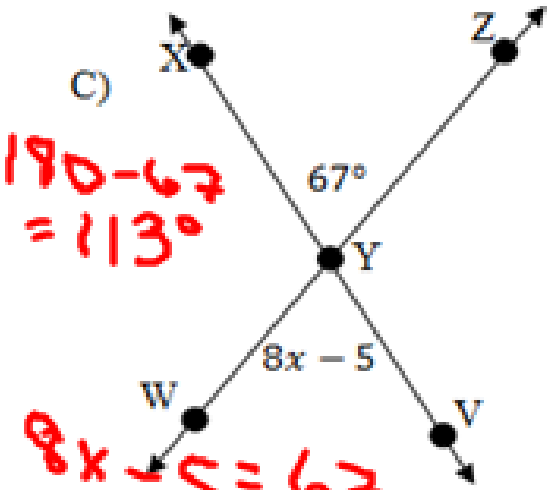
Get out your homework and have it ready to check. Get out the packet from Friday. Warm Up by continuing wherever you stopped.

C)



180-67 = 113°

$x =$ 9

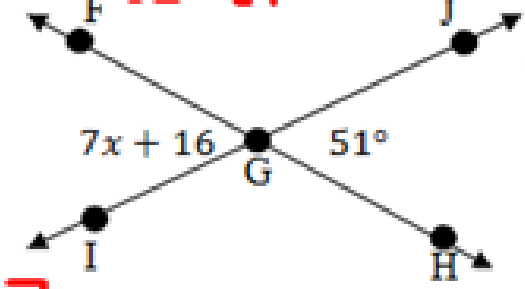
$\angle WYV =$ 67°

$\angle WYX =$ 113°

$\angle VYZ =$ 113°

8x + 5 = 67
−5 −5
8x = 72
8 8
x = 9

D)



180 − 51 = 129°

$x =$ 5

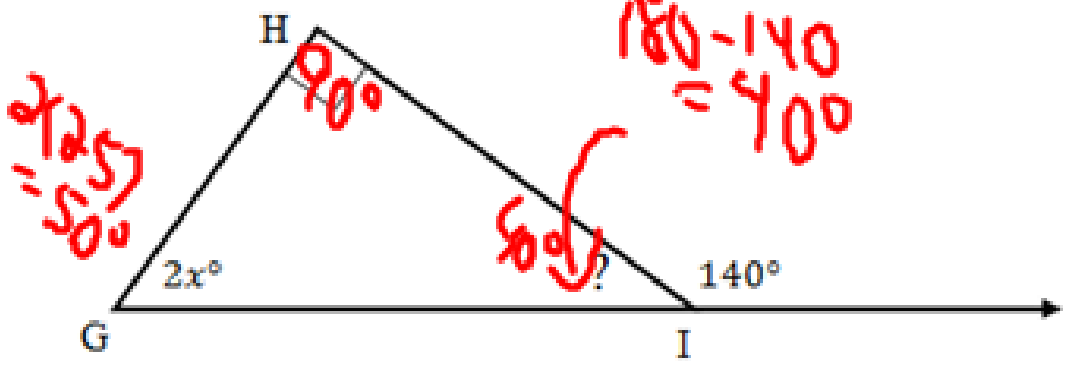
$\angle FGI =$ 51°

$\angle IGH =$ 129°

$\angle FGJ =$ 129°

7x + 16 = 51
−16 −16
7x = 35
7 7
x = 5

5) Use the exterior angle (140°) to find the missing angle inside the triangle. Then write and solve an equation to find the value of x. Then find the missing angle.



180 − 140 = 40°

2x + 50 = 90
−50 −50
2x = 40
2 2
x = 20

Equation → 90 + 40 + 2x = 180

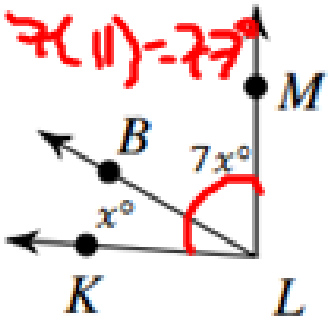
130 + 2x = 180
−130 −130
2x = 50
2 2
x = 25

$x =$ 25 $\angle G =$ 50° $\angle HIG =$ 40°

We can always write and solve for x and find missing angles whenever we are given the overall measurement of the angle pairs. Make sure you pay close attention to what the angles are equal to.

