

Name: \_\_\_\_\_

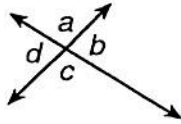
Date: \_\_\_\_\_

Mrs. Roubos

8R Period \_\_\_\_\_

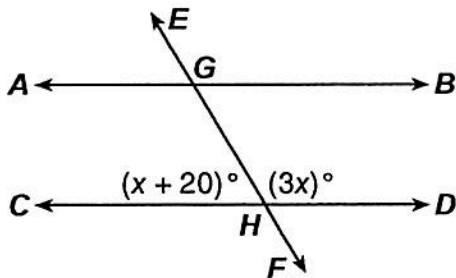
## Review for Geometry I Test

- 1) What are a pair of adjacent angles in the diagram below?



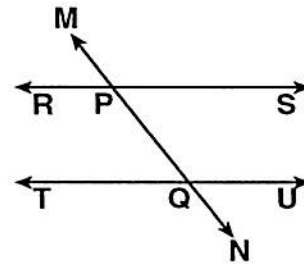
- A)  $b$  and  $c$   
 B)  $b$  and  $d$   
 C)  $a$  and  $c$

- 2) In the accompanying diagram, parallel lines  $\overline{AB}$  and  $\overline{CD}$  are intersected by transversal  $\overline{EF}$  at  $G$  and  $H$ , respectively. If  $m\angle CHG = (x + 20)^\circ$  and  $m\angle DHG = (3x)^\circ$ , find the value of  $x$ .

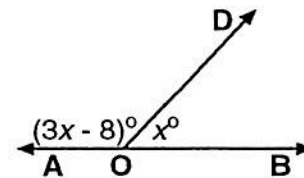


- 3) Which one of the following pairs of angles  $x$  and  $y$  are supplementary?
- A)  $m\angle x = 76^\circ$ ,  $m\angle y = 14^\circ$   
 B)  $m\angle x = 140^\circ$ ,  $m\angle y = 190^\circ$   
 C)  $m\angle x = 113^\circ$ ,  $m\angle y = 67^\circ$   
 D)  $m\angle x = 180^\circ$ ,  $m\angle y = 180^\circ$

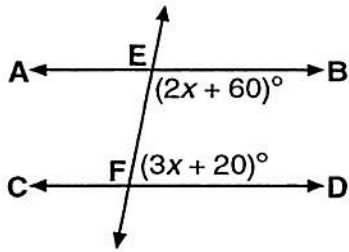
- 4) In the accompanying diagram, transversal  $\overline{MN}$  intersects parallel lines  $\overline{RS}$  and  $\overline{TU}$  at  $P$  and  $Q$ , respectively. If  $m\angle RPM = 50^\circ$ , find  $m\angle PQU$ .



- 5) In the accompanying diagram,  $\overline{AOB}$  is a straight line,  $m\angle AOD = (3x - 8)^\circ$ , and  $m\angle BOD = x^\circ$ . Find  $x$ .

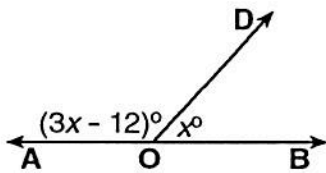


- 6) In the accompanying diagram,  $\overline{AB}$  is parallel to  $\overline{CD}$ , and  $\overline{EF}$  is a transversal.

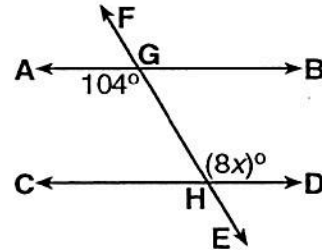


If  $m\angle BEF = (2x + 60)^\circ$  and  $m\angle DFE = (3x + 20)^\circ$ , what is  $m\angle BEF$ ?

