

Grade 4 · Adding and Subtracting Fractions and Mixed Numbers · Worksheet Answer Key

Common Core 4.NF.B.3 · mathovore.fr

Every problem in the adding and subtracting fractions worksheet is solved step by step below. Compare each step with your own work, and check that the denominator stayed the same when you added or subtracted.

Grade 4 Common Core: 4.NF.B.3

Problem 1: Unit fractions in a bar

Each shaded part is $\frac{1}{6}$, and there are 4 of them.

Answer: $\frac{4}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$

Problem 2: Three ways to split seven eighths

Split the 7 eighths into two groups. Possible answers:

a. $\frac{7}{8} = \frac{1}{8} + \frac{6}{8}$
b. $\frac{7}{8} = \frac{3}{8} + \frac{4}{8}$
c. $\frac{7}{8} = \frac{2}{8} + \frac{5}{8}$

Any pair of numerators that adds to 7 is correct.

Problem 3: Missing part

a. $5 - 2 = 3$, so $\frac{5}{10} = \frac{2}{10} + \frac{3}{10}$
b. $9 - 4 = 5$, so $\frac{9}{12} = \frac{5}{12} + \frac{4}{12}$

Problem 4: Add like fractions

a. $1 + 2 = 3$, so $\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$
b. $3 + 4 = 7$, so $\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$
c. $5 + 4 = 9$, so $\frac{5}{12} + \frac{4}{12} = \frac{9}{12}$
d. $20 + 35 = 55$, so $\frac{20}{100} + \frac{35}{100} = \frac{55}{100}$

Problem 5: Add with a model

The green part is $\frac{3}{10}$ and the pink part is $\frac{4}{10}$. Together, 7 of the 10 parts are shaded.

Sum

1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10
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7 tenths in all.

Answer: $\frac{3}{10} + \frac{4}{10} = \frac{7}{10}$

Problem 6: Subtract like fractions

- a. $5 - 2 = 3$, so $\frac{5}{6} - \frac{2}{6} = \frac{3}{6}$
- b. $9 - 4 = 5$, so $\frac{9}{10} - \frac{4}{10} = \frac{5}{10}$
- c. $11 - 5 = 6$, so $\frac{11}{12} - \frac{5}{12} = \frac{6}{12}$
- d. $8 - 3 = 5$, so $\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$

Problem 7: Subtract with a model

Five parts are shaded and 2 are crossed out, leaving 3 parts.

Answer: $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$

Left

1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
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3 eighths remain.

Problem 8: Find the unknown

- a. $6 - 2 = 4$: $\frac{4}{7}$
- b. $8 - 3 = 5$: $\frac{5}{10}$
- c. $9 - 4 = 5$: $\frac{5}{12}$
- d. $2 + 3 = 5$: $\frac{5}{8}$

Problem 9: Make one whole

One whole is the same as $\frac{5}{5}$, $\frac{8}{8}$, or $\frac{12}{12}$.

- a. $\frac{5}{5} - \frac{3}{5} = \frac{2}{5}$: $\frac{2}{5}$
- b. $\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$: $\frac{5}{8}$
- c. $\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$: $\frac{5}{12}$

Problem 10: Whole numbers as fractions

- a. $1 \times 6 = 6$: $1 = \frac{6}{6}$
- b. $2 \times 3 = 6$: $2 = \frac{6}{3}$
- c. $3 \times 4 = 12$: $3 = \frac{12}{4}$

Problem 11: Mixed number as a fraction

Each whole is $\frac{4}{4}$, so two wholes are 8 fourths. Add 1 more fourth: 9 fourths.



9 fourths in all.

Answer: $2\frac{1}{4} = \frac{9}{4}$

Problem 12: Rename mixed numbers

- a. $3 \times 5 + 3 = 18$: $3\frac{3}{5} = \frac{18}{5}$
- b. $2 \times 6 + 5 = 17$: $2\frac{5}{6} = \frac{17}{6}$
- c. $4 \times 8 + 7 = 39$: $4\frac{7}{8} = \frac{39}{8}$
- d. $1 \times 12 + 9 = 21$: $1\frac{9}{12} = \frac{21}{12}$

Problem 13: Rename fractions as mixed numbers

- a. $7 \div 4 = 1$ with remainder 3: $\frac{7}{4} = 1\frac{3}{4}$
- b. $11 \div 5 = 2$ with remainder 1: $\frac{11}{5} = 2\frac{1}{5}$
- c. $17 \div 6 = 2$ with remainder 5: $\frac{17}{6} = 2\frac{5}{6}$
- d. $25 \div 8 = 3$ with remainder 1: $\frac{25}{8} = 3\frac{1}{8}$