6) Write and solve an equation to find the value of x using the information given. Then find the missing angle(s).

A) $\angle KLM = 88°$



$x + 7x = 88$

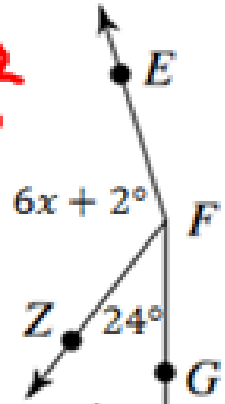
$8x = 88$

$x = 11$

$x =$ 11 $\angle KLB =$ 11°

$\angle MLB =$ 77°

B) $\angle EFG = 158°$



$6x + 2 + 24 = 158$

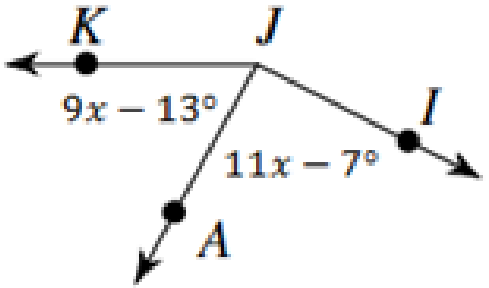
$6x + 26 = 158$

$-26 \quad -26$

$6x = 132$

$x =$ 22 $\angle EFZ =$ 134°

C) $\angle KJI = 140°$

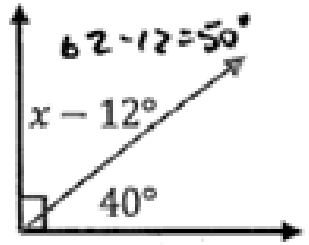


$x =$ _____ $\angle KJA =$ _____

$\angle IJA =$ _____

1) Write and solve an equation to find the value of x. Find the measurements of the missing angles using x.

A)



Relationship: Complementary

$x - 12 + 40 = 90$

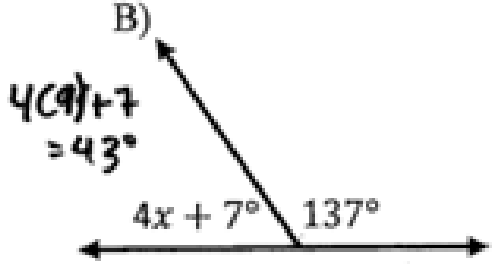
$x + 28 = 90$

$-28 \quad -28$

$x = 62$

$x =$ 62 $\angle =$ 50°

B)



Relationship: Supplementary

$4x + 7 + 137 = 180$

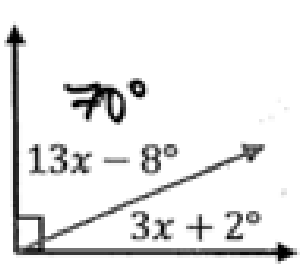
$4x + 144 = 180$

$-144 \quad -144$

$\frac{4x}{4} = \frac{36}{4}$ $x = 9$

$x =$ 9 $\angle =$ 43°

C)



Relationship: Complementary

$3x + 2 + 13x - 8 = 90$

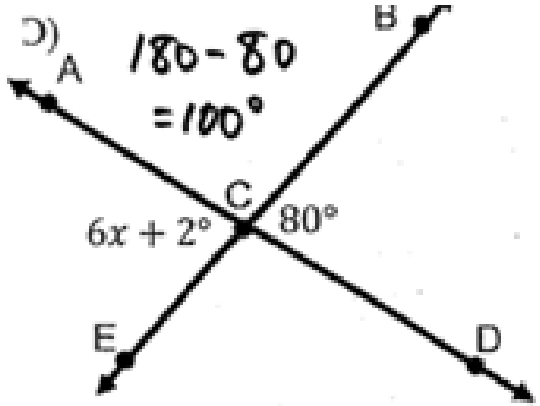
$16x - 6 = 90$

$+6 \quad +6$

$\frac{16x}{16} = \frac{96}{16}$ $x = 6$

$x =$ 6 $\angle =$ 70° $\angle = 20°$

D)



