

Lesson
8.1**Review & Refresh**

1. A bonsai tree is 80 millimeters tall. Then the tree grows 12 millimeters per year.
 - a. What is the expression that represents the height of the tree after t years?
 - b. How tall is the tree after 6 years?
2. A group wants to raise \$2500 for charity. They raised d dollars from an event. The group still needs to raise \$950. Write an equation you can use to find dollars raised at the event.

Factor the expressions using the GCF.

3. $24 + 8$
4. $32 - 18$
5. $4x + 12$
6. $50y - 15$

Write the word sentence as an equation.

7. The sum of a 6 and a number a is -12 .
8. 27 equals 3 times a number b .
9. The quotient of a number f and -8 is 4.
10. A number d minus 10 is 14.
11. The profit of a nut mix is $8 - x$ dollars. The profit of fruit slices is $6 - y$ dollars. The variables represent the cost.
 - a. Write an expression to represent the profit of 50 nut mixes and 50 fruit slices.
 - b. What is the profit if the cost for both items is \$3?
 - c. What is the profit if the cost for the nut mix is \$4 and the fruit slices is \$2?

Lesson8.1

Review & Refresh (continued)

Write the phrase as an expression.

12. the quotient of a number f and 20
13. the difference of -8 and a number g
14. You buy 16 books for a total of $(16x - 80)$ dollars. The original price is x dollars and you received a discount for each book.

a. Factor the expression.

b. What is the amount of the discount?
15. Your family has traveled 34 miles so far on a trip. This is one-fourth of the total distance of the trip. Write an equation you can use to find the total distance d of the trip.

Simplify the expression.

16. $5(3 + 2k - 4)$
17. $4 - 2(x + 5)$
18. $8y - 6y - 7y$

Lesson8.1

Self-Assessment

Use the scale to rate your understanding of the learning target and the success criteria.

- 1I don't understand yet.
- 2I can do it with help.
- 3I can do it on my own.
- 4I can teach someone else.

	Rating	Date
8.1 Writing Equations in One Variable		
Learning Target: Write equations in one variable and write equation that represent real-life problems.	1234	
I can identify key words and phrases that indicate equality.	1234	
I can write word sentences as equations.	1234	
I can create equations to represent real-life problems.	1234	

Lesson
8.2**Review & Refresh**

1. There are 384 students on a field trip. The students are divided into 12 buses. Solve the equation $384 \div s = 12$ to find the number of students in the bus.
2. A basketball team scored 24 points in the last quarter of the game. The team scored 92 points for the game. Write an equation you can use to find the points p scored in the other 3 quarters.

Simplify the expression.

3. $7(6 - 5g)$
4. $-5(d - 2)$
5. $8(a + b + 2)$
6. $2 + 4y + 3y - 10$
7. $-6 - 3(n - 4)$
8. $2(a - b) - 2(b - a)$

Tell whether the given value is a solution to the equation.

9. $2f + 3f = 40; f = 8$
10. $a + 38 = 74; a = 36$
11. $6g = g - 24; g = 4$

12. You sell tins of popcorn for a charity fundraiser. The selling price of each tin is more than the original price of x dollars. The extra money goes to charity. You have collected $(24x + 96)$ dollars for the tins sold.

a. Factor the expression.

b. How much money goes to charity for each tin sold?

Factor the expression using the GCF.

13. $28 + 49$
14. $45 - 9$
15. $36 + 16x$
16. $72 - 48y$

Lesson**8.2****Review & Refresh** (continued)

Solve the equation. Explain your method.

17. $a + 8 = 16$

18. $f - 13 = 20$

19. $4k = -48$

20. $-8.4 = \frac{r}{2}$

21. $28 - g = -17$

22. $-3.6 = -0.6j$

23. There were 50 bags of dog food at a store. After 1 week, there were 16 bags left. Write and solve an equation to find the number of bags sold.

24. An employee makes \$11.20 per hour and makes \$84 in one day. Solve the equation $11.20h = 84$ to find the number of hours worked.

Lesson**8.2****Self-Assessment**

Use the scale to rate your understanding of the learning target and the success criteria.

- 1** I don't understand yet.
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	Rating	Date
8.2 Finding Unknown Values in Equations		
Learning Target: Find unknown values in equations.	1 2 3 4	
I can determine whether a value is a solution of an equation.	1 2 3 4	
I can use mental math to solve equations.	1 2 3 4	
I can use models to solve equations.	1 2 3 4	

Lesson
8.3**Review & Refresh**

Write the sentence as an equation. Then solve the equation.