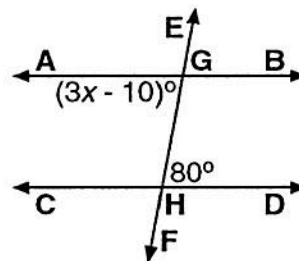
- A)  $140^\circ$                       C)  $100^\circ$   
 B)  $40^\circ$                          D)  $20^\circ$
- 7) In the accompanying diagram,  $\overline{AOB}$  is a straight line,  $m\angle AOD = (3x - 12)^\circ$ , and  $m\angle BOD = x^\circ$ . What is the value of  $x$ ?



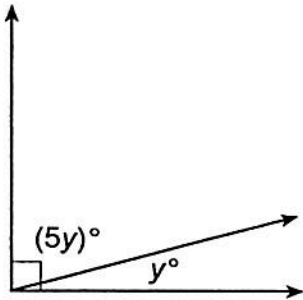
- 8) In the accompanying diagram,  $\overline{AB}$  is parallel to  $\overline{CD}$ , and  $\overline{EF}$  intersects  $\overline{AB}$  at  $G$  and  $\overline{CD}$  at  $H$ . If  $m\angle AGE = 104^\circ$  and  $m\angle DHG = 8x^\circ$ , what is the value of  $x$ ?



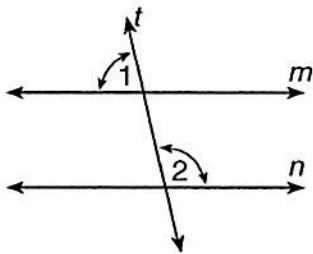
- 9) In the accompanying diagram,  $\overline{AB} \parallel \overline{CD}$ ,  $\overline{EF}$  intersects  $\overline{AB}$  at  $G$  and  $\overline{CD}$  at  $H$ . If the degree measure of  $\angle AGH$  is  $(3x - 10)^\circ$  and the degree measure of  $\angle GHD$  is  $80^\circ$ , find the value of  $x$ .



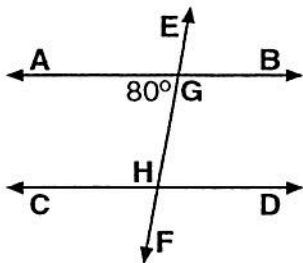
- 10) Solve for  $y$  in the diagram below.



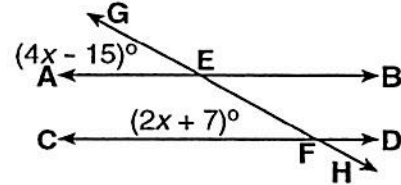
- 11) Parallel lines  $m$  and  $n$  are cut by transversal  $t$ . If  $m\angle 1 = 75^\circ$ , find  $m\angle 2$ .



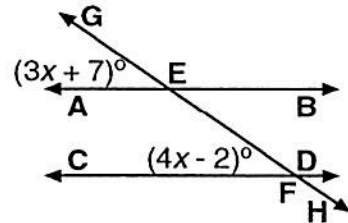
- 12) In the accompanying diagram,  $\overline{AB}$  and  $\overline{CD}$  are parallel and  $\overline{EF}$  intersects  $\overline{AB}$  at  $G$  and  $\overline{CD}$  at  $H$ . If  $m\angle AGH = 80^\circ$ , what is  $m\angle CHG$ ?



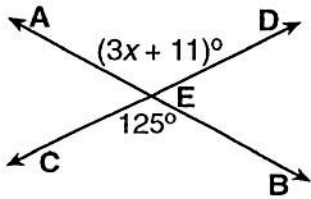
- 13) In the accompanying diagram, parallel lines  $\overline{AB}$  and  $\overline{CD}$  intersect transversal  $\overline{GH}$  at points  $E$  and  $F$ , respectively. If  $m\angle AEG = (4x - 15)^\circ$  and  $m\angle CFE = (2x + 7)^\circ$ , find the value of  $x$ .



