

# Adding Fractions with Like Denominators

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

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

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## Q Quick Review

When two fractions have the **same denominator**, the pieces are already the same size, so adding them is easy. Just **add the numerators** (the top numbers) and **keep the denominator the same**. For example,  $\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$ : two eighths plus three eighths makes five eighths. The bottom number tells you the size of the pieces, and that size never changes when you add. After adding, always check whether you can write the answer in **simplest form**, and if the numerator is as big as the denominator, your answer equals a whole.

◇ **Example:** Add  $\frac{3}{10} + \frac{4}{10}$ .

⇒ Both fractions are made of tenths, so the pieces are the same size. Add just the numerators:  $3 + 4 = 7$ . Keep the denominator 10 exactly the same, because the pieces are still tenths. That gives  $\frac{7}{10}$ . Check for simplest form: 7 and 10 share no common factor besides 1, so we are done.

**Answer:**  $\frac{7}{10}$

## PRACTICE

Add each pair of fractions. Write each answer in simplest form.

1.  $\frac{1}{4} + \frac{2}{4}$  \_\_\_\_\_

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

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

4.  $\frac{1}{6} + \frac{2}{6}$  \_\_\_\_\_

5.  $\frac{4}{10} + \frac{3}{10}$  \_\_\_\_\_

6.  $\frac{2}{3} + \frac{0}{3}$  \_\_\_\_\_

7.  $\frac{5}{12} + \frac{4}{12}$  \_\_\_\_\_

8.  $\frac{3}{8} + \frac{3}{8}$  \_\_\_\_\_

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

10.  $\frac{2}{6} + \frac{2}{6}$  \_\_\_\_\_

11.  $\frac{1}{4} + \frac{1}{4}$  \_\_\_\_\_

12.  $\frac{3}{10} + \frac{3}{10}$  \_\_\_\_\_

13.  $\frac{2}{8} + \frac{4}{8}$  \_\_\_\_\_

14.  $\frac{4}{12} + \frac{2}{12}$  \_\_\_\_\_

15.  $\frac{5}{8} + \frac{1}{8}$  \_\_\_\_\_

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

17.  $\frac{2}{5} + \frac{3}{5}$  \_\_\_\_\_

18.  $\frac{40}{100} + \frac{25}{100}$  \_\_\_\_\_

19.  $\frac{1}{12} + \frac{5}{12} + \frac{2}{12}$  \_\_\_\_\_

20.  $\frac{2}{6} + \frac{1}{6} + \frac{3}{6}$  \_\_\_\_\_

## ◆ Word Problems

21. At lunch, Carlos ate  $\frac{2}{8}$  of a pizza and his sister ate  $\frac{3}{8}$  of the same pizza. What fraction of the pizza did they eat together?  
\_\_\_\_\_

22. Priya walked  $\frac{3}{10}$  of a mile to the library and then  $\frac{4}{10}$  of a mile to the park. How far did she walk in all? \_\_\_\_\_

23. A water jug is being filled. In the morning it got  $\frac{1}{4}$  full and in the afternoon another  $\frac{1}{4}$  was added. What fraction of the jug is full now?  
\_\_\_\_\_

24. For a craft project, Dana used  $\frac{5}{12}$  of a roll of ribbon and then  $\frac{4}{12}$  more. What fraction of the roll did Dana use altogether?  
\_\_\_\_\_



## Answer Keys

1.  $\frac{3}{4}$
2.  $\frac{3}{5}$
3.  $\frac{5}{8}$
4.  $\frac{1}{2}$
5.  $\frac{7}{10}$
6.  $\frac{2}{3}$
7.  $\frac{3}{4}$
8.  $\frac{3}{4}$
9.  $\frac{4}{5}$
10.  $\frac{2}{3}$
11.  $\frac{1}{2}$
12.  $\frac{3}{5}$

13.  $\frac{3}{4}$
14.  $\frac{1}{2}$
15.  $\frac{3}{4}$
16.  $1$
17.  $1$
18.  $\frac{65}{100}$
19.  $\frac{2}{3}$
20.  $1$
21.  $\frac{5}{8}$
22.  $\frac{7}{10}$  mile
23.  $\frac{1}{2}$
24.  $\frac{3}{4}$

### Step-by-Step Explanations

1. Add the tops:  $1 + 2 = 3$ . Keep the bottom 4.
2. Add the tops:  $2 + 1 = 3$ . Keep the bottom 5.
3. Add the tops:  $3 + 2 = 5$ . Keep the bottom 8.
4. Add the tops:  $1 + 2 = 3$ , giving  $\frac{3}{6}$ , which simplifies to  $\frac{1}{2}$ .
5. Add the tops:  $4 + 3 = 7$ . Keep the bottom 10.
6. Add the tops:  $2 + 0 = 2$ . Keep the bottom 3.
7. Add the tops:  $5 + 4 = 9$ , giving  $\frac{9}{12}$ , which simplifies to  $\frac{3}{4}$ .
8. Add the tops:  $3 + 3 = 6$ , giving  $\frac{6}{8}$ , which simplifies to  $\frac{3}{4}$ .
9. Add the tops:  $1 + 3 = 4$ . Keep the bottom 5.
10. Add the tops:  $2 + 2 = 4$ , giving  $\frac{4}{6}$ , which simplifies to  $\frac{2}{3}$ .
11. Add the tops:  $1 + 1 = 2$ , giving  $\frac{2}{4}$ , which simplifies to  $\frac{1}{2}$ .
12. Add the tops:  $3 + 3 = 6$ , giving  $\frac{6}{10}$ , which simplifies to  $\frac{3}{5}$ .
13. Add the tops:  $2 + 4 = 6$ , giving  $\frac{6}{8}$ , which simplifies to  $\frac{3}{4}$ .
14. Add the tops:  $4 + 2 = 6$ , giving  $\frac{6}{12}$ , which simplifies to  $\frac{1}{2}$ .
15. Add the tops:  $5 + 1 = 6$ , giving  $\frac{6}{8}$ , which simplifies to  $\frac{3}{4}$ .
16. Add the tops:  $3 + 1 = 4$ , giving  $\frac{4}{4}$ , which equals one whole.
17. Add the tops:  $2 + 3 = 5$ , giving  $\frac{5}{5}$ , which equals one whole.
18. Add the tops:  $40 + 25 = 65$ . Keep the bottom 100.
19. Add the tops:  $1 + 5 + 2 = 8$ , giving  $\frac{8}{12}$ , which simplifies to  $\frac{2}{3}$ .
20. Add the tops:  $2 + 1 + 3 = 6$ , giving  $\frac{6}{6}$ , which equals one whole.
21. Both fractions are eighths, so add the tops:  $2 + 3 = 5$ . Together they ate  $\frac{5}{8}$  of the pizza.
22. Add the numerators since the denominators match:  $3 + 4 = 7$ . She walked  $\frac{7}{10}$  of a mile.
23. Add the tops:  $1 + 1 = 2$ , giving  $\frac{2}{4}$ . Simplify by dividing by 2 to get  $\frac{1}{2}$ .
24. Add the tops:  $5 + 4 = 9$ , giving  $\frac{9}{12}$ . Simplify by dividing by 3 to get  $\frac{3}{4}$ .



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