

**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?

**Lesson 8.1 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.  $8y - 6y - 7y$

**Lesson 8.1 Self-Assessment**

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

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

	Rating	Date
<b>8.1 Writing Equations in One Variable</b>		
<b>Learning Target:</b> Write equations in one variable and write equation that represent real-life problems.	1 2 3 4	
I can identify key words and phrases that indicate equality.	1 2 3 4	
I can write word sentences as equations.	1 2 3 4	
I can create equations to represent real-life problems.	1 2 3 4	

**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.

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	Rating	Date
<b>8.2 Finding Unknown Values in Equations</b>		
<b>Learning Target:</b> 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 (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.

1 I don't understand yet.

2 I can do it with help.

3 I can do it on my own.

4 I can teach someone else.

	Rating	Date
<b>8.3 Solving Equations Using Addition or Subtraction</b>		
<b>Learning Target:</b> 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.

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

	Rating	Date
<b>8.4 Solving Equations Using Multiplication or Division</b>		
<b>Learning Target:</b> 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	