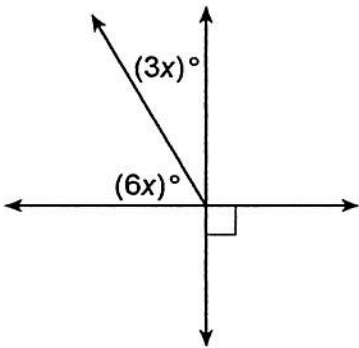
- 14) In the accompanying diagram, parallel lines  $\overline{AB}$  and  $\overline{CD}$  are intersected by transversal  $\overline{GH}$  at points  $E$  and  $F$ , respectively. If  $m\angle AEG$  is  $(3x + 7)^\circ$  and  $m\angle CFE$  is  $(4x - 2)^\circ$ , find  $x$ .



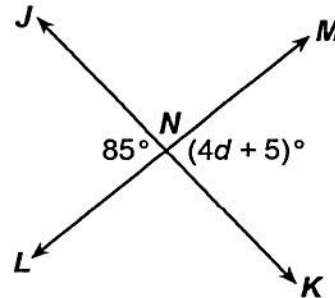
- 15) In the accompanying diagram,  $\overline{AB}$  and  $\overline{CD}$  intersect at E. If  $m\angle AED = (3x + 11)^\circ$  and  $m\angle CEB = 125^\circ$ , find  $x$ .



- 16) Solve for  $x$  in the diagram below.



- 17) In the accompanying diagram, line  $\overline{JK}$  and line  $\overline{LM}$  intersect at point N. If  $m\angle MNK = (4d + 5)^\circ$  and  $m\angle JNL = 85^\circ$ , what is the value of  $d$ ?



- A) 22.5                      C) 85  
B) 22                         D) 20

- 18) What is the complement of a  $20^\circ$  angle?

- 19) What is the supplement of an  $85^\circ$  angle?

Name: KEY

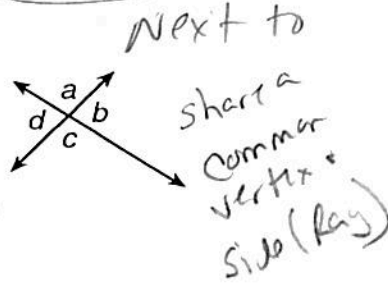
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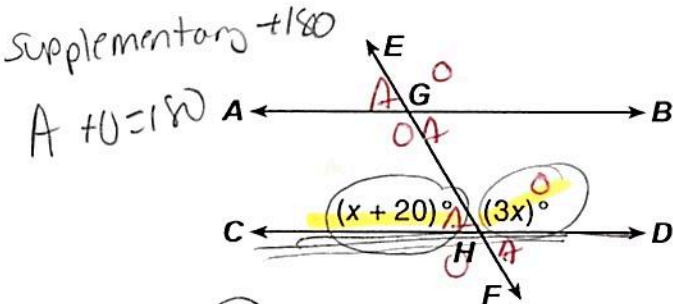
Review for Geometry I Test

- 1) What are a pair of adjacent angles in the diagram below?



- A) b and c  
 B) b and d  
 C) a and c

- 2) In the accompanying diagram, parallel lines  $\overline{AB}$  and  $\overline{CD}$  are intersected by transversal  $\overline{EF}$  at  $G$  and  $H$ , respectively. If  $m\angle CHG = (x + 20)^\circ$  and  $m\angle DHG = (3x)^\circ$ , find the value of  $x$ .



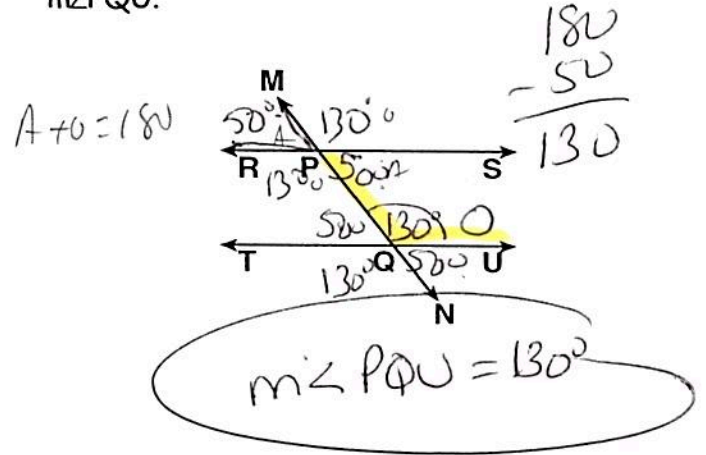
$$\begin{aligned} (x+20) + 3x &= 180 \\ 4x + 20 &= 180 \\ -20 &\quad -20 \\ \hline 4x &= 160 \\ \frac{4x}{4} &= \frac{160}{4} \quad \boxed{x=40} \end{aligned}$$