180 - 80
= 100°

$6x+2 = 80$
$-2 \quad -2$

$\frac{6x}{6} = \frac{78}{6}$

$x = 13$

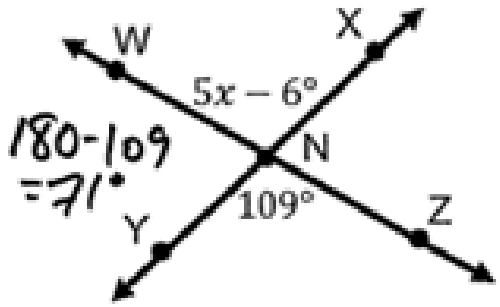
$x =$ 13

$m\angle ACB =$ 100°

$m\angle ACE =$ 80°

$m\angle ECD =$ 100°

E)



180 - 109
= 71°

$5x-6 = 109$
$+6 \quad +6$

$\frac{5x}{5} = \frac{115}{5}$

$x = 23$

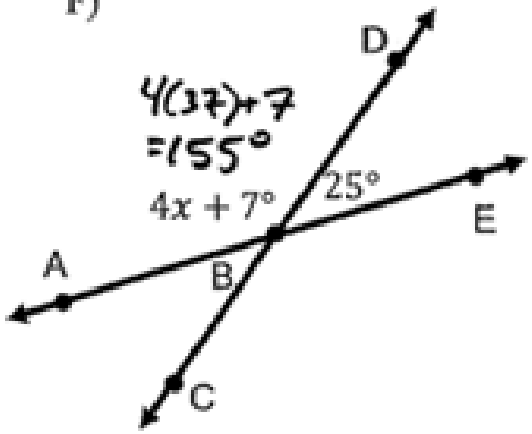
$x =$ 23

$m\angle WNX =$ 109°

$m\angle WNY =$ 71°

$m\angle XNZ =$ 71°

F)



$4x+7+25 = 180$

$4x+32 = 180$
$-32 \quad -32$

$\frac{4x}{4} = \frac{148}{4}$

$x = 37$

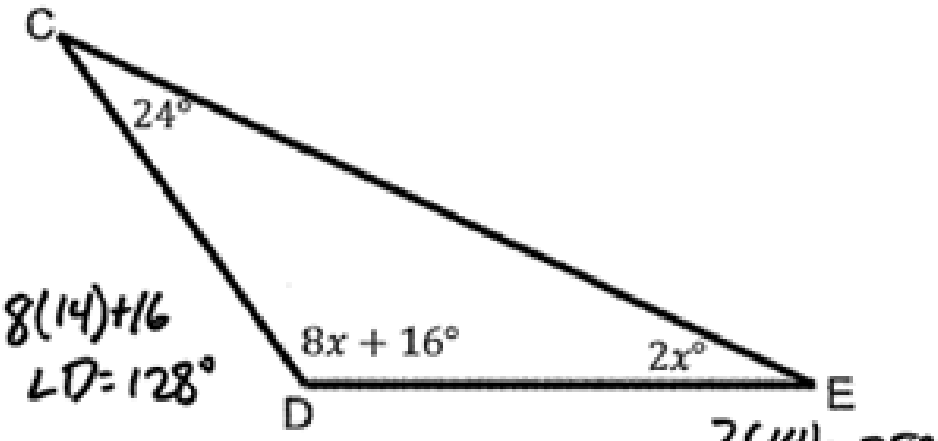
$x =$ 37

$m\angle ABD =$ 155°

$m\angle ABC =$ 25°

$m\angle CBE =$ 155°

G)



