

Name Key Period _____

Score: _____ / _____ =

HW 3-4: Writing Two-Step Equations

_____ % = _____

For each story problem, write an equation and then solve.

- 1. CONSTRUCTION** Carlos is building a screen door. The height of the door is 1 foot more than twice its width. What is the width of the door if it is 7 feet high?

Equation: $2x + 1 = 7$

Solve: $x = 3 \text{ feet}$

- 2. GEOMETRY** A rectangle has a width of 6 inches and a perimeter of 26 inches. What is the length of the rectangle?

Equation: _____

Solve: _____

- 3. EXERCISE** Ella swims four times a week at her club's pool. She swims the same number of laps on Monday, Wednesday, and Friday, and 15 laps on Saturday. She swims a total of 51 laps each week. How many laps does she swim on Monday?

Equation: $3x + 15 = 51$

Solve: $x = 12 \text{ laps}$

- 4. SHOPPING** While at the music store, Drew bought 5 CDs, all at the same price. The tax on his purchase was \$6, and the total was \$61. What was the price of each CD?

Equation: _____

Solve: _____

- 5. STUDYING** Over the weekend, Koko spent 2 hours on an assignment, and she spent equal amounts of time studying for 4 exams for a total of 16 hours. How much time did she spend studying for each exam?

Equation: $2 + 4x = 16$

Solve: $x = 3.5 \text{ hours}$

- 6. FOOD** At the market, Meyer buys a bunch of bananas for \$0.65 per pound and a frozen pizza for \$4.99. The total for his purchase was \$6.94, without tax. How many pounds of bananas did Meyer buy?

Equation: _____

Solve: _____

- 7. HOME IMPROVEMENT** Laura is making a patio in her backyard using paving stones. She buys 44 paving stones and a flowerpot worth \$7 for a total of \$73. How much did each paving stone cost?

Equation: $44x + 7 = 73$

Solve: $x = \$1.50$

- 8. TAXI** A taxi service charges you \$1.50 plus \$0.60 per minute for a trip to the airport. The distance to the airport is 10 miles, and the total charge is \$13.50. How many minutes did the ride to the airport take?

Equation: _____

Solve: _____

9) FUND-RAISING

The school puppet club needs \$400 for new puppets. With only \$250 in their account, they decide to raise the rest by selling candy bars for a profit of \$0.50 per bar. How many candy bars will they need to sell?

Equation: $0.50x + 250 = 400$

Solve: $x = 300$ candy bars

10) DINING

You and your friend's lunch totaled \$16. Your lunch cost \$2 more than your friend's. How much was your friend's lunch?

Equation: _____

Solve: _____

11) FINANCIAL LITERACY

The cost for a certain music plan is \$9.99 per year plus \$0.25 per song you download. If you paid \$113.74 one year, find the number of songs you downloaded.

Equation: $0.25x + 9.99 = 113.74$

Solve: $x = 415$ songs

Write an equation for each.

12. One less than four times a number is 11.

$$4x - 1 = 11$$

18. The quotient of a number and 2, minus eight is 10.

$$\frac{x}{2} - 8 = 10$$

13. Nine more than three times a number is -6.

19. Nine more than the quotient of a number and 4 is 12.

14. Six less than six times a number is 12.

$$6x - 6 = 12$$

20. Four less than the quotient of a number and 3 is -10.

$$\frac{x}{3} - 4 = -10$$

15. Five less than the quotient of a number and 3 is 4

21. The difference between 5 times a number and 3 is 12.

16. Seven increased by twice a number is 1.

$$7 + 2x = 1$$

22. Three less than the sum of a number and 6 is 1.

$$(x + 6) - 3 = 1$$

17. Fifty less six times a number is -15.

23. Eight more than the difference of a number and 5 is 3.

MULTIPLE CHOICE: Choose the equation that best fits each situation.

24) For a membership to an athletic club, it cost \$150 to join and \$28 per month of membership. Write an equation to figure out how many months it will be before the total cost is \$290.

- A) $150 + 28m = 290$ B) $150 = 290 + 28m$ C) $28 + 290m = 150$ D) $290 = 150m + 28$

25) Translate the following sentence into an equation. Two less than nine times a number is -2.

- A) $2 - 9n = -2$ B) $-9n - 2 = -2$ C) $9n - 2 = -2$ D) $9n + 2 = -2$

26) Translate the following sentence into an equation. 10 less than the quotient of a number and -2 is -18.

- A) $\frac{n}{-2} = -18 - 10$ B) $10 - \frac{n}{-2} = -18$ C) $\frac{n}{-2} - 18 = -10$ D) $\frac{n}{-2} - 10 = -18$

27) Translate the following sentence into an equation. Nine is the sum of 1 and two times a number.

- A) $1 = 9 + 2n$ B) $9 = 1 + 2n$ C) $9 = 1(2n)$ D) $9 = 2 + n$

28) Translate the following sentence into an equation. Then solve to find the number. Seven added to two times a number, equals -3.

- A) $7 + 2n = -3; -5$ B) $7 = -3 + 2n; -5$ C) $7 = -3 + 2n; 5$ D) $7 + 2n = -3; 5$