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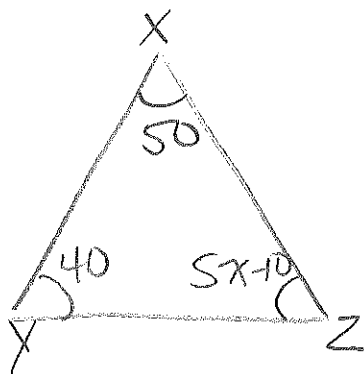
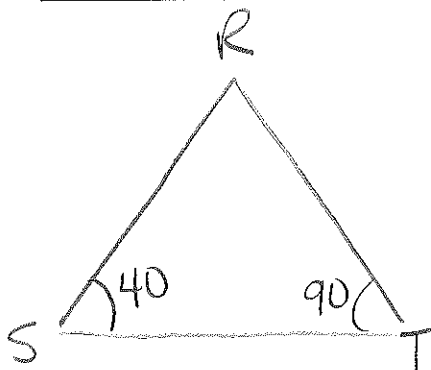
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Chapter 4 Reteach Packet

1. If $\triangle RST \cong \triangle XYZ$, $m\angle X = 50$, $m\angle S = 40$, and $m\angle Z = 5x - 10$. Draw and label the triangles. Find x and $m\angle T$. Classify the triangles. Show all work.

$x =$ 20 $m\angle T =$ 90

Classify: Right Triangle



$$\begin{aligned} 5(20) - 10 \\ 100 - 10 \\ 90 \end{aligned}$$

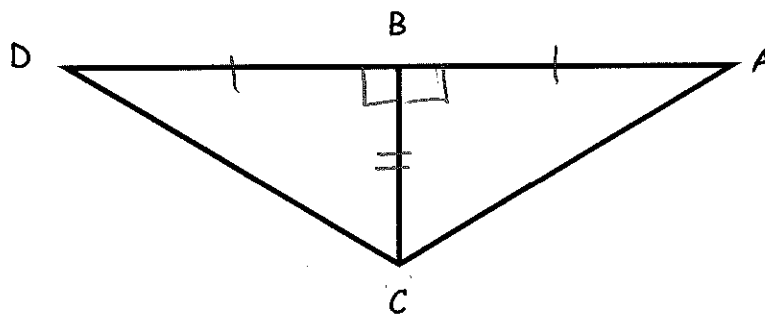
$$50 + 40 + 5x - 10 = 180$$

$$5x + 80 = 180$$

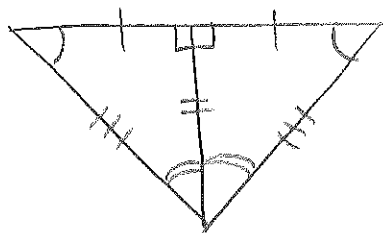
$$5x = 100$$

$$x = 20$$

2. $\angle ABC \cong \angle CBD$ and B is the midpoint of \overline{AD} . Mark all corresponding congruent parts of the triangles. Which postulate(s) can be used to prove $\triangle CAB \cong \triangle CDB$?



* Triangle ACD is
Isosceles so;



SSS, SAS, ASA, AAS, HL

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3. Graph the triangles with the given vertices. Determine whether $\triangle JKL \cong \triangle MNO$. If the triangles are congruent, which postulate(s) can be used to prove congruence?

Justify your answer. Show all work.

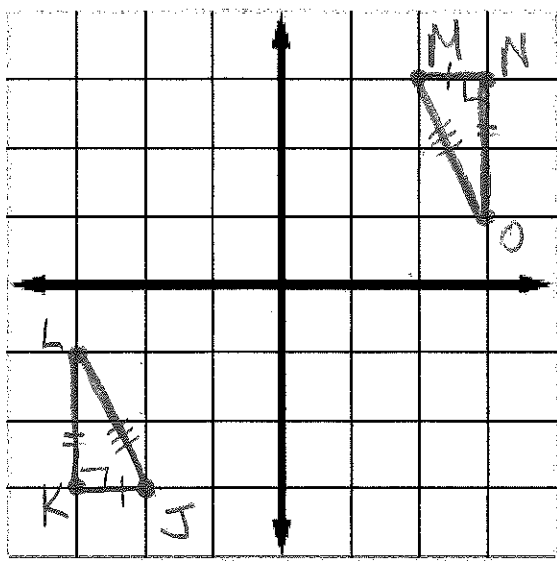
$J(-2, -3), K(-3, -3), L(-3, -1), M(2, 3), N(3, 3), O(3, 1)$

$$\triangle JKL \cong \triangle MNO$$

HL

SSS

SAS



4. $\triangle DEF$ is equilateral. EG bisects $\angle DEF$. $\angle GED = 10z$, $FE = 8x - 6$, $DG = 3x + 1$. $\angle EGF = 9y$.