8(14)+16
∠D = 128°

2(14) = 28°

$8x+16+2x+24=180$

$10x+40=180$

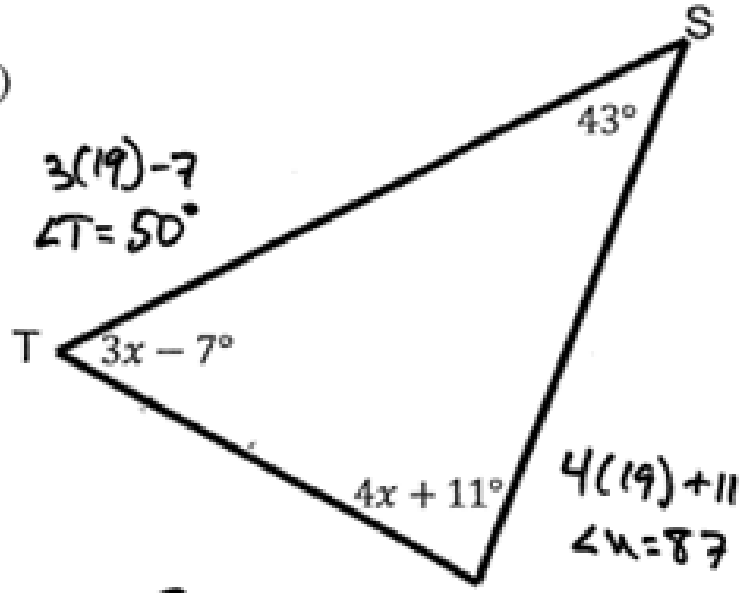
$-40 \quad -40$

$\frac{10x}{10}=\frac{140}{10}$

$x=14$

$x =$ 14 $m\angle D =$ 128° $m\angle E =$ 28°

H)



3(19)−7
∠T = 50°

4(19)+11
∠U = 87

$3x-7+4x+11+43=180$

$7x+47=180$

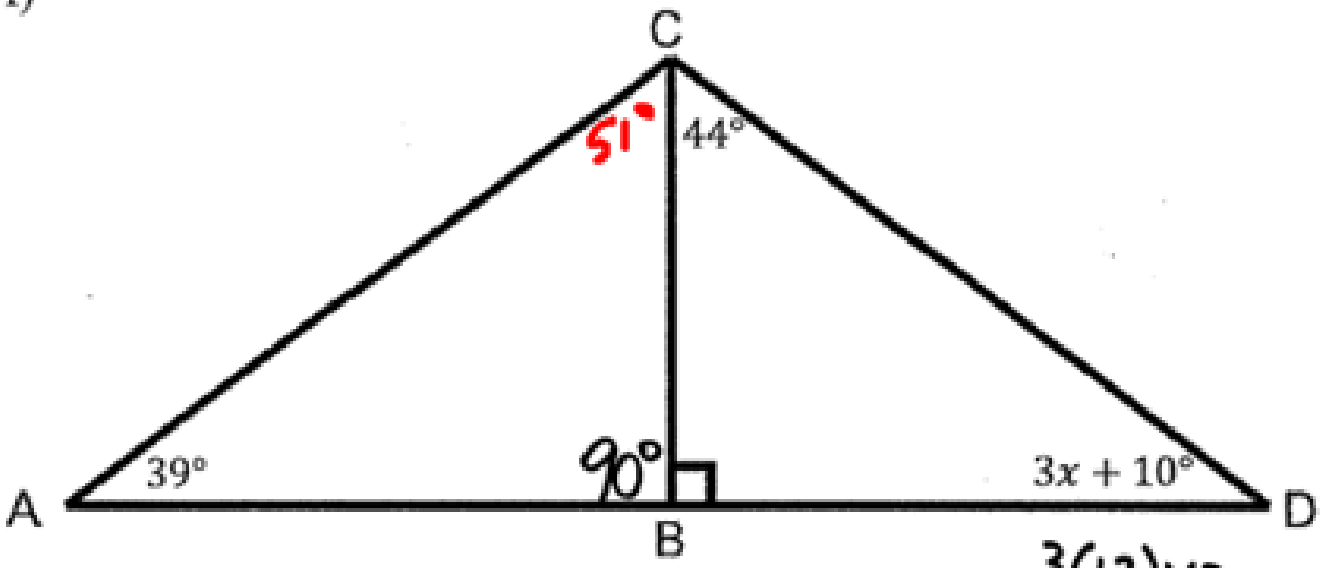
$-47 \quad -47$

$\frac{7x}{7}=\frac{133}{7}$

$x=19$

$x =$ 19 $m\angle T =$ 50° $m\angle U =$ 87°

I)



