

## Chapter 3 - Equations - Mid-Chapter Quiz - Lessons 3-1 through 3-4

1. **MULTIPLE CHOICE** Lucita works at a fitness center and earns \$5.50 per hour. She worked 3 hours on Friday and 7 hours on Saturday. Which expression does NOT represent her wages that weekend?
- A  $5.50(3 + 7)$
  - B  $10(5.50)$
  - C  $5.50(3) + 5.50(7)$
  - D  $7(5.50 + 3)$

Expressions A, B, C are all equal by the Distributive Property; her total wages are \$55. Expression D is equal to 59.50.

The correct answer is D.

2. **FUND-RAISING** Debbie sold 23 teen magazines at \$3.25 each, 38 sports magazines at \$3.50 each, and 30 computer magazines at \$2.95 each. How much money did Debbie raise?

$$23(3.25) + 38(3.50) + 30(2.95)$$

$$= 74.75 + 133 + 32.95$$

$$= 296.25$$

She raised \$296.25.

**Simplify each expression.**

3.  $6(x + 2)$

$$6(x + 2) = 6x + 6 \cdot 2$$

$$= 6x + 12$$

4.  $5(x - 7)$

$$5(x - 7) = 5[x + (-7)]$$

$$= 5x + 5 \cdot (-7)$$

$$= 5x + (-35)$$

$$= 5x - 35$$

5.  $6y - 4 + y$

$$6y - 4 + y = 6y + (-4) + 1y$$

$$= 6y + 1y + (-4)$$

$$= (6 + 1)y + (-4)$$

$$= 7y + (-4)$$

$$= 7y - 4$$

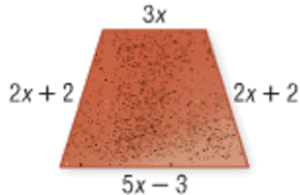
6.  $2a + 4(a - 9)$

$$\begin{aligned} 2a + 4(a - 9) &= 2a + 4[a + (-9)] \\ &= 2a + 4a + 4(-9) \\ &= (2 + 4)a + (-36) \\ &= 6a + (-36) \\ &= 6a - 36 \end{aligned}$$

7. **SCHOOL** You spent  $m$  minutes studying on Monday. On Tuesday, you studied 15 more minutes than you did on Monday. Write an expression in simplest form that represents the total amount of time spent studying on Monday and Tuesday.

$$\begin{aligned} m + (m + 15) &= 1m + 1m + 15 \\ &= (1 + 1)m + 15 \\ &= 2m + 15 \end{aligned}$$

8. **MULTIPLE CHOICE** A paving brick is shown. Find the perimeter of 5 bricks.



- F  $12x + 1$   
 G  $40x + 10$   
 H  $60x + 5$   
 J  $50x - 10$

Add the expressions for the four sides to find the perimeter of 1 brick.

$$\begin{aligned} 3x + (2x + 2) + (5x - 3) + (2x - 2) \\ &= (3 + 2 + 5 + 2)x + (2 - 3 - 2) \\ &= 12x + 1 \end{aligned}$$

Multiply by 5 to find the perimeter of 5 bricks.

$$5(12x + 1) = 60x + 5$$

The correct answer is H.

9. **AVIATION** On December 17, 1903, the Wright brothers made the first flights in a power-driven airplane. Orville's flight covered 120 feet, which was 732 feet shorter than Wilbur's. Find the length of Wilbur Wright's flight.

Add.

$$120 + 732 = 852$$

Wilbur's flight was 852 feet.

10. **WEATHER** Before a storm, the barometric pressure dropped to 29.2, which was 1.3 lower than the pressure earlier in the day. Write an equation to represent this situation.

Let  $b$  be the pressure earlier in the day.

$$b - 1.3 = 29.2$$

**ALGEBRA** Solve each equation.

11.  $4h = -52$

$$4h = -52$$

$$\frac{4h}{4} = \frac{-52}{4}$$

$$h = -13$$

12.  $y - 5 = -23$

$$y - 5 = -23$$

$$y - 5 + 5 = -23 + 5$$

$$y = -18$$

13.  $\frac{x}{-3} = 4$

$$\frac{x}{-3} = 4$$

$$3\left(\frac{x}{-3}\right) = 3(4)$$

$$-x = 12$$

$$x = -12$$

14.  $n + 16 = 44$

$$n + 16 = 44$$

$$n + 16 - 16 = 44 - 16$$

$$n = 28$$

15. **MULTIPLE CHOICE** The table shows the five nearest train stops to Main Street. Which equation will best help you find how much farther Peach Court is from Main Street than City Center is from Main Street?

Train Stop	Distance to Main Street (miles)
City Center	4
14th Street	6
Grand Hotel	7
Stadium	12
Peach Court	17

**A**  $x - 17 = 4$

**B**  $x + 17 = 4$

**C**  $x - 4 = 17$

**D**  $x + 4 = 17$

Peach Court is  $17 - 4 = 13$  miles farther from Main Street than City Center is.

Look for an equation with a solution of 13.

The correct answer is D.

16. **MONEY** Ricardo spends \$3.50 for lunch each day. Write and solve an equation to find how long it takes him to spend \$21 on lunch.

Multiply the amount he spends per day by the number of days  $x$ . Set this equal to 21.

$$3.50x = 21$$

$$\frac{3.50x}{3.50} = \frac{21}{3.50}$$

$$x = 6$$

It will take him 6 days.