

Name: \_\_\_\_\_

Secondary Math 1 Unit 1.2

Key 34 points

**Solving Multi-Step Equations****Solve each equation.**

1.  $19 - h - h = -13$        $h = 16$

2.  $25 = 7 + 3k - 12$        $k = 10$

3.  $5n - 16 - 8n = -10$        $n = -2$

4.  $x - 1 + 5x = 23$        $x = 4$

5.  $42j + 18 - 19j = -28$        $j = -2$

6.  $-28 + 15 - 22z = 31$        $z = -2$

7.  $6(3m + 5) = 66$        $m = 2$

8.  $-5(x - 3) = -25$        $x = 8$

9.  $42 = 3(2 - 3h)$        $h = -4$

10.  $3p - 4 = 31$        $p = \frac{35}{3}$

11.  $-3 = -3(2t - 1)$        $t = 1$

12.  $-15 = 5(3q - 10) - 5q$        $q = \frac{7}{2}$

13.  $\frac{a}{7} + \frac{5}{7} = \frac{2}{7}$        $a = -3$

14.  $\frac{j}{6} - 9 = \frac{5}{6}$        $j = 59$

15.  $\frac{x}{3} - \frac{1}{2} = \frac{3}{4}$        $x = \frac{15}{4}$

16.  $\frac{b}{9} - \frac{1}{2} = \frac{5}{18}$        $b = 7$

17.  $0.52y + 2.5 = 5.1$        $y = 5$

18.  $2.45 - 3.1t = 21.05$        $t = -6$

19.  $-4.2 = 9.1x + 23.1$        $x = -3$

20.  $14.2 = -6.8 + 4.2d$        $d = 5$

21.  $x - 2(x + 10) = 12$        $x = -32$

22.  $-10 = 5(2w - 4)$        $w = 1$

23. Show two different ways to solve  $-10 = \frac{1}{4}(8y - 12)$

$$-10 = \frac{1}{4}(8y - 12)$$

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$$\left(\frac{4}{1}\right)(-10) = \left(\frac{4}{1}\right)\left(\frac{1}{4}\right)(8y - 12)$$

$$-10 = 2y - 3$$

$$-40 = 8y - 12$$

$$-10 + 3 = 2y - 3 + 3$$

$$-40 + 12 = 8y - 12 + 12$$

$$-7 = 2y$$

$$-28 = 8y$$

$$\frac{-7}{2} = \frac{2y}{2}$$

$$\frac{-28}{8} = \frac{8y}{8}$$

$$-\frac{7}{2} = y$$

$$-\frac{7}{2} = y$$

## Secondary Math 1 Unit 1.2 continued

Write an equation to model each situation. Solve each equation.

24. General admission tickets to the fair cost \$3.50 per person. Ride passes cost an additional \$5.50 per person. Parking cost \$6.00 for the family. The total cost for ride passes and parking was \$51.00. How many people in the family attended the fair?

$$\text{\$3.50 per person} + \text{\$5.50 per person} + \text{parking cost} = \text{\$51.00 total cost}$$

$$p = \text{person}$$

$$3.5p + 5.5p + 6 = 51$$

$$p = 5$$

There were 5 people who attended the fair.

25. Janis and Robert are shopping for new guitar string at the mall. Janis buys 3 packs of strings. Robert buys 2 packs of strings and a set of picks. The set of picks cost \$15. The total cost is \$ 40.

$$3 \text{ cost of packs of string} + 2 \text{ cost of packs of string} + \text{cost of picks} = \text{\$40 total cost}$$

$$s = \text{packs of strings}$$

$$3s + 2s + 15 = 40$$

$$s = 5$$

The cost of a pack of string is \$5.00.

26. Jim and Roberta are shopping for games at the mall. Jim buys 3 games. Roberta buys 4 games and a set of directions on playing the game better. The set of rules cost \$12. The total cost is \$ 112. What is the average cost of each game?

$$3 \text{ cost of games} + 4 \text{ games} + \text{cost of rules} = \$112$$

$$g = \text{cost of games}$$

$$3g + 4g + 12 = 112$$

$$g = \text{about } 14.28571429 \dots$$

The average cost per game is about \$14.29.

27. George has a part-time job. He works for 5 hours on Friday and 7 hours on Saturday. He also receives his \$50 per week allowance. He earns \$146 per week. How much did he earn per hour at the part-time job?

$$5 \text{ hours} \times \text{rate per hour} + 7 \text{ hours} \times \text{rate per hour} + \text{weekly allowance} = \$146$$

$$E = \text{earnings per hour}$$

$$5E + 7E + 50 = 146$$

$$E = 8$$

George earns \$8.00 per hour.

28. Angela ate at the same restaurant four times. Each time she ordered a salad and left a \$5 tip. She spent a total of \$54. What was the cost of each salad?

$$4 \times (\text{cost of salad} + \$5 \text{ tip}) = \$54$$

$$s = \text{cost of salad}$$

$$4(s + 5) = 54$$

$$s = 8.5$$

The salad cost \$8.50.