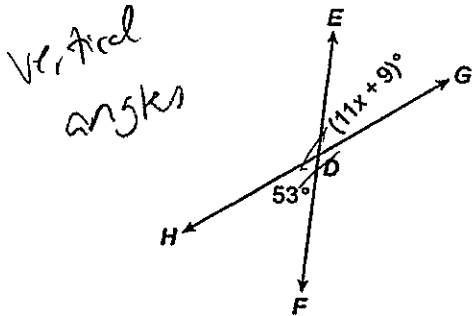


Homework #35

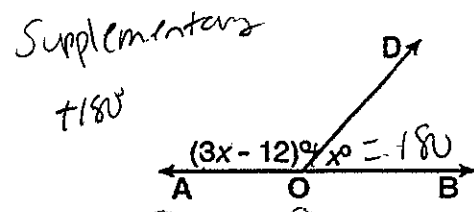
1) In the accompanying diagram, line  $\overline{EF}$  and line  $\overline{GH}$  intersect at point D. If  $m\angle GDE = (11x + 9)^\circ$  and  $m\angle FDH = 53^\circ$ , find the value of x.



D  
C  
M  
S

$$\begin{array}{r} 53 = 11x + 9 \\ -9 \quad -9 \\ \hline 44 = 11x \\ \frac{44}{11} = \frac{11x}{11} \\ \hline x = 4 \end{array}$$

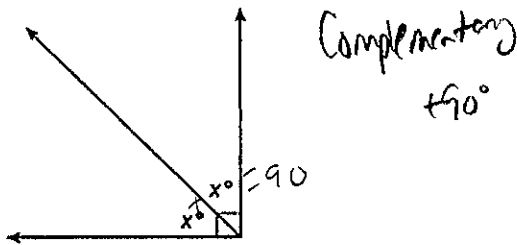
2) In the accompanying diagram, line  $\overline{AOB}$  is a straight line,  $m\angle AOD = (3x - 12)^\circ$  and  $m\angle BOD = x^\circ$ , find the value of x.



D  
C  
M  
S

$$\begin{array}{r} (3x - 12)^\circ + x^\circ = 180 \\ 3x - 12 + x = 180 \\ 4x - 12 = 180 \\ +12 \quad +12 \\ \hline 4x = 192 \\ \frac{4x}{4} = \frac{192}{4} \\ \hline x = 48 \end{array}$$

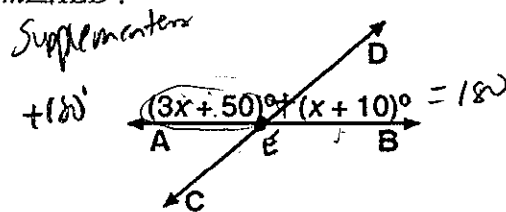
3) Solve for x in the diagram below.



D  
C  
M  
S

$$\begin{array}{r} x + x = 90 \\ 2x = 90 \\ \frac{2x}{2} = \frac{90}{2} \\ \hline x = 45 \end{array}$$

4) In the accompanying diagram, the adjacent angles formed by intersecting lines line  $\overline{AB}$  and  $\overline{CD}$  have measures  $(3x + 50)^\circ$  and  $(x + 10)^\circ$ , respectively. Solve for x, then solve for the  $m\angle AED$ .



D  
C  
M  
S

$$\begin{array}{r} 3x + 50 + x + 10 = 180 \\ 4x + 60 = 180 \\ -60 \quad -60 \\ \hline 4x = 120 \\ \frac{4x}{4} = \frac{120}{4} \\ \hline x = 30 \end{array}$$

$m\angle AED = 3x + 50$   
 $m\angle AED = 3(30) + 50$   
 $m\angle AED = 90 + 50$   
 $m\angle AED = 140^\circ$