

Geometry
Chapter 4 Practice Test

Name: _____

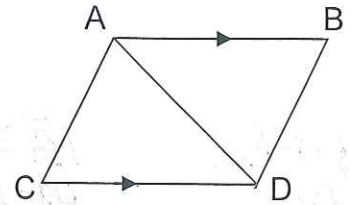
1. Given that $\triangle ADC \cong \triangle DAB$:

$\angle CAD \cong \angle BDA$

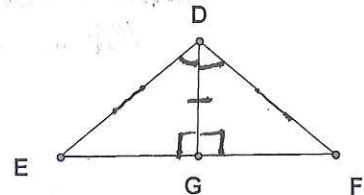
$\overline{CD} \cong \overline{AB}$

$\angle C \cong \angle B$

$\triangle ABD \cong \triangle DCA$

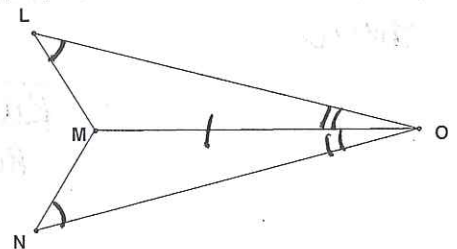


2. Given: $m\angle EGD = 90$, $m\angle FGD = 90$ and $\angle EDG \cong \angle FDG$
Prove: $\overline{EG} \cong \overline{GF}$



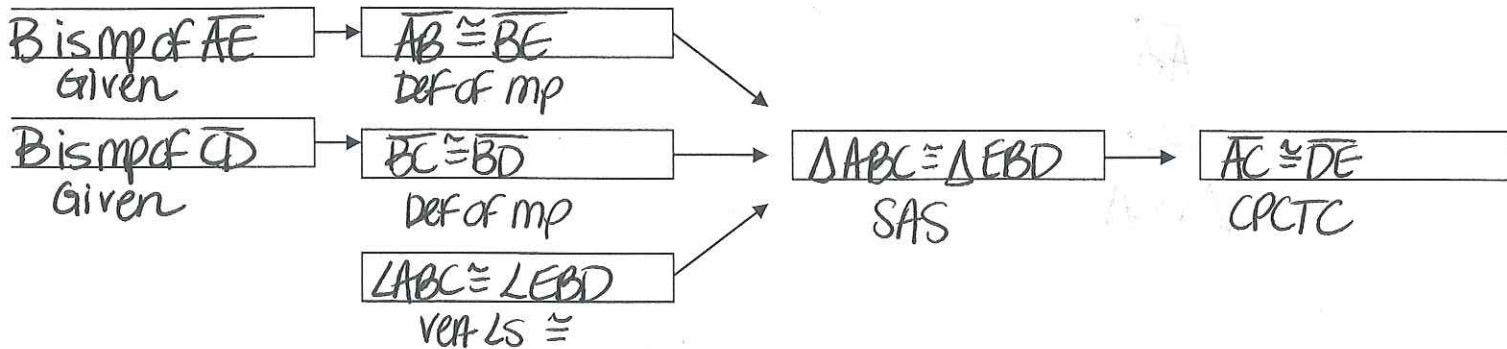
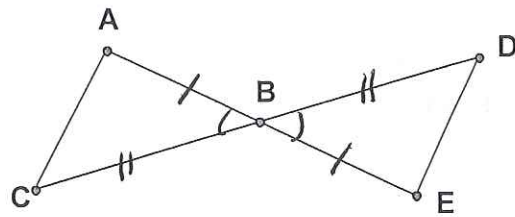
$m\angle EGD = 90$ Given \rightarrow $\angle EGD \cong \angle FGD$ all rt \angle s are \cong
 $m\angle FGD = 90$ Given \rightarrow $\angle EDG \cong \angle FDG$ Given
 $\overline{GD} \cong \overline{GD}$ Reflexive prop
 \rightarrow $\triangle EGD \cong \triangle FGD$ ASA
 \rightarrow $\overline{EG} \cong \overline{GF}$ CPCTC

