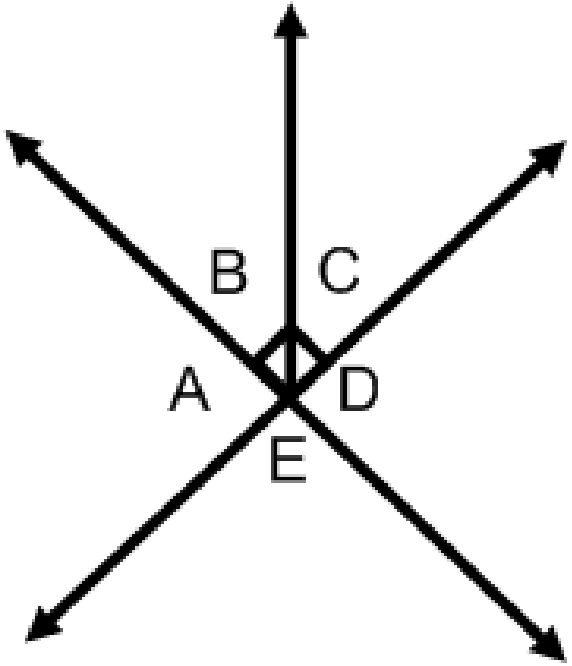
Warm Up using the figure below to answer the following questions. Have your homework out and read to check. Quiz tomorrow!

Classwork - Quiz Review (Constructing Figures)



1) Name a pair of vertical angles.

∠A and ∠D

2) Name a pair of supplementary angles.

∠D and ∠E, ∠A and ∠E

∠A, ∠B, and ∠C

3) Name a pair of complementary angles.

∠B and ∠C

A) 15°, 96°, 68°

15+96+68 = 179°

No

B) 13 cm, 3 cm, 10 cm

3+10 > 13

13 ≯ 13

No

C) 108°, 41°, 31°

108+41+31 = 180°

Yes

D) 74°, 39°, 67°

74+39+67 = 180

Yes

E) 8 in, 6 in, 12 in

8+6 > 12

14 > 12

Yes

F) 11 ft, 9 ft, 19 ft

11+9 > 19

20 > 19

Yes

G) 138°, 24°, 28°

24+28+138 = 190°

No

H) 14 m, 5 m, 12 m

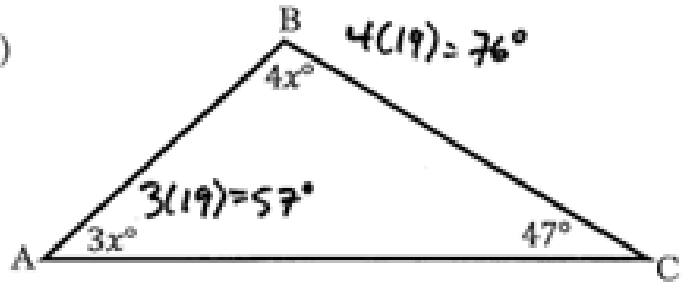
5+12 > 14

17 > 14

Yes

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

A)



4(19) = 76°

3(19) = 57°

Equation → $3x+4x+47=180$

$7x+47=180$

$-47 \quad -47$

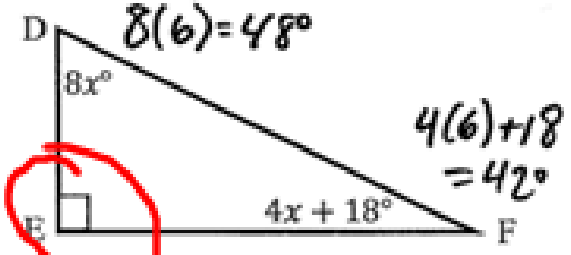
$\frac{7x}{7} = \frac{133}{7}$

$x = 19$

$\angle A = 57°$

$\angle B = 76°$

B)