$3x+10+90+44=180$

$3x+144=180$

$-144 \quad -144$

$\frac{3x}{3} = \frac{36}{3}$

$x=12$

$3(12)+10$

$\angle D = 46°$

$39+90+\angle BCA=180$

$129+\angle BCA=180$

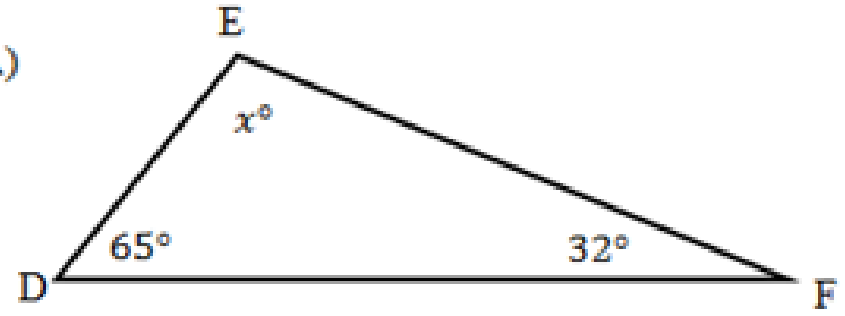
$-129 \quad -129$

$\angle BCA = 51°$

$x =$ 12 $m\angle BDC =$ 46° $m\angle ABC =$ 90° $m\angle BCA =$ 51°

1) Write and solve an equation to find the value of x. Find the measurements of the missing angles using x.

A)



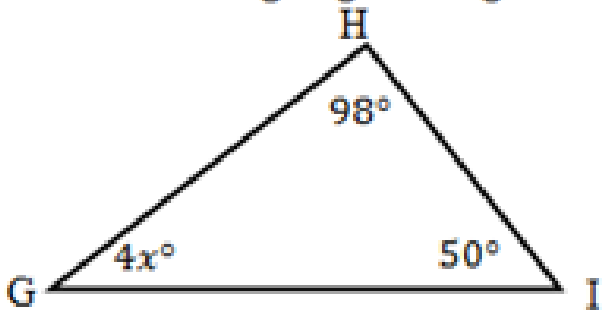
Equation → $x + 32 + 65 = 180$

$x + 97 = 180$

$-97 \quad -97$

$x =$ 83 $\angle E =$ 83°

B)



Equation → $4x + 50 + 98 = 180$

$4x + 148 = 180$

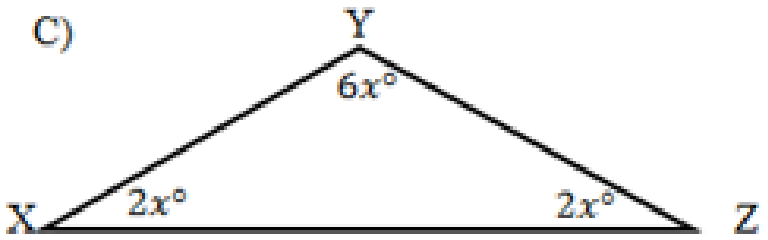
$-148 \quad -148$

$\frac{4x}{4} = \frac{32}{4}$

$x = 8$

$x =$ 8 $\angle G =$ 32°

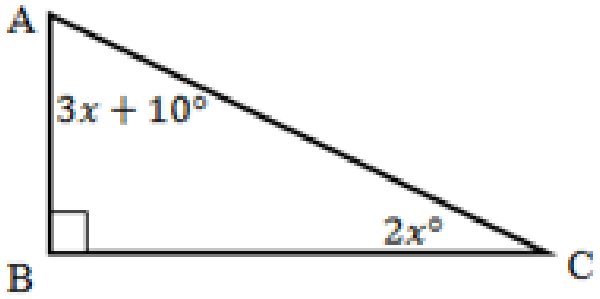
C)



Equation →

$x =$ _____ $\angle X =$ _____ $\angle Y =$ _____ $\angle Z =$ _____

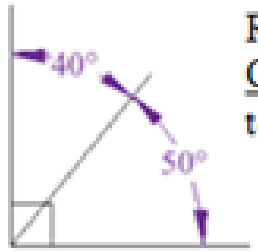
D)



Equation →

$x =$ _____ $\angle A =$ _____ $\angle C =$ _____

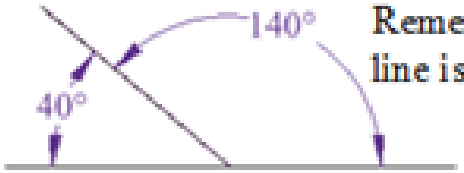
Complementary Angles – angles that add to 90°



Remember → Giving a COMPLEMENT is the RIGHT thing to do.

