Name: Key Date: _____ Period: _____

Missing Angle Practice

Vocabulary Review: Write in words and draw a diagram to define each of the following words.

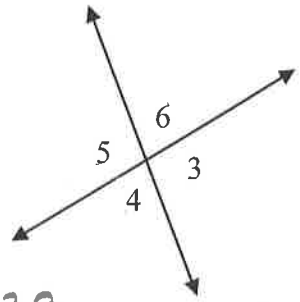
1. Complementary Angles

2. Supplementary Angles

3. Adjacent Angles

4. Vertical Angles

Use the figure to the right to answer the following questions.



6. If $m\angle 5 = 95°$. *Then* $m\angle 6 =$ 85. 180 − 95 = 85

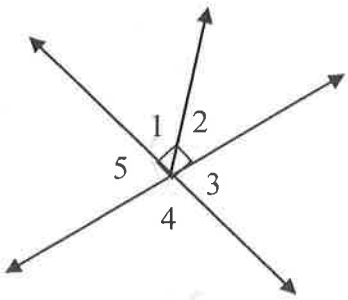
7. If $m\angle 3 = 115°$ then $m\angle 6 =$ 65. 180 − 115 = 65

9. If $m\angle 6 = 2x$ *and* $m\angle 4 = 78$, *then* $x =$ 39. $\frac{2x}{2} = \frac{78}{2}$, $x = 39$

10. $m\angle 5 = 4x + 12$ *and* $m\angle 4 = x + 8$, *then* $x =$ 32. *What is the measure of Angle 5?* 140 *What is the measure of angle 4?* 40

$(4x) + 12 + (x) + 8 = 180$
$5x + 20 = 180$
$5x = 160$
$x = 32$

Use the figure below to answer the following questions yes or no?



9. Are $\angle 1$ and $\angle 2$ complementary angles? yes

10. Are $\angle 2$ and $\angle 3$ adjacent angles? yes.

11. Are $\angle 2$ and $\angle 4$ vertical angles? no

12. Are $\angle 5$ and $\angle 3$ vertical angles? yes

13. Are $\angle 3$ and $\angle 4$ supplementary angles? yes

For each given angle find its complement and supplement. If none exists, write "none".

15. $m\angle A = 54°$ comp: 36 supp: 126

16. $m\angle A = 95°$ comp: none supp: 85

17. $m\angle A = 90°$ comp: none supp: 90

18. $m\angle A = 112°$ comp: none supp: 68

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For questions 19 – 24 set up and label a diagram, solve for the variable, and then find the angles given.

19. $\angle 1$ and $\angle 2$ are supplementary angles. If $m\angle 1 = 3x + 12$ *and* $m\angle 2 = 7x - 32$, *find* $x, m\angle 1$ *and* $m\angle 2$.

Equation used to solve: $3x+12+7x-32=180$

$10x - 20 = 180$
$10x = 200$
$x = 20$

x = 20

$m\angle 1$ 72

$m\angle 2$ 108

20. $\angle 1$ and $\angle 2$ are complementary. *If* $m\angle 1 = 6x + 2$ and $m\angle 2 = 4x + 8$, find x, $m\angle 1$ and $m\angle 2$.

Equation used to solve: $6x+2+4x+8=90$

$10x + 10 = 90$
$10x = 80$
$x = 8$

x = 8

$m\angle 1$ 50

$m\angle 2$ 40