- 3) Which one of the following pairs of angles  $x$  and  $y$  are supplementary?

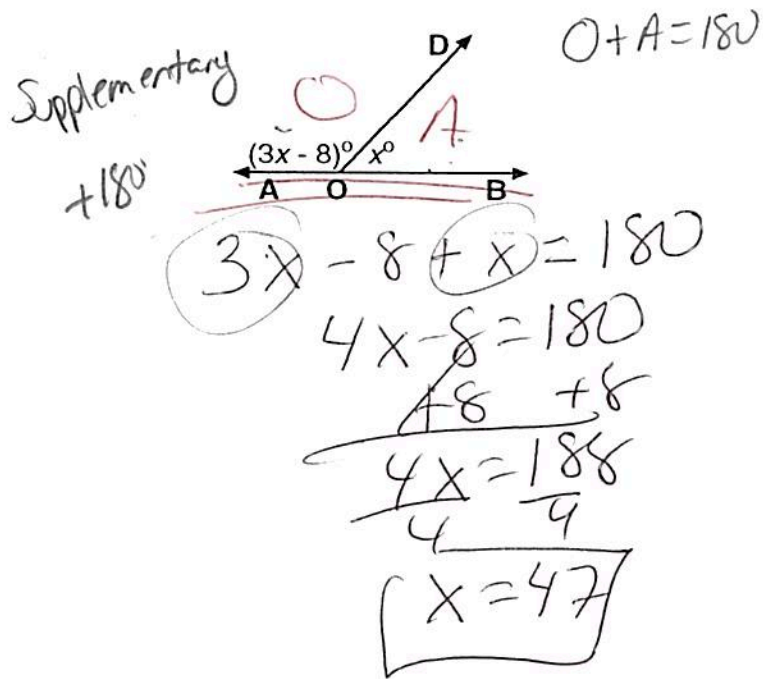
- A)  $m\angle x = 76^\circ, m\angle y = 14^\circ$   
 B)  $m\angle x = 140^\circ, m\angle y = 190^\circ$   
 C)  $m\angle x = 113^\circ, m\angle y = 67^\circ$   
 D)  $m\angle x = 180^\circ, m\angle y = 180^\circ$

$$\begin{aligned} &113 \\ &+67 \\ \hline &180 \end{aligned}$$

- 4) In the accompanying diagram, transversal  $\overline{MN}$  intersects parallel lines  $\overline{RS}$  and  $\overline{TU}$  at  $P$  and  $Q$ , respectively. If  $m\angle RPM = 50^\circ$ , find  $m\angle PQU$ .

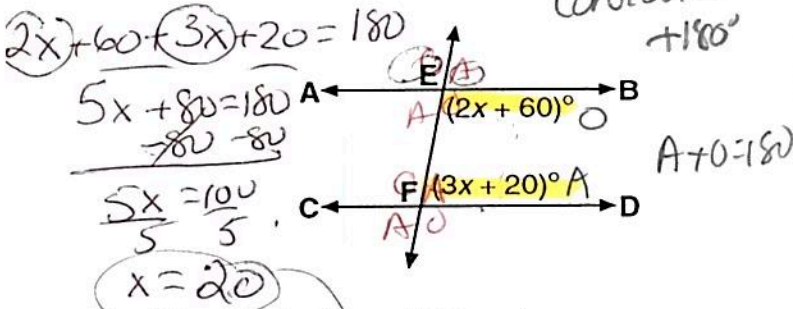


- 5) In the accompanying diagram,  $\overline{AOB}$  is a straight line,  $m\angle AOD = (3x - 8)^\circ$ , and  $m\angle BOD = x^\circ$ . Find  $x$ .



