Pre-Algebra Homework (8)

Name:_____ Week of:_____

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1. Complete each equation.

$-23 + 14 =$ __-9__ $-8 + -67 =$ __-75__

$-30 - 12 =$ __-42__ $28 - 35 =$ __-7__

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2. Simplify each expression.

a) $3(x + -5)$ b) $-4(y - 6)$

__$3x - 15$__   __$-4y + 24$__

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3. Write an equation for the following situation.

A bus of tourist are going on a private tour. It costs $8 per person plus $20 for a tip for the tour guide. If you paid $436 for the whole bus to go on the tour, then how many tourist are on the bus?

$$8x + 20 = 436$$
$$8x = 416$$
$$x = 52$$

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4. Solve the equation.

$$5x + -3 = 12$$
$$5x = 15$$
$$x = 3$$

$15 + -3 = 12$ ✓

Check your answer by substituting in your value for x.

Standard: Solve linear equations with rational number coefficients fluently, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. Represent real-world problems using linear equations and inequalities in one variable and solve such problems. **(2-1 in book)**

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5. Solve the equation.

$$1.15y - 1.2 = 2.25$$
$$1.15y = 3.45$$
$$y = 3$$

y = __3__

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6. Solve the equation.

$$-3(x + 7) = 36$$
$$-3x - 21 = 36$$
$$-3x = 57$$
$$x =$$

x = __-19__

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7. Solve the equation

$$3x + 5x - 14 = -30$$
$$+14 \quad +14$$
$$\frac{8x}{8} = \frac{-16}{8}$$

x = __$x = -2$__

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8. Solve the equation

$$\frac{2}{3}h - 14 = 3\frac{1}{2}$$

$$\frac{35}{2} \cdot \frac{3}{2} = \frac{105}{4} \quad \frac{3}{2} \cdot \frac{2}{3}h = 17\frac{1}{2} \cdot \frac{3}{2}$$

h = __$26\frac{1}{4}$__

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9. simplify the expression.

$$3x + 14 - 12x + 8 - x$$
$$-9x + 22 - x$$

__$-10x + 22$__

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10. Simplify the expression.

$$4x + 7y - 6z + 6y - 9x$$

__$-5x + 13y - 6z$__

11. Explain the difference between an equation and an expression.

equation has an equals sign. An expression does not.

12. Solve the equation.

$3(3x - 5x) + 2 = -8$

$9x - 15x + 2 = -8$
$-6x = -10$
$x = 10/6 = 5/3$

x = $1\frac{2}{3}$

13. Solve the equation.

$-3(x - 1) + 7x = 27$

$-3x + 3 + 7x = 27$
$4x + 3 = 27$
$4x = 24$

x = $x = 6$

14. Solve the equation.

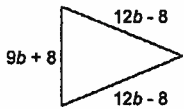$\frac{1}{3}(12x + 6) + 4x = 30$

$4x + 2 + 4x = 30$
$8x + 2 = 30$
$8x = 28$
$x = 7/2$

x = $3\frac{1}{2}$

Application Problems:

15. Write and solve an equation to find the length of each side of the isosceles triangle if the perimeter is 91.

12b - 8

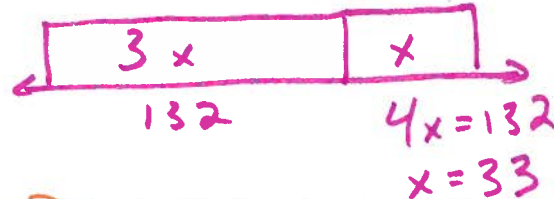9b + 8

12b - 8

$9b + 8 + 12b - 8 + 12b - 8 = 91$
$33b - 8 = 91$
$33b = 99$
$b = 3$

16. Use a bar diagram or write an equation to solve the problem.

A board is 132 inches long. It is cut into two pieces. One piece is three times the length of the other piece. Find the length of the shorter piece.

| 3x | x |

132

$4x = 132$
$x = 33$

17. Harrison subtracted 8 from a number, then multiplied the difference by 5. The result was 20. Write and solve an equation to find the number.

$5(x - 8) = 20$
$5x - 40 = 20$
$5x = 60$
$x = 12$

18. Write and solve an equation that is represented in the bar diagram.

| 2x | 2x | 25 |

49

$4x + 25 = 49$
$4x = 24$
$x = 6$

Mental Math: Solve each problem mentally and explain your reasoning.

19.

70% of 200 = _140_

10% is 20. 20 × 7 = 140

20.

$\frac{4}{5}$ of 100 = _80_

1/5 of 100 is 20. 20 × 4 = 80

Extra Practice: Reflex, Pearson: 2-1 Math XL practice, 2-1 lesson quiz