

## Chapter 3 review

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### Lesson 3-1

- To check for divisibility using mental math and to use divisibility to solve problems

You can use divisibility rules to solve problems.

**Test each number for divisibility by 2, 3, 5, 9, and 10.**

4. 207  
3 and 9

5. 585  
3, 5, and 9

6. 756  
2, 3, and 9

7. 3,330  
2, 3, 5, 9, and 10

### Lessons 3-2 and 3-3

- To use exponents and to simplify expressions with exponents
- To factor numbers and to find the prime factorization of numbers

You can use an **exponent** to show how many times a number, or **base**, is used as a factor. A number expressed using an exponent is called a **power**.

**Simplify each expression.**

8.  $3^2 + 2^3$  17

9.  $(15 - 1) - 3^2$  5

A **prime number** has exactly two factors, 1 and the number itself. A **composite number** has more than two factors. Writing a composite number as a product of prime numbers gives the **prime factorization** of the number.

**Find the prime factorization of each number.**

10. 28  $2^2 \times 7$

11. 51  $3 \times 17$

12. 100  $2^2 \times 5^2$

13. 250  $2 \times 5^3$

#### Lesson 3-4

- To find the GCF of two or more numbers

The **greatest common factor (GCF)** of two or more numbers is the greatest factor shared by all the numbers.

**Find the GCF of each set of numbers.**

14. 18, 28  
 $2$

15. 12, 62  
 $2$

16. 25, 35  
 $5$

17. 16, 40  
 $8$

### Lesson 3-5

- To find the LCM of two or more numbers

A number that is a multiple of each of two or more numbers is a **common multiple**. The **least common multiple (LCM)** of two or more numbers is the least multiple that is common to all the numbers.

**Find the LCM of each set of numbers.**

18. 12, 22  
132

19. 10, 20, 35  
140

### Lessons 3-6 and 3-7

- To use the Distributive Property to simplify expressions in problem solving situations
- To simplify algebraic expressions

The **Distributive Property** states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products. Using the Distributive Property in reverse is called factoring. You can simplify expressions by using properties of operations to combine like terms. The simplified expressions are equivalent to the original expressions. **Equivalent expressions** name the same number when any value is substituted for the variable.

**Use the Distributive Property to write an equivalent expression for each expression.**

20.  $2(x - 3y + 7)$   
 $2x - 6y + 14$

21.  $5(2x + 6)$   
 $10x + 30$

22.  $7(4 + 2n)$   
 $28 + 14n$

23.  $8(3x + 2y - 8)$   
 $24x + 16y - 64$

**Factor each expression. Check your solution.**

24.  $8 + 22$   
 $2(4 + 11)$

25.  $100 + 50$   
 $50(2 + 1)$

26.  $18x + 63$   
 $9(2x + 7)$

27.  $56n + 48$   
 $8(7n + 6)$

**Find an equivalent expression for each expression by simplifying.**

28.  $5x + 6x - 4x$   
 $7x$

29.  $8c - 6c + 7c$   
 $9c$

30.  $5b + 3c + 16b - c$   
 $21b + 2c$

31.  $k - 3 + 10k$   
 $11k - 3$

32.  $10 - 6t + 7$   
 $17 - 6t$

33.  $4f + 2g - 3f + g - 3 + 9g$   
 $f + 12g - 3$