

# Adding Fractions with Unlike Denominators

Grade 5 Math • Section 4.2

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 17

## Quick Review and Helpful Hints

**Steps:** (1) Find the LCD. (2) Rewrite fractions with the LCD. (3) Add the numerators; keep the common denominator. (4) Simplify if possible.

**Lightbulb:**  $\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$  (only add numerators when denominators match).

**Warning:** Do **not** add the denominators!

**Example:** Add  $\frac{3}{4} + \frac{2}{5}$ .

**Lightbulb:** LCD of 4 and 5 is 20.  $\frac{3}{4} = \frac{15}{20}$  and  $\frac{2}{5} = \frac{8}{20}$ .  $\frac{15}{20} + \frac{8}{20} = \frac{23}{20} = 1\frac{3}{20}$ .

**Lightbulb:** Answer:  $1\frac{3}{20}$

## Practice Problems

Add. Write your answer in simplest form.

1.  $\frac{1}{3} + \frac{1}{4} =$  \_\_\_\_\_

6.  $\frac{3}{10} + \frac{2}{5} =$  \_\_\_\_\_

11.  $\frac{5}{6} + \frac{2}{9} =$  \_\_\_\_\_

2.  $\frac{2}{5} + \frac{1}{3} =$  \_\_\_\_\_

7.  $\frac{7}{12} + \frac{1}{6} =$  \_\_\_\_\_

12.  $\frac{3}{4} + \frac{5}{12} =$  \_\_\_\_\_

3.  $\frac{3}{8} + \frac{1}{4} =$  \_\_\_\_\_

8.  $\frac{1}{2} + \frac{3}{8} =$  \_\_\_\_\_

13.  $\frac{1}{6} + \frac{4}{9} =$  \_\_\_\_\_

4.  $\frac{5}{6} + \frac{1}{4} =$  \_\_\_\_\_

9.  $\frac{4}{5} + \frac{1}{3} =$  \_\_\_\_\_

14.  $\frac{5}{8} + \frac{3}{10} =$  \_\_\_\_\_

5.  $\frac{2}{9} + \frac{1}{3} =$  \_\_\_\_\_

10.  $\frac{2}{7} + \frac{3}{14} =$  \_\_\_\_\_

15.  $\frac{7}{10} + \frac{3}{4} =$  \_\_\_\_\_

## Word Problems

16. Emma drinks  $\frac{1}{3}$  of a liter of water in the morning and  $\frac{2}{5}$  of a liter in the afternoon. How much water did she drink in all?

\_\_\_\_\_

17. A carpenter uses  $\frac{5}{8}$  of a board for one shelf and  $\frac{1}{4}$  of a board for another. How much of a board did he use altogether?

\_\_\_\_\_



## Answer Keys

1.  $\frac{7}{12}$

2.  $\frac{11}{15}$

3.  $\frac{5}{8}$

4.  $1\frac{1}{12}$

5.  $\frac{5}{9}$

6.  $\frac{7}{10}$

7.  $\frac{3}{4}$

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

9.  $1\frac{2}{15}$

10.  $\frac{1}{2}$

11.  $1\frac{1}{18}$

12.  $1\frac{1}{6}$

13.  $\frac{11}{18}$

14.  $\frac{37}{40}$

15.  $1\frac{9}{20}$

16.  $\frac{11}{15}$

17.  $\frac{7}{8}$

### Step-by-Step Explanations

1. Start with the main idea. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{7}{12}$ . Fractions are easier to combine when the pieces are the same size.

2. Keep the work tidy. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{11}{15}$ . Always simplify at the end so the answer is clean and useful.

3. Look at what the numbers mean. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{5}{8}$ . For mixed numbers, converting to improper fractions can make the arithmetic calmer.

4. Use the setup first. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $1\frac{1}{12}$ . Fractions are easier to combine when the pieces are the same size.

5. Check the size of the answer. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{5}{9}$ . Always simplify at the end so the answer is clean and useful.

6. Match the operation to the words. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{7}{10}$ . For mixed numbers, converting to improper fractions can make the arithmetic calmer.

7. Write the important values first. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{3}{4}$ . Fractions are easier to combine when the pieces are the same size.

8. Follow the pattern carefully. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{7}{8}$ . Always simplify at the end so the answer is clean and useful.

9. Start with the main idea. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $1\frac{2}{15}$ .

For mixed numbers, converting to improper fractions can make the arithmetic calmer.

10. Keep the work tidy. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{1}{2}$ . Fractions are easier to combine when the pieces are the same size.

11. Look at what the numbers mean. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $1\frac{1}{18}$ . Always simplify at the end so the answer is clean and useful.

12. Use the setup first. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $1\frac{1}{6}$ . For mixed numbers, converting to improper fractions can make the arithmetic calmer.

13. Check the size of the answer. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{11}{18}$ . Fractions are easier to combine when the pieces are the same size.

14. Match the operation to the words. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $\frac{37}{40}$ . Always simplify at the end so the answer is clean and useful.

15. Write the important values first. For adding fractions with unlike denominators, use a common denominator, combine the numerators, and simplify. The result is  $1\frac{9}{20}$ . For mixed numbers, converting to improper fractions can make the arithmetic calmer.

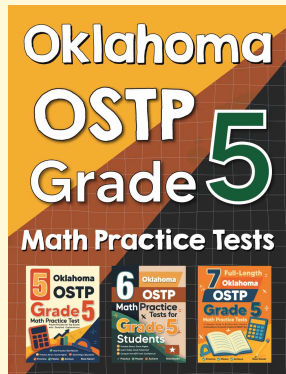
16. Follow the pattern carefully. For adding fractions with unlike denominators, use fifteenths:  $\frac{1}{3} = \frac{5}{15}$  and  $\frac{2}{5} = \frac{6}{15}$ , so the sum is  $\frac{11}{15}$ . Fractions are easier to combine when the pieces are the same size.

17. Start with the main idea. For adding fractions with unlike denominators, rewrite  $\frac{1}{4}$  as  $\frac{2}{8}$ ;  $\frac{5}{8} + \frac{2}{8} = \frac{7}{8}$ . Always simplify at the end so the answer is clean and useful.



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