1. 20 subtracted from x equals 16. 2. The sum of x and 35 is 27.

Factor the expressions using the GCF.

3. $90c - 25d$ 4. $68c + 8d$ 5. $49c - 56d$ 6. $48c + 88d$

Write the word sentence as an equation.

7. -6 is three-fourths of a number y . 8. 10 more than a number z equals -20 .
9. You withdrew \$50 from your bank account. You now have \$305 left in the account. Write and solve an equation to find the original amount in the account.
10. You have $2\frac{1}{3}$ cups of flour. After a recipe, you have $\frac{2}{3}$ cups of flour left.
Solve the equation $2\frac{1}{3} - x = \frac{2}{3}$ where x represents the number of cups used.
11. A regular pentagon has a side length of x centimeters. The perimeter is 30 centimeters. Write an equation to find the side length.

Solve the equation. Explain your method.

12. $\frac{1}{5}s = 20$ 13. $-4\frac{2}{3} = h - 2\frac{1}{3}$
14. $-6.4 = 8.7 + d$ 15. $1.8l = 10.8$

Lesson**8.3****Review & Refresh** (continued)

Solve the equation.

16. $a + 4 = 12$

17. $h - 5 = 21$

18. $f + 18 = -3$

19. $-16 = c + 20$

20. $-13 = k - 24$

21. $9 = -10 + l$

Tell whether the given value is a solution to the equation.

22. $b - 16 = 45; b = 29$

23. $21 = 3c; c = 7$

24. $\frac{h}{2} = h - 1; h = 2$

25. You ride your bike 3.4 miles. You need to ride your bike a total of 7.2 miles to your friend's house. Solve the equation $d + 3.4 = 7.2$ to find the d miles you still need to ride your friend's house.

Lesson**8.3****Self-Assessment**

Use the scale to rate your understanding of the learning target and the success criteria.

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	Rating	Date
8.3 Solving Equations Using Addition or Subtraction		
Learning Target: Write and solve equations using addition or subtraction.	1 2 3 4	
I can apply the Addition and Subtraction Properties of Equality to generate equivalent equations.	1 2 3 4	
I can solve equations using addition or subtraction.	1 2 3 4	
I can create equations involving addition or subtraction to solve real-life problems.	1 2 3 4	

Lesson
8.4**Review & Refresh**

Solve the equation.

1. $6 = \frac{b}{-6}$

2. $16 + b = 38$

3. $-4 = \frac{d}{10}$

4. $-8 + j = -14$

5. $\frac{c}{-7} = -8$

6. $m - 5 = 32$

7. $-12g = 144$

8. $14 = 38 + d$

9. $10j = 120$

10. $9 = -10 + l$

11. $-6h = -72$

12. $-18 = n - 20$

13. You receive \$40 in change when you pay with a \$100 bill. Write and solve an equation to find the cost of the purchase.

14. Each ride at a carnival is \$2.50. You spend \$20. Solve the equation $2.50r = 20$ to find the number of rides you went on.

15. A family drives 47 miles, and they have 168 miles left. Write and solve an equation to find the total number miles of the trip.

16. The area of a rectangular screen is 252 square inches. The length is 14 inches. Write and solve an equation to find the width.

Lesson**8.4****Review & Refresh** (continued)**Write the word sentence as an equation.**

17. 14 less than a number y equals 2.

18. A number j increased by 8 equals 25.

Solve the equation. Explain your method.

19. $\frac{7}{8} = c + \frac{3}{4}$

20. $-9.3 = j - 7.1$

21. $9 = -45m$

22. $\frac{3.3}{t} = -0.1$

Write the word sentence as an equation. Then solve the equation.

23. y minus 9 is -28 .

24. -49 equals the sum of x and 30.

Lesson**8.4****Self-Assessment****Use the scale to rate your understanding of the learning target and the success criteria.**

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	Rating	Date
8.4 Solving Equations Using Multiplication or Division		
Learning Target: Write and solve equations using multiplication or division.	1 2 3 4	
I can apply the Multiplication and Division Properties of Equality to generate equivalent equations.	1 2 3 4	
I can solve equations using multiplication or division.	1 2 3 4	
I can create equations involving multiplication or division to solve real-life problems.	1 2 3 4	