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Title:

(A) Lesson Objectives

- a. Classify angles as acute, obtuse, right, or straight
- b. Classify angle pair relationships as complementary, supplementary, vertically opposite, adjacent
- c. Apply the solving of linear equations to the context of angle pair relationships and the angle addition postulate

(B) Explorations

- a. Define the following terms related to angles and include a diagram of each:

Terms Related to Angles	Diagram
Acute angle	
Obtuse angle	
Right angle	
Straight angle	
Complementary angles	
Supplementary angles	
Vertically opposite angles	
Adjacent angles	
Angle Addition Postulate	

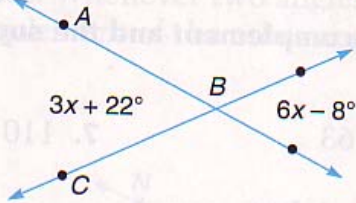
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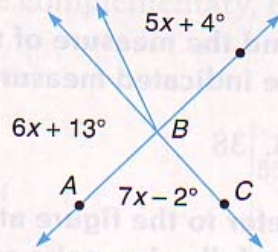
Homework – Set A

Find the value of x and $m\angle ABC$.

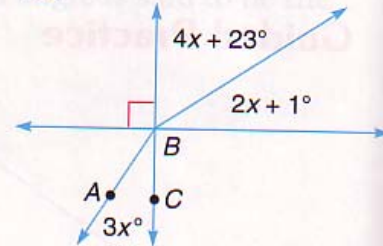
26.



27.



28.

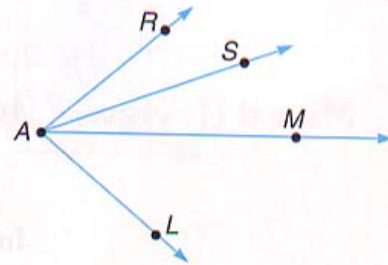


Solve.

29. Find the measures of two supplementary angles if the measure of the larger angle is 44 more than the measure of the smaller.
30. Find the measure of two complementary angles if the difference in the measures of the two angles is 12.

In the figure, \overline{AM} bisects $\angle LAR$ and \overline{AS} bisects $\angle MAR$. Given the following conditions, find the value of x and the measure of the indicated angle.

32. $m\angle MAR = 2x + 13$, $m\angle MAL = 4x - 3$,
 $m\angle RAL$
33. $m\angle RAL = x + 32$, $m\angle MAR = x - 31$,
 $m\angle LAM$
34. $m\angle RAS = 25 - 2x$, $m\angle SAM = 3x + 5$,
 $m\angle LAR$
35. $m\angle RAM = 31 - x$, $m\angle LAM = 17 - 3x$, $m\angle SAR$
36. $m\angle RAL = 5x - 7$, $m\angle MAS = x + 3$, $m\angle MAR$



37. Suppose $\angle X$ and $\angle Y$ are supplementary angles. If $m\angle X = x^2 - 9x$ and $m\angle Y = 11x + 12$, find the value of x , $m\angle X$, and $m\angle Y$.
38. Suppose $\angle A$ and $\angle B$ are complementary angles, and $\angle C$ and $\angle D$ are also complementary angles. If $m\angle A = 2x + 3$, $m\angle B = y - 2$, $m\angle C = 2x - y$, and $m\angle D = x - 1$, find the values of x and y , $m\angle A$, $m\angle B$, $m\angle C$, and $m\angle D$.