3. Given: $\angle L \cong \angle N$ and \overline{MO} bisects $\angle LON$.
Prove: $\triangle LMO \cong \triangle NMO$

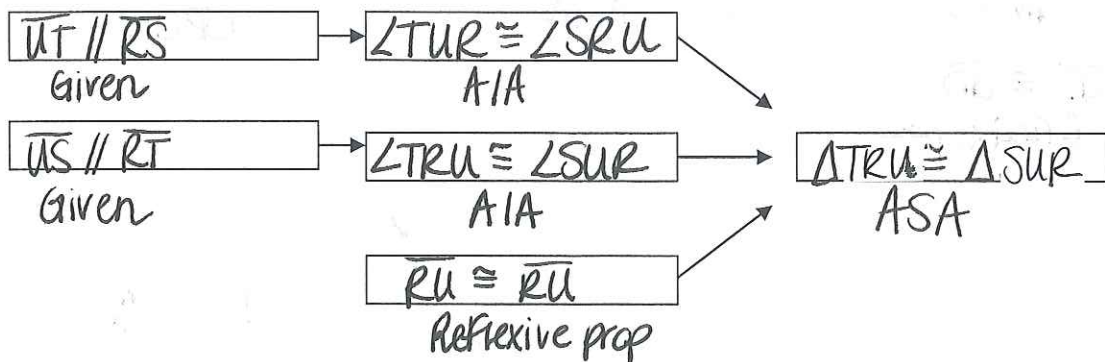
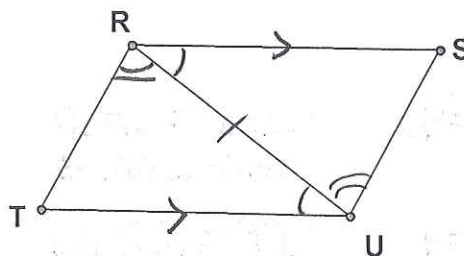


\overline{MO} bisects $\angle LON$ Given \rightarrow $\angle LOM \cong \angle NOM$ def of bisector
 $\angle L \cong \angle N$ Given
 $\overline{MO} \cong \overline{MO}$ Reflexive prop
 \rightarrow $\triangle LMO \cong \triangle NMO$ AAS

4. Given: B is the midpoint of \overline{AE} and \overline{CD} .
 Prove: $\overline{AC} \cong \overline{DE}$

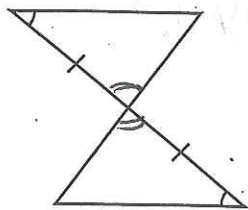


5. Given: $\overline{UT} \parallel \overline{RS}$ and $\overline{US} \parallel \overline{RT}$.
 Prove: $\triangle TRU \cong \triangle SUR$



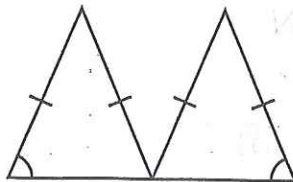
Identify which postulate or theorem (SSS, SAS, AAS, ASA, HL) justifies the triangle congruence.

6.



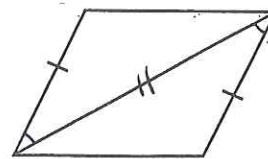
ASA

7.



None

8.



SAS

9. Find the measures of the sides of the triangle if the vertices of $\triangle ABC$ are $A(-3, -1)$, $B(-2, 2)$, $C(3, 1)$. Then classify the triangle by its sides.

$$AB = \sqrt{(-2 - (-3))^2 + (2 - (-1))^2} = \sqrt{1^2 + 3^2} = \sqrt{10}$$

$$BC = \sqrt{(3 - (-2))^2 + (1 - 2)^2} = \sqrt{5^2 + (-1)^2} = \sqrt{26}$$

$$AC = \sqrt{(3 - (-3))^2 + (1 - (-1))^2} = \sqrt{36 + 4} = \sqrt{40}$$

Scalene

10. Find x , AB , BC , AC if $\triangle ABC$ is isosceles and $\angle A$ is the vertex angle with $AC = 7x - 5$, $BC = x + 20$, and $AB = 5x + 5$.

$$7x - 5 = 5x + 5$$

$$2x = 10$$

$$x = 5$$

$$1(5) + 20$$

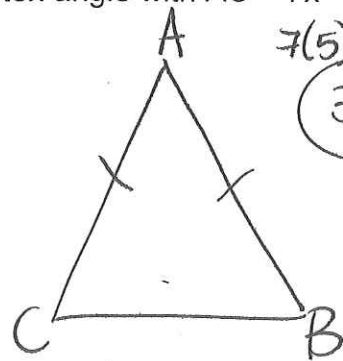
$$25$$

$$5(5) + 5$$

$$30$$

$$7(5) - 5$$

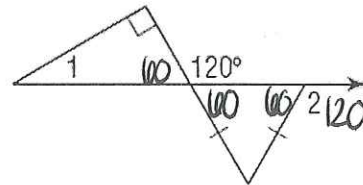
$$30$$



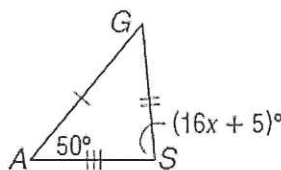
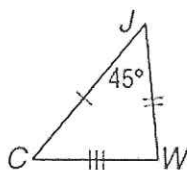
13. Find the measure of each angle.

$$m\angle 1 = 30$$

$$m\angle 2 = 120$$



14. Find x .



$$45 + 50 + 16x + 5 = 180$$

$$16x = 80$$

$$x = 5$$

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