$$\begin{aligned} (3x-8) + x &= 180 \\ 4x - 8 &= 180 \\ +8 &\quad +8 \\ \hline 4x &= 188 \\ \frac{4x}{4} &= \frac{188}{4} \\ \boxed{x=47} \end{aligned}$$

- 6) In the accompanying diagram,  $\overline{AB}$  is parallel to  $\overline{CD}$ , and  $\overline{EF}$  is a transversal.



$$2x + 60 + 3x + 20 = 180$$

$$5x + 80 = 180$$

$$\frac{5x}{5} = \frac{100}{5}$$

$$x = 20$$

If  $m\angle BEF = (2x + 60)^\circ$  and  $m\angle DFE = (3x + 20)^\circ$ , what is  $m\angle BEF$ ?

- A)  $140^\circ$       C)  $100^\circ$   
 B)  $40^\circ$       D)  $20^\circ$

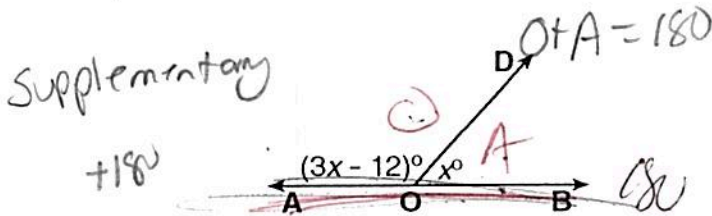
$$m\angle BEF = 2x + 60$$

$$m\angle BEF = 2(20) + 60$$

$$m\angle BEF = 40 + 60$$

$$m\angle BEF = 100^\circ$$

- 7) In the accompanying diagram,  $\overline{AOB}$  is a straight line,  $m\angle AOD = (3x - 12)^\circ$ , and  $m\angle BOD = x^\circ$ . What is the value of  $x$ ?



$$3x - 12 + x = 180$$

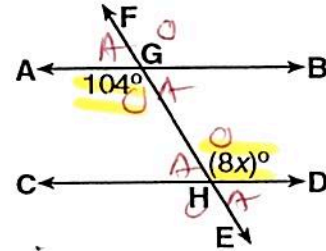
$$4x - 12 = 180$$

$$\frac{4x}{4} = \frac{192}{4}$$

$$x = 48$$

- 8) In the accompanying diagram,  $\overline{AB}$  is parallel to  $\overline{CD}$ , and  $\overline{EF}$  intersects  $\overline{AB}$  at  $G$  and  $\overline{CD}$  at  $H$ . If  $m\angle AGE = 104^\circ$  and  $m\angle DHG = 8x^\circ$ , what is the value of  $x$ ?

Alternate interior =

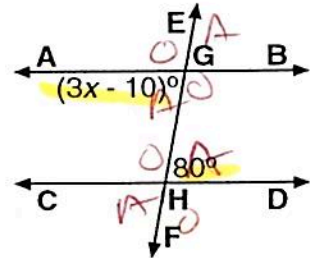


$$\frac{8x}{8} = \frac{104}{8}$$

$$x = 13$$

- 9) In the accompanying diagram,  $\overline{AB} \parallel \overline{CD}$ ,  $\overline{EF}$  intersects  $\overline{AB}$  at  $G$  and  $\overline{CD}$  at  $H$ . If the degree measure of  $\angle AGH$  is  $(3x - 10)^\circ$  and the degree measure of  $\angle GHD$  is  $80^\circ$ , find the value of  $x$ .