8(6) = 48°

4(6)+18 = 42°

Equation → $8x+90+4x+18=180$

$12x+108=180$

$-108 \quad -108$

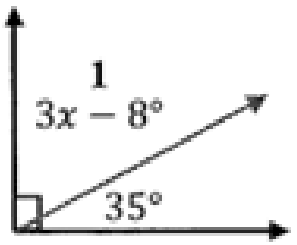
$\frac{12x}{12} = \frac{72}{12}$

$x = 6$

$x = 6$ $\angle D = 48°$ $\angle F = 42°$

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

A)



Relationship: Complementary

Equation

$3x - 8 + 35 = 90$

$3x + 27 = 90$

$-27 \quad -27$

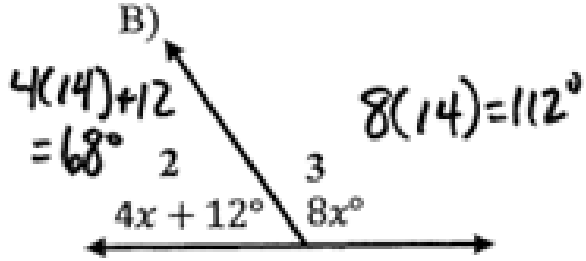
$\frac{3x}{3} = \frac{63}{3}$

$x = 21$

$x =$ 21

$\angle 1 =$ 55° $\quad 3(21) - 8 = 55°$

B)



Relationship: Supplementary

Equation

$4x + 12 + 8x = 180$

$12x + 12 = 180$

$-12 \quad -12$

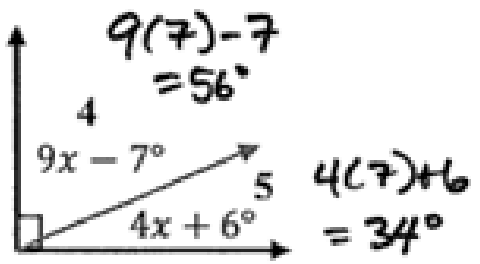
$\frac{12x}{12} = \frac{168}{12}$

$x = 14$

$x =$ 14

$\angle 2 =$ 68° $\quad \angle 3 =$ 112°

C)



