4.R.3 Exercises

Concept Check

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. The LCM of 15 and 25 is 50.

2. The first five multiples of 9 are 9, 18, 27, 36, and 45.

3. The first five multiples of 4 are 4, 8, 12, 20, and 24.

4. When given larger numbers, the most efficient way to find the LCM is to use the prime factorization method.

Practice

Find the LCM of each set of numbers.

5. 6, 10

6. 3, 4, 8

7. For 14, 35, and 49, **a.** find the LCM and **b.** state how many times each number divides into the LCM.

For each equation, find the missing numerator that will make the fractions equivalent.

8. $\frac{5}{8} = \frac{?}{24}$

9. $\frac{5}{12} = \frac{?}{108}$

Applications

Solve.

10. ***Security:*** Three security guards meet at the front gate for coffee before they walk around inspecting buildings at a manufacturing plant. The guards take 15, 20, and 30 minutes, respectively, for the inspection trip.

a. If they start at the same time, in how many minutes will they meet again at the front gate for coffee?

b. How many trips will each guard have made?

11. ***Fruit:*** A fruit production company has three packaging facilities, each of which uses different-sized boxes as follows: 24 pieces/box, 36 pieces/box, and 45 pieces/box.

a. Assuming that the truck provides the same quantity of uniformly-sized pieces of fruit to all three packaging facilities, what is the minimum number of pieces of fruit that will be delivered so that no fruit will be left over?

b. How many boxes will each facility package?

Writing & Thinking

12. Explain, in your own words, why each number in a set divides evenly into the LCM of that set of numbers.

13. Explain why simply multiplying two numbers together will not necessarily find the LCM of those numbers. Give an example of when it would find the LCM and an example when it would not.