Alternate interior =

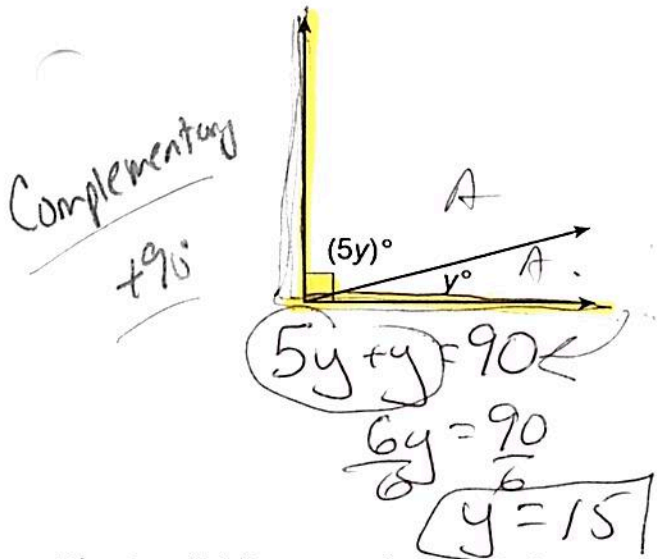


$$3x - 10 = 80$$

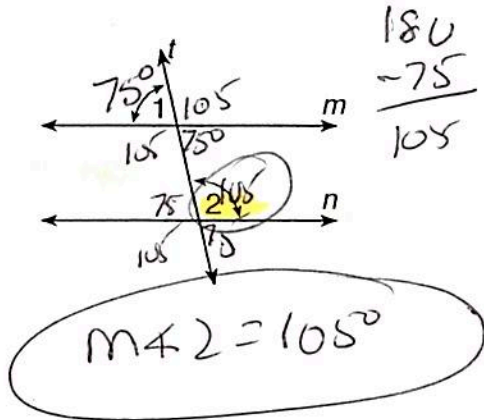
$$\frac{3x}{3} = \frac{90}{3}$$

$$x = 30$$

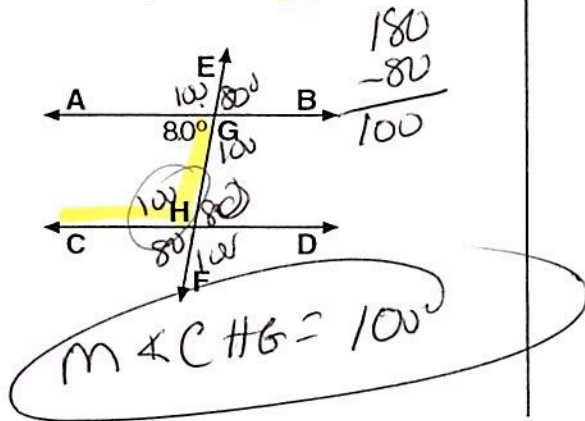
10) Solve for  $y$  in the diagram below.