Relationship: Complementary

Equation

$9x - 7 + 4x + 6 = 90$

$13x - 1 = 90$

$+1 \quad +1$

$\frac{13x}{13} = \frac{91}{13}$

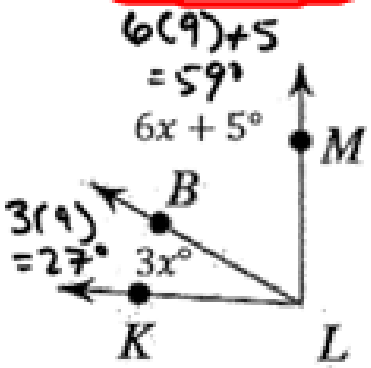
$x = 7$

$x =$ 7

$\angle 4 =$ 56° $\quad \angle 5 =$ 34°

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

A) $\angle KLM = 86°$



Equation

$3x + 6x + 5 = 86$

$9x + 5 = 86$

$-5 \quad -5$

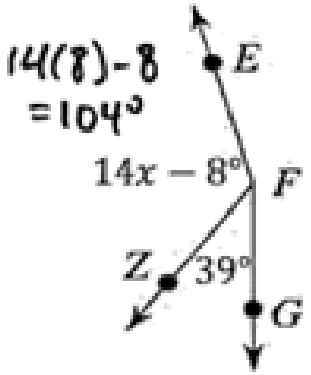
$\frac{9x}{9} = \frac{81}{9}$

$x = 9$

$x =$ 9

$\angle KLB =$ 27° $\angle MLB =$ 59°

B) $\angle EFG = 143°$



Equation

$14x - 8 + 39 = 143$

$14x + 31 = 143$

$-31 \quad -31$

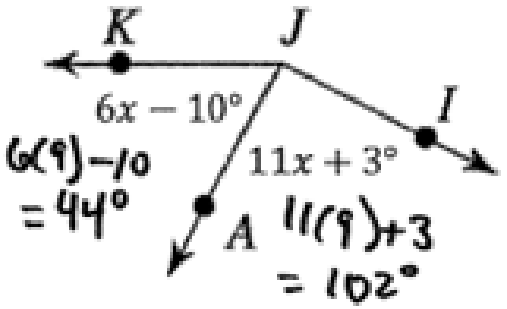
$\frac{14x}{14} = \frac{112}{14}$

$x = 8$

$x =$ 8

$\angle EFZ =$ 104°

C) $\angle KJI = 146°$



Equation

$6x - 10 + 11x + 3 = 146$

$17x - 7 = 146$

$+7 \quad +7$

$\frac{17x}{17} = \frac{153}{17}$

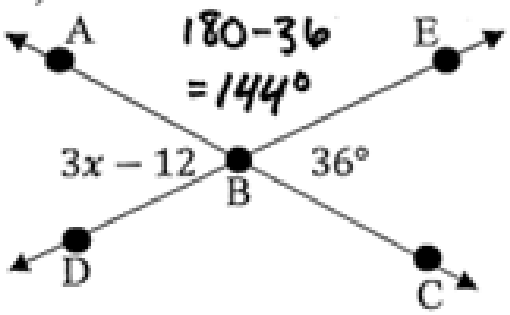
$x = 9$

$x =$ 9

$\angle KJA =$ 44° $\angle IJA =$ 102°

5) Write and solve an equation to find the value of x. Then find the measurements of the missing angles.

A)



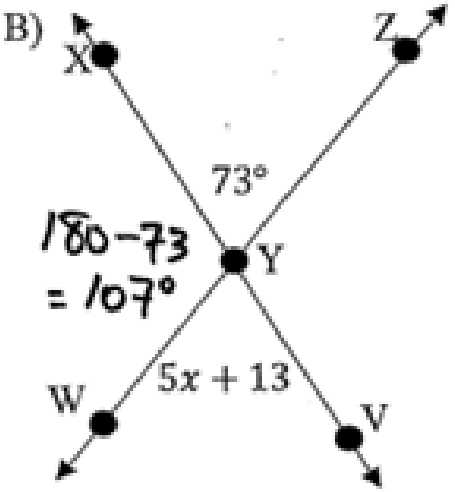
$x =$ 16

$\angle ABD =$ 36°

$\angle ABE =$ 144°

$\angle CBD =$ 144°

B)



$x =$ 12

$\angle WYV =$ 73°

$\angle WYX =$ 107°

$\angle VYZ =$ 107°

Equation → $3x-12=36$

$+12 \quad +12$

$\frac{3x}{3} = \frac{48}{3}$

$x=16$

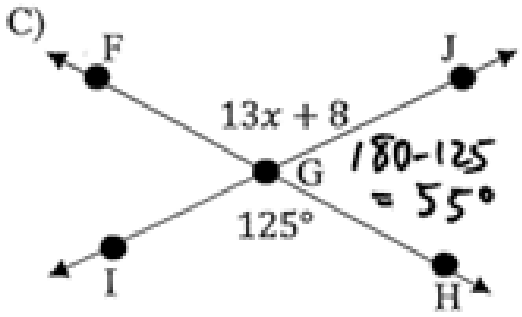
Equation → $5x+13=73$

$-13 \quad -13$

$\frac{5x}{5} = \frac{60}{5}$

$x=12$

C)



$x =$ 9

$\angle FGJ =$ 125°

$\angle JGH =$ 55°

$\angle FGI =$ 55°

Equation → $13x + 8 = 125$

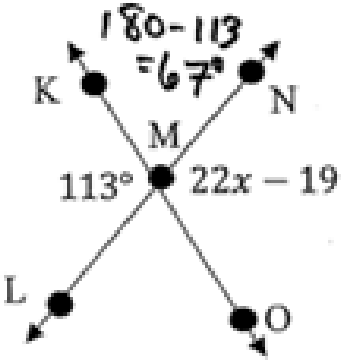
$-8 \quad -8$

$13x = 117$

$\frac{13x}{13} = \frac{117}{13}$

$x = 9$

D)



