

Solution to Handout for Chapter 3 Form B.

1. Simplify the expression.  $-2(3x - 5)$

$$-2(3x - 5) = \boxed{-6x + 10}$$

2. Simplify the expression.  $-x + 6x$

$$-x + 6x = \boxed{5x}$$

3. Each school bus holds 33 children and 5 adults. Jackson High School has  $y$  buses. If each bus is filled to capacity, write an expression that represents the maximum number of students and adults that can attend an away football game.

The number of children in  $y$  buses is  $33y$

The number of adults in  $y$  buses is  $5y$

the maximum number of students and adults that can attend an away football game is

$$33y + 5y = \boxed{38y}$$

4. Evaluate the expression.  $5 + 3x$  for  $x = -4$

$$5 + 3 \cdot (-4) = 5 - 12 = \boxed{-7}$$

5. Evaluate the expression.  $\frac{x^2-4}{x}$  for  $x = -1$ .

$$\frac{(-1)^2-4}{-1} = \frac{1-4}{-1} = \frac{-3}{-1} = \boxed{3}$$

6. Translate the phrase to mathematical symbols.

The product of 8 and  $h$ .  $\boxed{8h}$

7. Simplify the expression.  $0 - (-12g)$

$$0 - (-12g) = \boxed{12g}$$

8. Solve the equation.  $4x - 5x = -6$

$$4x - 5x = -6$$

$$-x = -6$$

$$-x \cdot (-1) = -6 \cdot (-1)$$

$$\boxed{x = 6}$$

9. Simplify the expression.

$$\begin{aligned} & -3a + 8b - 5 - (-a) - 4b - 2 \\ & = -3a + 8b - 5 + a - 4b - 2 \\ & = \underbrace{-3a + a}_{-2a} + \underbrace{8b - 4b}_{4b} - 5 - 2 \\ & = \boxed{-2a + 4b - 7} \end{aligned}$$

10. Simplify the expression.  $-(6 - k)$

$$-(6 - k) = \boxed{-6 + k} = \boxed{k - 6}$$

11. Solve the equation.  $7(x - 6) = 0$

One Method

$$7(x - 6) = 0$$

$$7x - 42 = 0$$

$$7x = 42$$

Another method.

$$7(x - 6) = 0$$

$$\frac{7(x-6)}{7} = \frac{0}{7}$$

$$x - 6 = 0$$

$$\frac{7x}{7} = \frac{42}{7}$$

$$\boxed{x = 6}$$

$$x - 6 + 6 = 0 + 6$$

$$\boxed{x = 6}$$

12. Solve the equation.  $3(2x + 1) = -3$

One Method

$$3(2x + 1) = -3$$

$$6x + 3 = -3$$

$$6x + 3 - 3 = -3 - 3$$

$$6x = -6$$

$$\frac{6x}{6} = \frac{-6}{6}$$

$$\boxed{x = -1}$$

Another method.

$$3(2x + 1) = -3$$

$$\frac{3(2x+1)}{3} = \frac{-3}{3} = -1$$

$$2x + 1 = -1$$

$$2x + 1 - 1 = -1 - 1 = -2$$

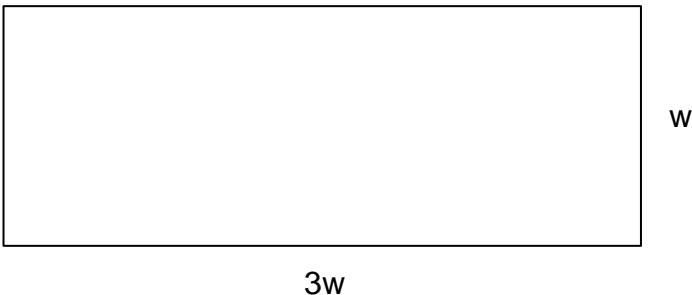
$$2x = -2$$

$$\boxed{x = -1}$$

13. Simplify the expression.  $2f - 4(f - 1)$

$$2f - 4(f - 1) = 2f - 4f + 4 = \boxed{-2f + 4}$$

14. Find the length and width of the rectangle with a perimeter of 48 meters.



The perimeter of a rectangle is  $2 \cdot \text{length} + 2 \cdot \text{width}$ , thus

$$2 \cdot 3w + 2 \cdot w = 48$$

$$6w + 2w = 48$$

$$8w = 48$$

$$\frac{8w}{8} = \frac{48}{8}$$

$$\boxed{w = 6 \text{ meters}} \quad \text{length} = 3w = 3 \cdot 6 = 18 \text{ meters}$$

The length of the rectangle is 18 meters and the width is 6 meters.

15. Simplify the expression.  $-2(6x - y - 8)$

$$-2(6x - y - 8) = \boxed{-12x + 2y + 16}$$

16. What is the value of  $p + 3$  hundred-dollar bills?

$$100(p + 3) = \boxed{100p + 300}$$

17. Combine the like terms if possible.  $3x + 2y$

There are no like terms.

$$18. \text{ Simplify the expression. } 0 + 8k = \boxed{8k}$$

19. Solve the equation.  $-25 = 5(x - 8)$

$$-25 = 5(x - 8)$$

$$-25 = 5x - 40$$

$$-25 + 40 = 5x - 40 + 40$$

$$15 = 5x$$

$$\frac{15}{5} = \frac{5x}{5}$$

$$3 = x \quad \boxed{x = 3}$$

20. Solve the equation.  $2x = 16 - (3x + 6)$

$$2x = 16 - 3x - 6$$

$$2x = 10 - 3x$$

$$2x + 3x = 10 - 3x + 3x$$

$$5x = 10$$

$$\frac{5x}{5} = \frac{10}{5}$$

$$\boxed{x = 2}$$

21. Translate the phrase to mathematical symbols. A store clerk earns  $d$  dollars an hour. How much money will the clerk earn in a thirty-hour-week?

$$\boxed{30d}$$

22. Simplify the expression.  $-y - y - y$

$$-y - y - y = \boxed{-3y}$$

23. What is the coefficient of the second term of the expression?

$$6y^3 - 5y^2 + 12y + 1$$

The coefficient of the second term of the expression is  $\boxed{-2}$

24. How many terms are in the expression  $6y^4 - 5y^2 - y + 2$ ?

There are 4 terms in the expression  $6y^4 - 5y^2 - y + 2$ . They are:

$$6y^4, \quad -5y^2, \quad -y, \quad 2$$

25. The attendance during the second game of the NBA finals was half as many as the first game. If 17,226 people attended the first game, how many fans attended the second game?

The number of fans attended the second game is half as many as the first game.

$$\text{That is } 17,226 \div 2 = \frac{17226}{2} = \boxed{8613}.$$