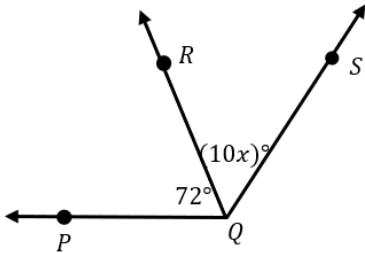


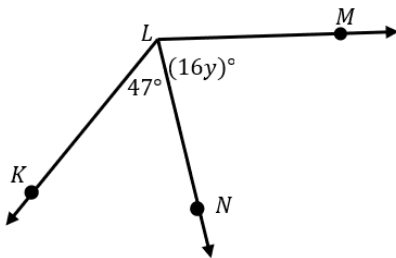
1.2/1.4 Angle Measures & Reasoning and Proof

Show all work

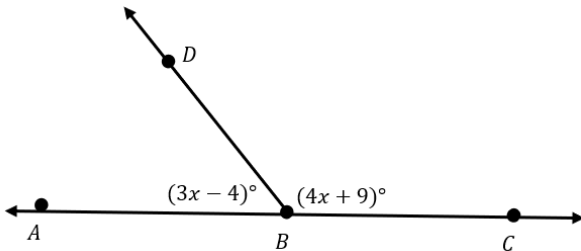
1. Find the value of  $x$ , given that  $m\angle PQS = 112^\circ$ .  $x = 4$



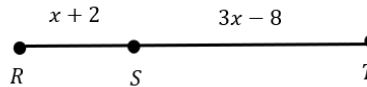
3. Find the value of  $y$ , given that  $m\angle KLM = 135^\circ$ .  
 $y = 5.5$



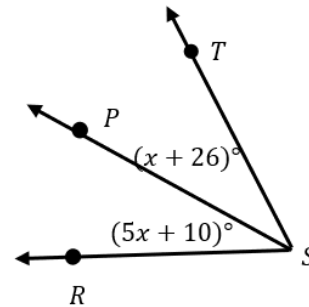
5.  $\overrightarrow{BA}$  and  $\overrightarrow{BC}$  are opposite rays. Find  $m\angle CBD$ .  
 $m\angle CBD = 109^\circ$



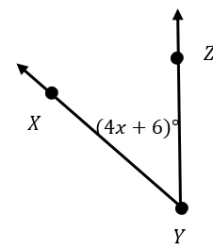
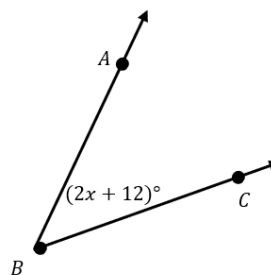
2.  $RT = 5x - 12$ . Find  $x$ .  $x = 6$



4.  $\overrightarrow{SP}$  is the angle bisector of  $\angle RST$ . Find  $m\angle RSP$ .  
 $m\angle RSP = 30^\circ$



6.  $\angle ABC$  and  $\angle XYZ$  are complementary. Find the measure of both angles.  $\angle ABC = 36^\circ$   $\angle XYZ = 54^\circ$



For 7- 14, use a diagram to help solve the problem. Tell which theorem/postulate/definition you used.

7. Point  $B$  is between points  $A$  and  $C$ . If  $AB = x + 3$ ,  $BC = 2x - 5$  and  $AC = 4x - 5$ , find  $x$ .

theorem/postulate/definition: **segment addition postulate**  $x = 3$

8. Ray  $YW$  bisects  $\angle XYZ$ . If  $m\angle XYW = (2x + 3)^\circ$  and  $m\angle XYZ = 62^\circ$  find  $x$ .

theorem/postulate/definition: **angle addition postulate or definition of angle bisector**  $x = 14$

9. Point  $Y$  is between points  $X$  and  $Z$ . If  $XY = 2x + 1$ ,  $YZ = x - 3$  and  $XZ = 4x - 9$ , find  $x$ .

theorem/postulate/definition: **segment addition postulate**  $x = 7$

10. Ray  $BD$  bisects  $\angle ABC$ . If  $m\angle ABD = (4x + 1)^\circ$  and  $m\angle ABC = 90^\circ$  find  $x$ .

theorem/postulate/definition: **angle addition postulate or definition of angle bisector**  $x = 11$

11.  $Y$  is the midpoint of  $\overline{XZ}$ . If  $XZ = 8x - 2$  and  $YZ = 2x + 1$ , find  $x$ .

theorem/postulate/definition: **definition of midpoint or segment addition postulate**  $x = 1$

12.  $\angle ABC$  and  $\angle CBD$  are a linear pair. If  $m\angle ABC = m\angle CBD = 3x - 6$ , find  $x$ .

theorem/postulate/definition: **linear pair theorem or angle addition postulate**  $x = 32$

13.  $\angle X$  and  $\angle Z$  are complementary.  $m\angle X = (3x - 1)$  and  $m\angle Z = (2x + 16)$   
Find the measure of both angles.

theorem/postulate/definition: **definition of complementary angles**  $m\angle X = 44^\circ$   $m\angle Z = 46^\circ$

14.  $\angle A$  and  $\angle B$  are supplementary.  $m\angle A = (4x + 18)^\circ$  and  $m\angle B = (2x - 12)$   
Find the measure of both angles.

theorem/postulate/definition: **definition of supplementary angles**  $m\angle A = 134^\circ$   $m\angle B = 46^\circ$