$x =$ 6

$\angle NMO =$ 113°

$\angle KMN =$ 67°

$\angle LMO =$ 67°

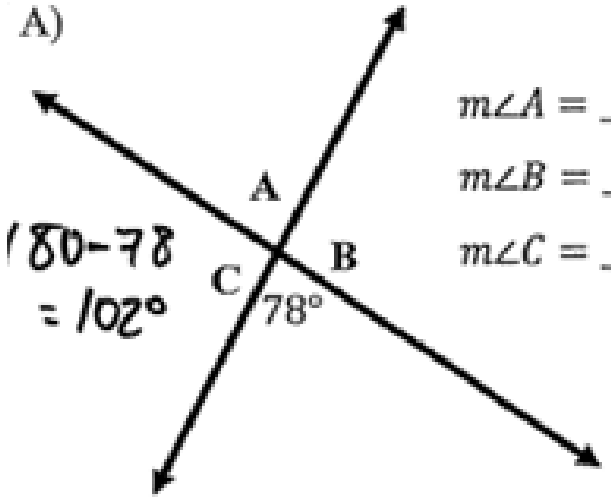
Equation → $22x - 19 = 113$

$+19 \quad +19$

$\frac{22x}{22} = \frac{132}{22}$

$x = 6$

A)

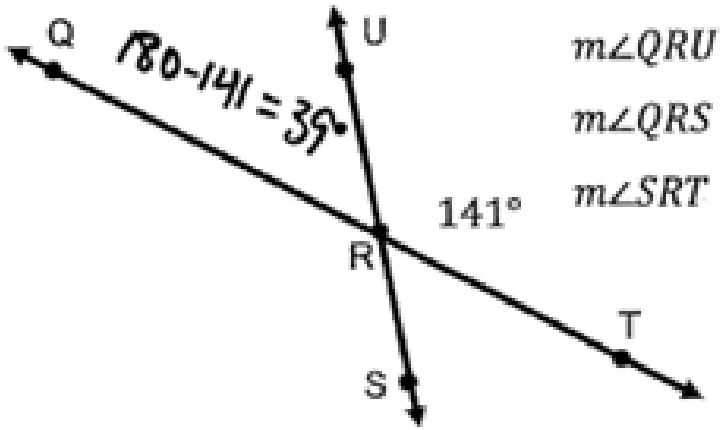


$m\angle A =$ 78°

$m\angle B =$ 102°

$m\angle C =$ 102°

B)



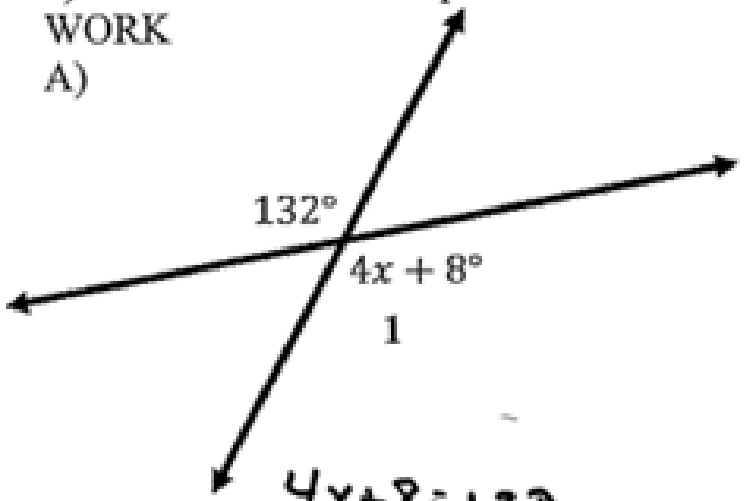
$m\angle QRU =$ 39°

$m\angle QRS =$ 141°

$m\angle SRT =$ 39°

7) Write and solve an equation to find the value of x. Then find the measurement of the missing angles. SHOW WORK

