

Name Key

Date _____

UNIT 1 TEST REVIEW

Missing Angles: Solve for x.

1.

$$10x + 11 + 9x - 11 = 180$$

$$19x = 180$$

$$x = 10$$

2.

$$4x + 24 = 7x + 3$$

$$21 = 3x$$

$$x = 7$$

3.

$$y + 23 = 63$$

$$y = 40$$

$$2x - 17 + 63 = 180$$

$$2x + 46 = 180$$

$$2x = 134$$

$$x = 67$$

Solve for x.

4. $\angle ABC$ measures 82°

$$7x + 2 + x = 82$$

$$8x = 80$$

$$x = 10$$

5.

$$15x + 18 = 11x + 34$$

$$4x = 16$$

$$x = 4$$

$$15(4) + 18 + 5y - 3 = 90$$

$$5y + 75 = 90$$

$$5y = 15$$

$$y = 3$$

6. \overline{BX} is an angle bisector. $m\angle ABX = 5x$, $m\angle XBC = 3x + 10$, find $m\angle ABC$

$$5x = 3x + 10$$

$$2x = 10$$

$$x = 5$$

$$\angle ABC = 50^\circ$$

7. $\angle 1$ and $\angle 2$ are complementary. Solve for x and the measure of both angles.

$$\angle 1 = 12x + 4 = 52^\circ$$

$$\angle 2 = 9x + 2 = 38^\circ$$

$$12x + 4 + 9x + 2 = 90$$

$$21x + 6 = 90$$

$$21x = 84$$

$$x = 4^\circ$$

8. The measure of one angle is 24° less than the measure of its supplement. Find the measure of each angle.

$$x + x - 24 = 180$$

$$2x - 24 = 180$$

$$2x = 204$$

$$x = 102^\circ$$

$$\angle 1 = 102^\circ$$

$$\angle 2 = 78^\circ$$

9. One of two supplementary angles is 123° less than twice its supplement. Find the measure of both angles.

$$x + 2x - 123 = 180$$

$$3x = 303$$

$$x = 101$$

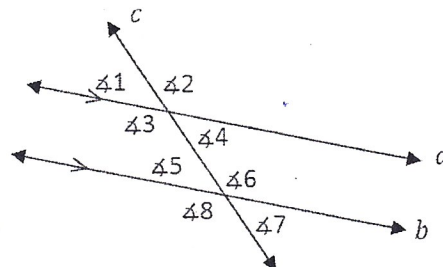
$$\angle 1 = 101^\circ$$

$$\angle 2 = 79^\circ$$

Parallel Lines:

Name the angles listed and the special property.

- 10. $\angle 1$ and $\angle 5$ Corresponding \cong
- 11. $\angle 4$ and $\angle 6$ cons. int. \angle 's are supp.
- 12. $\angle 2$ and $\angle 8$ alt. ext. \cong
- 13. $\angle 4$ and $\angle 5$ alt. int. \cong



14. Given $m \parallel n$ and $m\angle 8$, find the measures of all the numbered angles in the figure.

$m\angle 8 = 112^\circ$

$m\angle 1 = 112^\circ$

$m\angle 3 = 68^\circ$

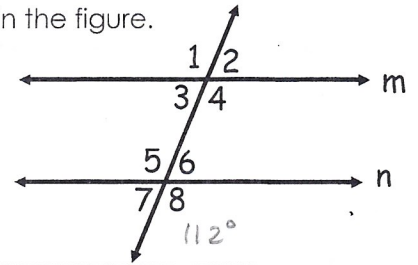
$m\angle 5 = 112^\circ$

$m\angle 2 = 68^\circ$

$m\angle 4 = 112^\circ$

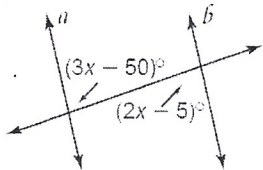
$m\angle 6 = 68^\circ$

$m\angle 7 = 68^\circ$



Solve for x.

15. $3x - 50 = 2x - 5$
 $x = 45^\circ$



16. $6x + 7 + 3x + 38 = 180$
 $9x + 45 = 180$
 $x = 15$

17. In rhombus ABCD the diagonals meet at point E. If $\angle AEB = 5x - 15^\circ$, find x.

$5x - 15 = 90$
 $5x = 105$
 $x = 21^\circ$

18. In square ABCD $\overline{AC} = 6x - 13$ and $\overline{BD} = 3x + 26$. Find x.

$6x - 13 = 3x + 26$
 $3x = 39$
 $x = 13$

19. In rectangle JKLM $\angle K = 4x + 7$. Find x.

$4x + 7 = 90$
 $4x = 83$
 $x = 20.75$

20. Kite WZYA
 $WZ = 2x + 12$
 $ZY = 4x - 17$
 $m\angle W = 3y - 14$
 $m\angle Y = 5y - 42$
 Find x & y.

$2x + 12 = 4x - 17$
 $29 = 2x$
 $x = 14.5$

$3y - 14 = 5y - 42$
 $28 = 2y$
 $y = 14$

21. Find $m\angle D$ and $m\angle F$.

$\angle D = 120^\circ$
 $\angle F = 60^\circ$

22. $\overline{KM} = 4x + 37$ and $\overline{JL} = 5x + 11$. Find x.

$4x + 37 = 5x + 11$
 $x = 26$

23. Find x & y

$4x + 6x + 20 = 180$
 $10x = 160$
 $x = 16$

$6(16) + 20 = 116^\circ$

24. Find angles 1, 2, & 3.

$\angle 2 = 63^\circ$
 $\angle 3 = 63^\circ$
 $\angle 1 = 90^\circ$

25. Find x.

$3x - 3 = x + 5$
 $2x = 8$
 $x = 4$