Mark the triangles with the given values and all congruent parts. Find the values of x , y and z

$$x = \underline{4}$$

$$y = \underline{10}$$

$$z = \underline{3}$$

$$2(3x+1) = 8x-6$$

$$6x+2 = 8x-6$$

$$8 = 2x$$

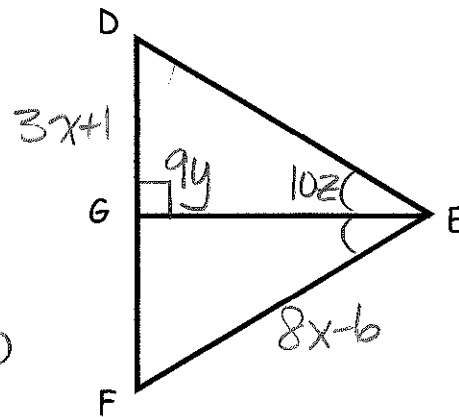
$$\boxed{x=4}$$

$$9y = 90$$

$$\boxed{y=10}$$

$$10z = 30$$

$$\boxed{z=3}$$



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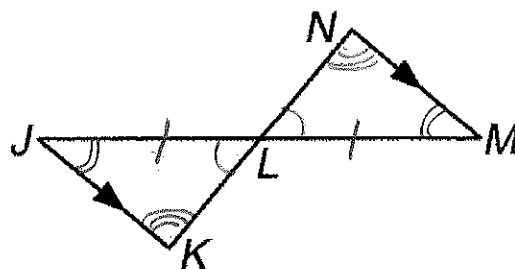
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5. Given: \overline{KN} bisects \overline{JM}

- a) Mark all congruent parts on the triangles.
- b) Are the triangles congruent? Yes/No
- c) If the triangles are congruent, what postulate(s) can be used to prove congruence?

ASA, AAS

d) Congruence Statement : $\triangle LJK \cong \triangle LMN$



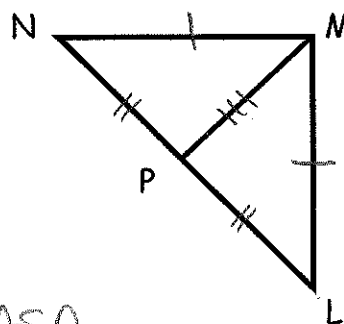
6. Given: $\overline{LM} \cong \overline{NM}$

P is the midpoint of \overline{LN}

Mark all congruent parts on the triangles

$\triangle MPN \cong \triangle MPL$ by SSS

* $\triangle LMN$ is isosceles so also SAS, ASA
AAS, HL

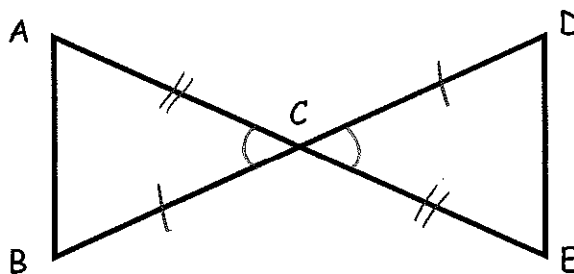


7. Given: C is the midpoint of \overline{BD}

\overline{BD} bisects \overline{AE}

Mark all congruent parts on the triangles

$\triangle CBA \cong \triangle CDE$ by SAS



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8. $GH = 5y + 1$, $GI = 4y + 7$, and $HI = 2x - 2$. Find y , GH , HI and GI if $\triangle GHI$ is an isosceles triangle with $\overline{GH} \cong \overline{GI}$. Show all work.