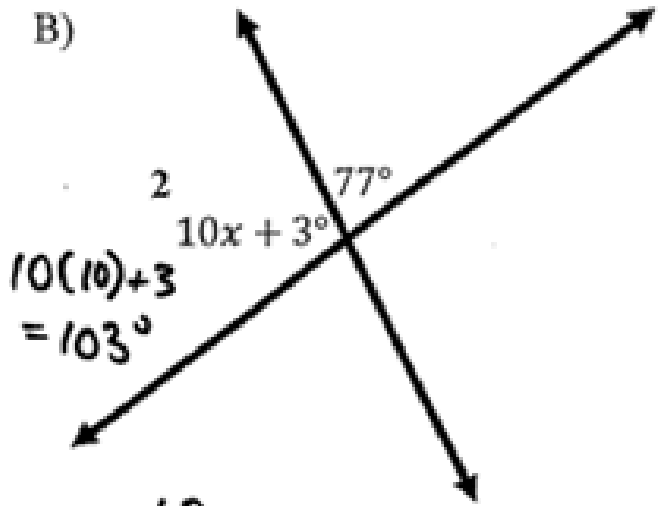
A)



$4x+8=132$
$-8 \quad -8$
$4x=124$
$\frac{4x}{4}=\frac{124}{4}$
$x=31$

$x =$ 31 $\quad m\angle 1 =$ 132°

B)

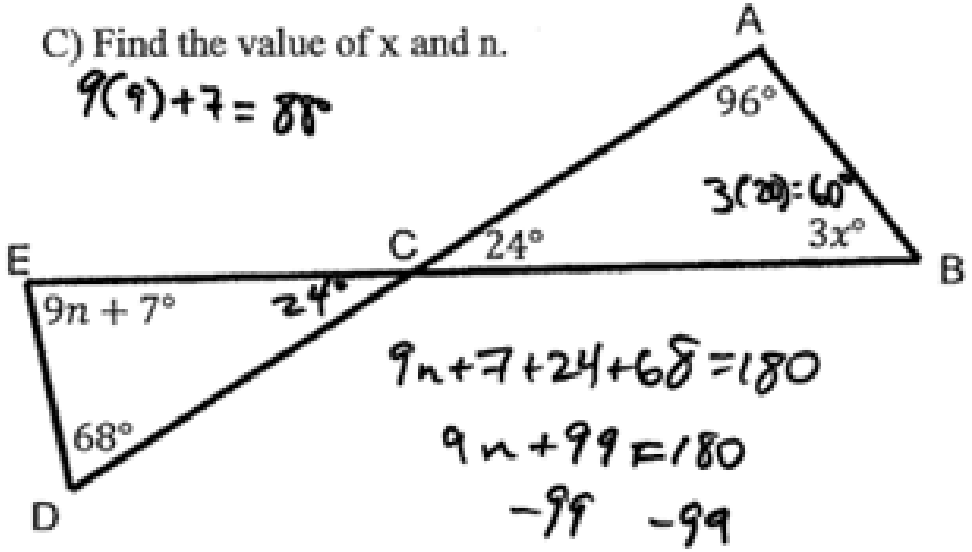


$10x+3+77=180$
$10x+80=180$
$-80 \quad -80$
$10x=100$
$\frac{10x}{10}=\frac{100}{10}$
$x=10$

$x =$ 10 $\quad m\angle 2 =$ 103°

C) Find the value of x and n.

$9(9)+7 = 88$



$9n+7+24+68=180$

$9n+99=180$

$-99 \quad -99$

$\frac{9n}{9} = \frac{81}{9}$

$n = 9$

$3x+24+96=180$

$3x+120=180$

$-120 \quad -120$

$\frac{3x}{3} = \frac{60}{3}$

$x = 20$

$x =$ 20 $\quad n =$ 9 $\quad m\angle ABC =$ 60°

$m\angle ECD =$ 24° $\quad m\angle DEC =$ 88°