4.R.4 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 final step in adding fractions is to reduce, if possible.

2. The process for finding the LCD is the same as the process for finding the LCM.

3. LCD represents the Least Common Digit.

4. When subtracting fractions, simply subtract the numerators and the denominators.

5. Subtraction of fractions requires that the fractions have the same denominators.

Practice

Add and reduce to lowest terms.

6. $\frac{3}{25}+\frac{12}{25}$

7. $\frac{2}{7}+\frac{4}{21}+\frac{1}{3}$

Subtract and reduce to lowest terms.

8. $\frac{7}{8}-\frac{5}{8}$

9. $\frac{9}{14}-\frac{2}{21}$

10. $2-\frac{9}{16}$

Applications

Solve.

11. ***Postage:*** Three pieces of mail weigh $\frac{1}{2}$ ounce, $\frac{1}{5}$ ounce, and $\frac{3}{10}$ ounce. What is the total weight of the letters?

12. ***Cooking:*** A recipe calls for the following spices: $\frac{1}{2}$ teaspoon of turmeric, $\frac{1}{4}$ teaspoon of ginger, and $\frac{1}{8}$ teaspoon of cumin. What is the total quantity of these three spices?

13. ***Botany:*** The local arbor society is giving out free trees to the public. They have 200 pine trees, 100 dogwoods, 125 oaks, and 200 birch trees. If you are the first in line to receive your free tree and you cannot choose what type of tree you are given, what is the probability that you randomly get either an oak or a dogwood?

14. ***Travel:*** A flight attendant for USA Airlines is given an assignment that is randomly chosen from the list of available flights: 3 out of 10 flights are to European destinations, 1 out of 5 flights are to Caribbean destinations, 8 out of 100 flights are to South American destinations, 5 out of 150 flights are to Asian destinations, and the remaining ones are to destinations in the continental United States. What is the probability that his next assignment takes him either to Europe or Asia?

15. ***Probability:*** Ana is looking forward to starting high school. Of the 192 homeroom teachers at the school, $\frac{1}{4}$ are new this year, $\frac{1}{8}$ are bilingual, and $\frac{1}{12}$ are both new and bilingual. If class rosters are generated at random, what is the probability that Ana's teacher is either new or bilingual?

Writing & Thinking

16. Explain how finding the LCM relates to the LCD.

17. Give an example of a situation where you might add or subtract fractions (other than in class).