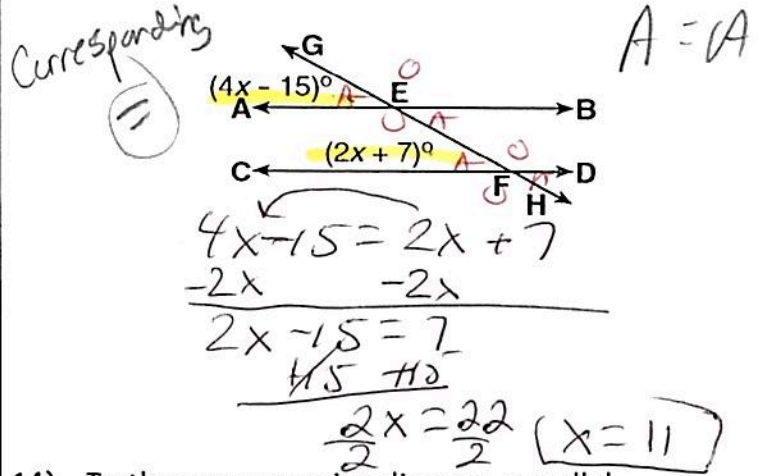
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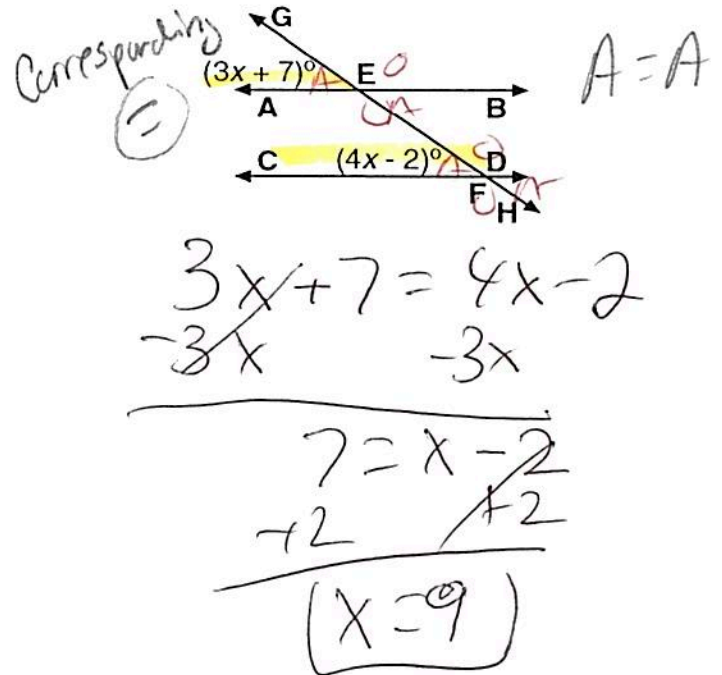
12) In the accompanying diagram,  $\overline{AB}$  and  $\overline{CD}$  are parallel and  $\overline{EF}$  intersects  $\overline{AB}$  at  $G$  and  $\overline{CD}$  at  $H$ . If  $m\angle AGH = 80^\circ$ , what is  $m\angle CHG$ ?



13) In the accompanying diagram, parallel lines  $\overline{AB}$  and  $\overline{CD}$  intersect transversal  $\overline{GH}$  at points  $E$  and  $F$ , respectively. If  $m\angle AEG = (4x - 15)^\circ$  and  $m\angle CFE = (2x + 7)^\circ$ , find the value of  $x$ .



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- 15) In the accompanying diagram,  $\overline{AB}$  and  $\overline{CD}$  intersect at E. If  $m\angle AED = (3x + 11)^\circ$  and  $m\angle CEB = 125^\circ$ , find  $x$ .

Vertical angles =

$(3x + 11)^\circ$   
 $125^\circ$

share a common vertex but no common side

$$3x + 11 = 125$$

$$\begin{array}{r} 3x + 11 = 125 \\ -11 \quad -11 \\ \hline 3x = 114 \\ \frac{3x}{3} = \frac{114}{3} \\ \hline x = 38 \end{array}$$

- 16) Solve for  $x$  in the diagram below.

Complementary +90°

$(3x)^\circ$   
 $(6x)^\circ$

$$6x + 3x = 90$$

$$\begin{array}{r} 9x = 90 \\ \frac{9x}{9} = \frac{90}{9} \\ \hline x = 10 \end{array}$$

- 17) In the accompanying diagram, line  $\overline{JK}$  and line  $\overline{LM}$  intersect at point N. If  $m\angle MNK = (4d + 5)^\circ$  and  $m\angle JNL = 85^\circ$ , what is the value of  $d$ ?

Vertical angles =

$85^\circ$   
 $(4d + 5)^\circ$

A) 22.5  
 B) 22  
 C) 85  
 D) 20

$$85 = 4d + 5$$

$$\begin{array}{r} 85 = 4d + 5 \\ -5 \quad -5 \\ \hline 80 = 4d \\ \frac{80}{4} = \frac{4d}{4} \quad d = 20 \end{array}$$

- 18) What is the complement of a  $20^\circ$  angle?

$90$   
 $-20$   
 $\hline 70^\circ$

- 19) What is the supplement of an  $85^\circ$  angle?

$180$   
 $-85$   
 $\hline 95^\circ$