



Name \_\_\_\_\_ Date \_\_\_\_\_

## Least Common Multiple (Pages 257–259)

A **multiple** of a number is the product of that number and any whole number.

<b>Finding the Least Common Multiple (LCM)</b>	<p>The <b>least common multiple (LCM)</b> of two or more numbers is the least of the nonzero multiples that the numbers share.</p> <p>The LCM is the least number that each of the numbers will divide evenly.</p> <p>The LCM contains each prime factor the greatest number of times that it appears for any one number in the set.</p>
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### EXAMPLES

**A** Find the LCM of 12 and 15.

*You are looking for a number that 12 and 15 both divide evenly. List their multiples.*

*12: 0, 12, 24, 36, 48, 60, 72, 84, and so on.*

*15: 0, 15, 30, 45, 60, 75, 90, and so on.*

*The least nonzero multiple that they share is 60.*

*The LCM of 12 and 15 is 60.*

**B** Find the LCM of 16, 20 and 32.

*Find the prime factorization for each number.*

$$16 = 2 \cdot 2 \cdot 2 \cdot 2$$

$$20 = 2 \cdot 2 \cdot 5$$

$$32 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$$

*Use each factor the most times it appears in any one of the numbers. The factor 2 appears 5 times in 32. The factor 5 appears once in 20. The LCM of 16, 20, and 32 is  $2^5 \cdot 5$  or 160.*

### Try These Together

1. List the first six multiples of 3.

*HINT: Find  $3 \cdot 0$ ,  $3 \cdot 1$ ,  $3 \cdot 2$ , and so on.*

2. List the first six multiples of 10.

*HINT: Multiply 10 by 0, 1, 2, and so on.*

### PRACTICE

**List the first six multiples of each number.**

3. 21

4. 13

5. 7

6. 18

7. 40

8. 25

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

9. 2, 3

10. 6, 8

11. 8, 10

12. 12, 24

13. 6, 9

14. 5, 6, 12

15. 2, 8, 11

16. 3, 60, 90

**17. Transportation** A flight to Dallas leaves every 3 hours and a flight to Cincinnati leaves every 9 hours from the airport. If both flights left at 7:00 A.M., when will be the next time both flights leave the airport together?



**18. Standardized Test Practice** Maria's dog, Buster, goes to the dog salon to be groomed every 2 weeks. Naomi brings her dog, Mikka, in every 5 weeks. If they were there on the same day, how many weeks will it be before they are there on the same day again?

**A** 10

**B** 20

**C** 30

**D** 40

**Answers:** 1. 0, 3, 6, 9, 12, 15 2. 0, 10, 20, 30, 40, 50 3. 0, 21, 42, 63, 84, 105 4. 0, 13, 26, 39, 52, 65 5. 0, 7, 14, 21, 28, 35 6. 0, 18, 36, 54, 72, 90 7. 0, 40, 80, 120, 160, 200 8. 0, 25, 50, 75, 100, 125 9. 6 10. 6 11. 40 12. 24 13. 18 14. 60 15. 88 16. 180 17. 4:00 P.M. 18. A