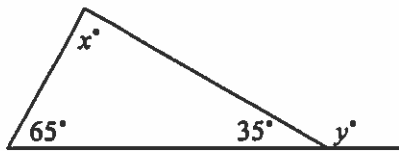


10)

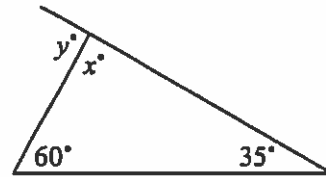


Find the values of x and y .

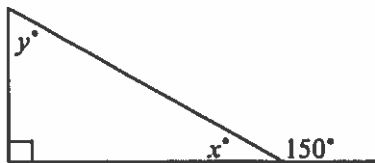
11)



12)

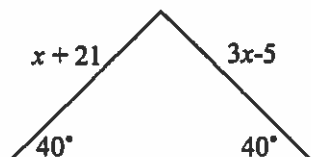


13)

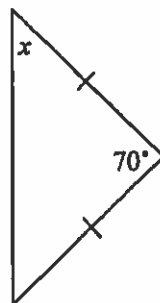


Find the value of x .

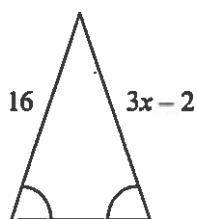
1)



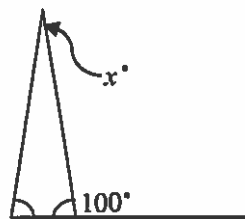
2)



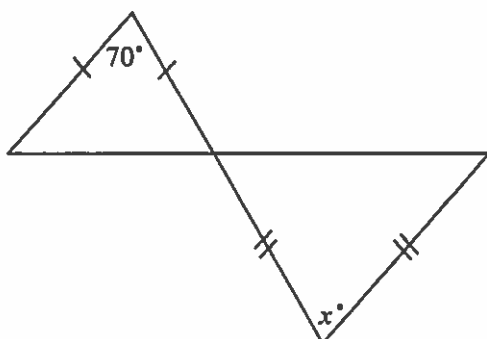
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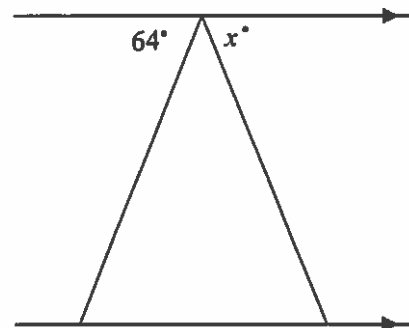
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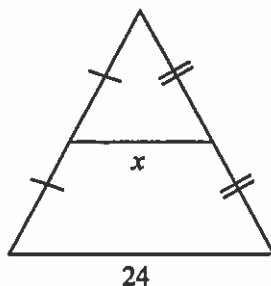
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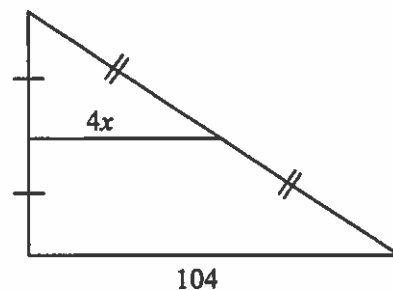
- 1) The Triangle Midsegment Theorem states that in any triangle, a segment joining the midpoints of any two sides will be _____ to the third side and _____ its length.

Use the Triangle Midsegment Theorem to find the value of x .

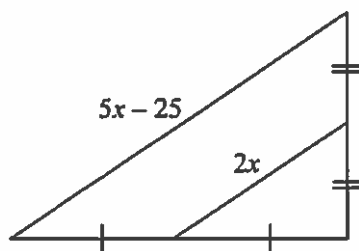
2)



3)



4)



5)