$40° + 50° = 90°$

Supplementary Angles – angles that add to 180°

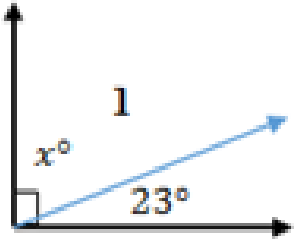


Remember → Every straight line is equal to 180°

$40° + 140° = 180°$

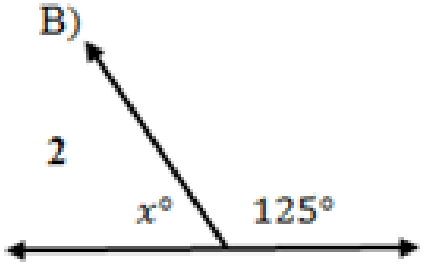
2) Write and solve an equation to find the value of x. Then find the missing angle(s).

A)



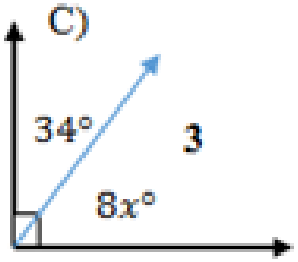
$x =$ _____ $\angle 1 =$ _____

B)



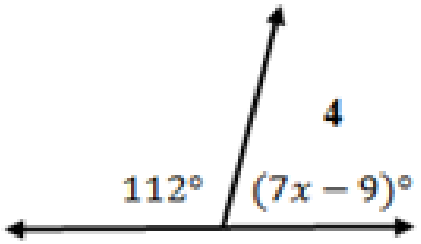
$x =$ _____ $\angle 2 =$ _____

C)



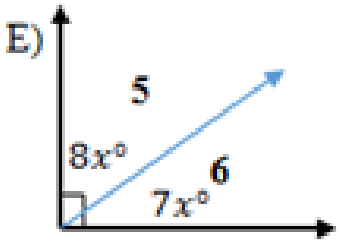
$x =$ _____ $\angle 3 =$ _____

D)



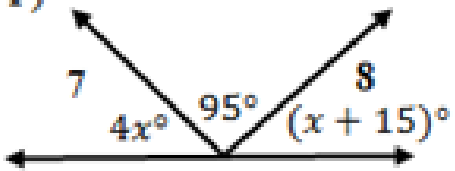
$7x-9+112=180$

E)



$8x+7x=90$

F)



$x =$ 11 $\angle 4 =$ 68°

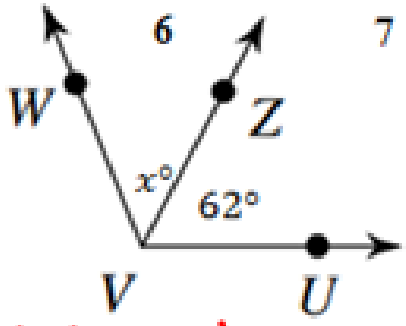
$x =$ _____ $\angle 5 =$ _____ $\angle 6 =$ _____

$x =$ _____ $\angle 7 =$ _____

$\angle 8 =$ _____

3) Write and solve an equation to find the value of x using the information given. Then find the missing angle(s). **Make sure you pay close attention to what the angles are equal to.**

