Name _____ Date _____ Class _____

SKILL 7: Least Common Multiple

The **least common multiple (LCM)** of two or more whole numbers is the smallest number that is a common multiple of the given numbers.

Example 1

Find the least common multiple (LCM) of 6 and 8.

List the first several multiples of each number.

Multiples of 6: 6, 12, 18, (24), 30, 36, 42, (48)

Multiples of 8: 8, 16, (24), 32, 40, (48), 56

common multiples

The least common multiple (LCM) of 6 and 8 is 24.

Example 2

Find the least common multiple of 15 and 30.

When one number is a multiple of the other, the larger number is the least common multiple.

30 is 2 × 15, so 30 is a multiple of 15. The least common multiple of 15 and 30 is 30.

Example 3

Find the least common multiple of 30 and 21 by using prime factorization.

Write the prime factors of each number. Circle pairs of common factors as you did to find GCF.

$30 = 2 \times (3) \times 5$

$21 = (3) \times 7$

To find the LCM, multiply one number by the uncircled factors of the other number.

The LCM of 30 and 21 = $30 \times 7 = 210$.

Guided Practice

1. Find the least common multiple of 12 and 16.
   - **a.** List the first six multiples of 12: _____
   - **b.** List the first six multiples of 16: _____
   - **c.** LCM: _____
2. Find the least common multiple of 24 and 48.
   - **a.** Is 48 a multiple of 24? _____ **b.** LCM: _____
3. Find the least common multiple of 6 and 11.
   - **a.** Do 6 and 11 have a common factor? _____ **b.** LCM: _____

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SKILL 7: Practice

Find the LCM of each pair of numbers by listing multiples of each number.

1. 3: _____

2: _____

LCM: _____

2. 3: _____

4: _____

LCM: _____

3. 5: _____

4: _____

LCM: _____

4. 2: _____

8: _____

LCM: _____

Find the LCM of each pair.

5. 6, 5 _____

6. 3, 21 _____

7. 9, 5 _____

8. 17, 3 _____

9. 6, 23 _____

10. 21, 7 _____

11. 6, 28 _____

12. 14, 18 _____

13. 23, 2 _____

14. 11, 33 _____

15. 6, 10 _____

16. 36, 45 _____

17. 31, 5 _____

18. 10, 14 _____

19. 22, 4 _____

20. 20, 30 _____

21. 29, 3 _____

22. 16, 18 _____

23. 12, 18 _____

24. 20, 25 _____

25. 15, 40 _____

Solve.

26. Hot dogs come 8 to a package. Buns come 6 to a package. What is the fewest number of packages of each you would have to buy so that you have exactly as many hot dogs as buns?

_____ packages of hot dogs; _____ packages of buns

27. Which is the LCM of 15 and 24?
Skill 7

A 3 **C** 9
B 120 **D** 360

28. Which is the GCF of 24 and 40?
Skill 6

F 960 **H** 8
G 120 **J** 4