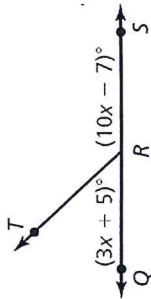
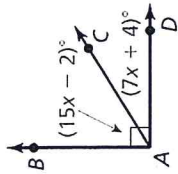


8.  $x =$  47  $m\angle QRT =$  133  $3(14) + 5 = 47$   
 $3x + 5 + 10x - 7 = 180$   $10(14) - 7 = 133$   
 $13x - 2 = 180$   $x = 14$   
 $13x = 182$



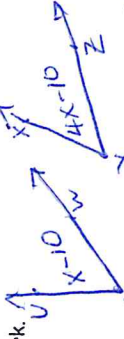
9.  $x =$  4  $m\angle BAC =$  58  $m\angle DAC =$  32  
 $15x - 2 + 7x + 4 = 90$   $15(4) - 2 = 58$   
 $22x + 2 = 90$   $7(4) + 4 = 32$   
 $22x = 88$   
 $x = 4$



10.  $\angle UVW$  and  $\angle XYZ$  are complementary angles.  $m\angle UVW = (x - 10)^\circ$ .  $m\angle XYZ = (4x - 10)^\circ$ .

Draw and label the diagram. Show all work.

$x =$  22  
 $m\angle UVW =$  12  
 $m\angle XYZ =$  78  
 $x - 10 + 4x - 10 = 90$   $22 - 10 = 12$   
 $5x - 20 = 90$   $4(22) - 10 = 78$   
 $5x = 110$   
 $x = 22$



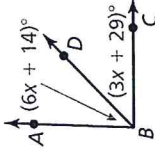
11.  $\angle EFG$  and  $\angle LMN$  are supplementary angles.  $m\angle EFG = (3x + 17)^\circ$ .  $m\angle LMN = (1/2x - 5)^\circ$ .

Draw and label the diagram. Show all work.

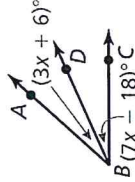
$x =$  48  
 $m\angle EFG =$  161  
 $m\angle LMN =$  19  
 $3x + 17 + 5x - 5 = 180$   $3.5x + 12 = 180$   
 $3.5x = 168$   
 $x = 48$   
 $3(48) + 17 = 161$   
 $144 + 17 = 161$   
 $161$   
 $5(48) - 5 = 19$   
 $240 - 5 = 19$

For #6 - 9,  $\overline{BD}$  bisects  $\angle ABC$ . Use the diagram and the given angle measures to find the indicated angle measures

6.  $x =$  5  $m\angle ABD =$  44  $m\angle CBD =$  44  $m\angle ABC =$  88  
 $6x + 14 = 3x + 29$   $6(5) + 14 = 44$   
 $-3x$   $-3x$   
 $3x + 14 = 29$   $3(5) + 29 = 44$   
 $-14$   $-14$   
 $\frac{3x}{3} = \frac{15}{3}$   $x = 5$



7.  $x =$  6  $m\angle ABD =$  24  $m\angle CBD =$  24  $m\angle ABC =$  48  
 $3x + 6 = 7x - 18$   $3(6) + 6 = 24$   
 $-3x$   $-3x$   
 $6 = 4x - 18$   $7(6) - 18 = 24$   
 $24 = 4x - 18$   $x = 6$   
 $\frac{24}{4} = \frac{4x}{4}$   $x = 6$



8.  $x =$  10  $m\angle ABD =$  65  $m\angle CBD =$  65  $m\angle ABC =$  130  
 $-4(x + 33) = 2x + 81$   
 $+4x$   $+4x$   
 $33 - 6x + 81 = -81$   
 $-48 = 6x$   
 $-16 = x$   
 $2(-8) + 81 = -16 + 81 = 65$   
~~81 + 33 = 114~~  
~~81 + 33 = 114~~