A) $\angle UVW = 112°$

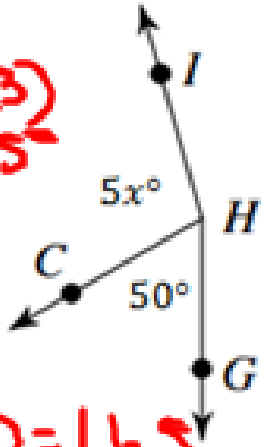


$x + 62 = 112$

$x =$ _____

$\angle WVZ =$ _____

B) $\angle GHI = 165°$



$5(23) = 115$

$5x + 50 = 165$

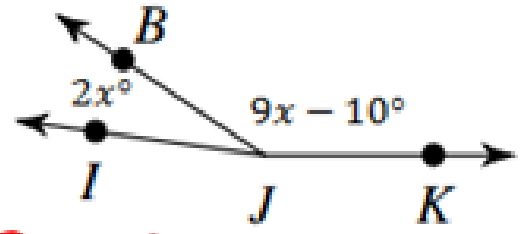
$-50 \quad -50$

$\frac{5x}{5} = \frac{115}{5}$

$x = 23$

$\angle CHI = 115°$

C) $\angle IJK = 144°$



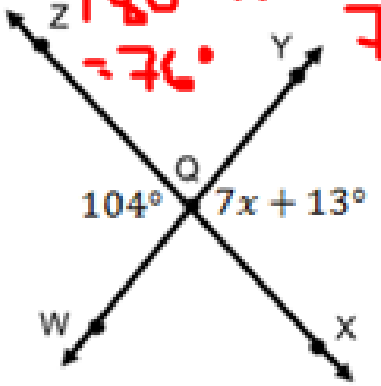
$2x + 9x - 10 = 144$

$x =$ _____

$\angle IJB =$ _____ $\angle KJB =$ _____

2) Write and solve an equation to find the value of x. Then find the missing angle(s). SHOW WORK AND LABEL

A)



180 - 104 = 76°

$7x + 13 = 104$

$-13 \quad -13$

$7x = 91$

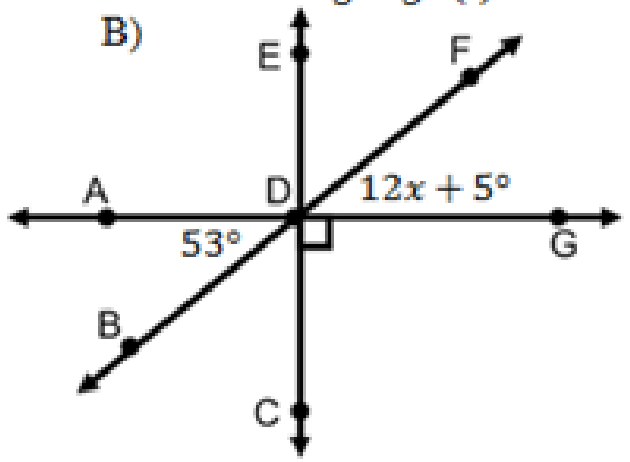
$\frac{7x}{7} = \frac{91}{7}$

$x = 13$

$x =$ 13 $\angle XQY =$ 104°

$\angle ZQY =$ 76° $\angle WQX =$ 76°

B)

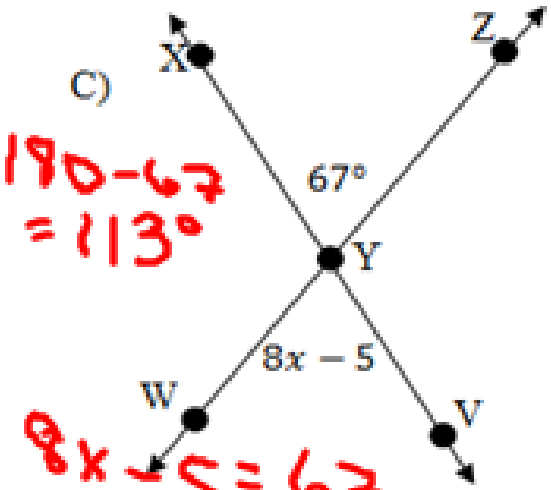


$x =$ _____ $\angle FDG =$ _____ $\angle ADE =$ _____

$\angle BDC =$ _____ $\angle EDF =$ _____

Get out your homework and have it ready to check. Get out the packet from Friday. Warm Up by continuing wherever you stopped.