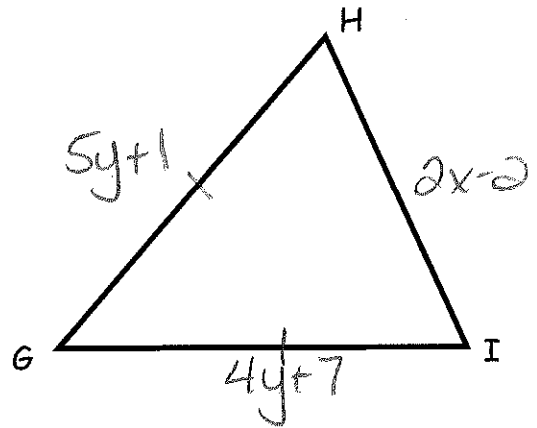
$y = \underline{6}$

$GH = \underline{31}$

$HI = \underline{10}$

$GI = \underline{31}$

$5y + 1 = 4y + 7$
 $y = 6$



9. Find each angle measure. Show all work.

$m\angle 1 = \underline{39^\circ}$

$m\angle 2 = \underline{42^\circ}$

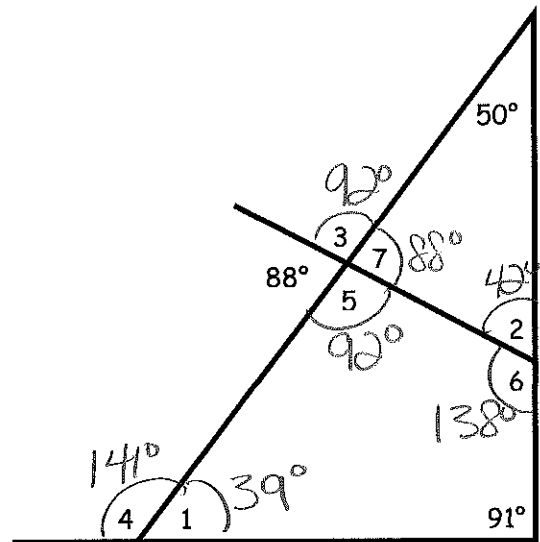
$m\angle 3 = \underline{92^\circ}$

$m\angle 4 = \underline{141^\circ}$

$m\angle 5 = \underline{92^\circ}$

$m\angle 6 = \underline{138^\circ}$

$m\angle 7 = \underline{88^\circ}$

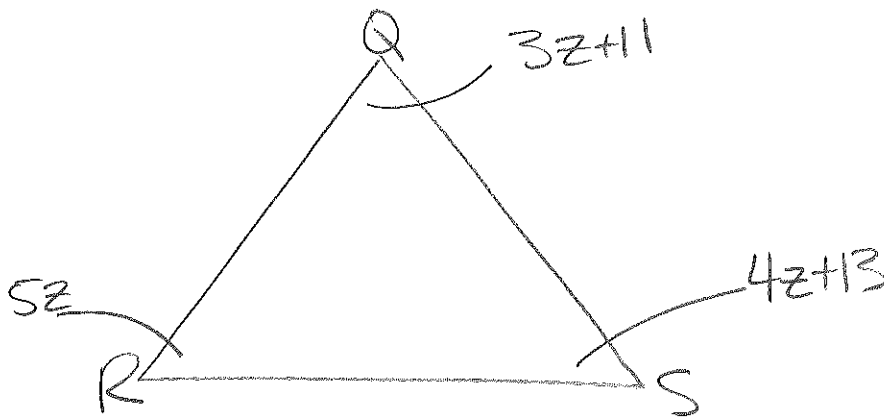


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10. Given $\triangle QRS$ with $\angle Q = 3z + 11$, $\angle R = 5z$ and $\angle S = 4z + 13$.

a) Draw and label a figure to illustrate $\triangle QRS$



b) Find the measure of each angle of $\triangle QRS$. Show all work.

$$\angle Q = \underline{128^\circ}$$

$$\angle R = \underline{65^\circ}$$

$$\angle S = \underline{65^\circ}$$

$$3z + 11 + 5z + 4z + 13 = 180$$

$$12z + 24 = 180$$

$$12z = 156$$

$$\boxed{z = 13}$$

$$\begin{aligned} 4R &= 5z \\ &= 5(13) \\ &= 65 \end{aligned}$$

$$\begin{aligned} \angle Q &= 3z + 11 \\ &= 3(13) + 11 \\ &= 128 \end{aligned}$$

$$\begin{aligned} \angle S &= 4z + 13 \\ &= 4(13) + 13 \\ &= 65 \end{aligned}$$

c) Classify $\triangle QRS$

Isosceles