C)



180-67 = 113°

$x =$ 9

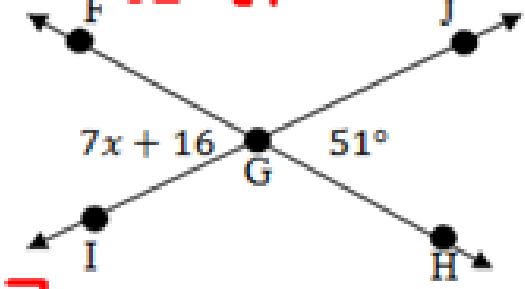
$\angle WYV =$ 67°

$\angle WYX =$ 113°

$\angle VYZ =$ 113°

8x + 5 = 67
−5 −5
8x = 72
8 8
x = 9

D)



180 − 51 = 129°

$x =$ 5

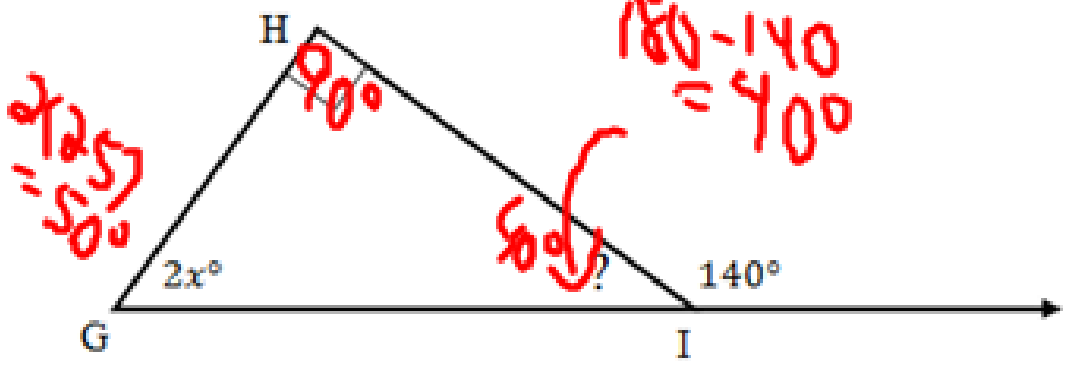
$\angle FGI =$ 51°

$\angle IGH =$ 129°

$\angle FGJ =$ 129°

7x + 16 = 51
−16 −16
7x = 35
7 7
x = 5

5) Use the exterior angle (140°) to find the missing angle inside the triangle. Then write and solve an equation to find the value of x. Then find the missing angle.



180 − 140 = 40°

2x + 50 = 90
−50 −50
2x = 40
2 2
x = 20

Equation → 90 + 40 + 2x = 180

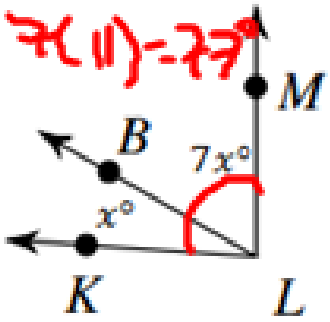
130 + 2x = 180
−130 −130
2x = 50
2 2
x = 25

$x =$ 25 $\angle G =$ 50° $\angle HIG =$ 40°

We can always write and solve for x and find missing angles whenever we are given the overall measurement of the angle pairs. Make sure you pay close attention to what the angles are equal to.

6) Write and solve an equation to find the value of x using the information given. Then find the missing angle(s).

A) $\angle KLM = 88°$



$x + 7x = 88$

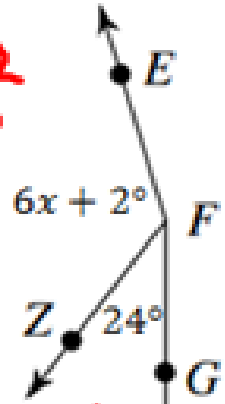
$8x = 88$

$x = 11$

$x =$ 11 $\angle KLB =$ 11°

$\angle MLB =$ 77°

B) $\angle EFG = 158°$



$6x + 2 + 24 = 158$

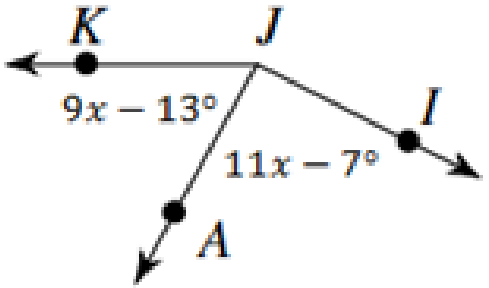
$6x + 26 = 158$

$-26 \quad -26$

$6x = 132$

$x =$ 22 $\angle EFZ =$ 134°

C) $\angle KJI = 140°$



$x =$ _____ $\angle KJA =$ _____

$\angle IJA =$ _____