Problem 14: Add mixed numbers

- a. Wholes: $1 + 2 = 3$. Fractions: $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$. $1\frac{2}{5} + 2\frac{1}{5} = 3\frac{3}{5}$
- b. Wholes: $3 + 2 = 5$. Fractions: $\frac{1}{8} + \frac{4}{8} = \frac{5}{8}$. $3\frac{1}{8} + 2\frac{4}{8} = 5\frac{5}{8}$
- c. Wholes: $4 + 1 = 5$. Fractions: $\frac{3}{10} + \frac{5}{10} = \frac{8}{10}$. $4\frac{3}{10} + 1\frac{5}{10} = 5\frac{8}{10}$

Problem 15: Add mixed numbers and rename

- a. Wholes: $2 + 1 = 3$. Fractions: $\frac{3}{4} + \frac{3}{4} = \frac{6}{4} = 1\frac{2}{4}$. Then $3 + 1\frac{2}{4} = 4\frac{2}{4}$. $2\frac{3}{4} + 1\frac{3}{4} = 4\frac{2}{4}$
- b. Wholes: $1 + 2 = 3$. Fractions: $\frac{5}{6} + \frac{4}{6} = \frac{9}{6} = 1\frac{3}{6}$. Then $3 + 1\frac{3}{6} = 4\frac{3}{6}$. $1\frac{5}{6} + 2\frac{4}{6} = 4\frac{3}{6}$
- c. Wholes: $3 + 2 = 5$. Fractions: $\frac{7}{8} + \frac{5}{8} = \frac{12}{8} = 1\frac{4}{8}$. Then $5 + 1\frac{4}{8} = 6\frac{4}{8}$. $3\frac{7}{8} + 2\frac{5}{8} = 6\frac{4}{8}$

Problem 16: Subtract mixed numbers

- a. Wholes: $4 - 1 = 3$. Fractions: $\frac{5}{6} - \frac{2}{6} = \frac{3}{6}$. $4\frac{5}{6} - 1\frac{2}{6} = 3\frac{3}{6}$
- b. Wholes: $6 - 2 = 4$. Fractions: $\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$. $6\frac{7}{8} - 2\frac{3}{8} = 4\frac{4}{8}$
- c. Wholes: $5 - 3 = 2$. Fractions: $\frac{9}{10} - \frac{4}{10} = \frac{5}{10}$. $5\frac{9}{10} - 3\frac{4}{10} = 2\frac{5}{10}$

Problem 17: Subtract with renaming

- a. $3\frac{1}{4} = \frac{13}{4}$ and $1\frac{3}{4} = \frac{7}{4}$. $13 - 7 = 6$. $3\frac{1}{4} - 1\frac{3}{4} = \frac{6}{4} = 1\frac{2}{4}$

- b. $5\frac{2}{6} = \frac{32}{6}$ and $2\frac{5}{6} = \frac{17}{6}$. $32 - 17 = 15$. $5\frac{2}{6} - 2\frac{5}{6} = \frac{15}{6} = 2\frac{3}{6}$
 c. $4\frac{1}{5} = \frac{21}{5}$ and $1\frac{3}{5} = \frac{8}{5}$. $21 - 8 = 13$. $4\frac{1}{5} - 1\frac{3}{5} = \frac{13}{5} = 2\frac{3}{5}$
 d. $6 = \frac{48}{8}$ and $2\frac{3}{8} = \frac{19}{8}$. $48 - 19 = 29$. $6 - 2\frac{3}{8} = \frac{29}{8} = 3\frac{5}{8}$

Problem 18: Jumps on a number line

The first jump ends at $\frac{3}{8}$. The second jump adds 4 eighths: $3 + 4 = 7$.

Answer: $\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$, so the jumps end at $\frac{7}{8}$.

Problem 19: Find the mistake

Ethan added the denominators. The denominator names the size of the pieces (fifths), and adding does not change the size. Only the numerators are added: $2 + 1 = 3$.

Answer: $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$

Problem 20: Bake sale brownies

Sold: $\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$. Left: $\frac{8}{8} - \frac{7}{8} = \frac{1}{8}$.

Sold	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
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7 eighths sold.

Answer: $\frac{7}{8}$ sold and $\frac{1}{8}$ left

Problem 21: Hiking trail

Wholes: $2 + 1 = 3$. Fractions: $\frac{5}{6} + \frac{4}{6} = \frac{9}{6} = 1\frac{3}{6}$. Then $3 + 1\frac{3}{6} = 4\frac{3}{6}$.

Answer: $4\frac{3}{6}$ miles

Problem 22: Ribbon left over

$5\frac{1}{8} = \frac{41}{8}$ and $2\frac{6}{8} = \frac{22}{8}$. Subtract: $41 - 22 = 19$, so $\frac{19}{8} = 2\frac{3}{8}$.

Answer: $2\frac{3}{8}$ yards

Problem 23: Pizza party

Eaten: $\frac{2}{12} + \frac{5}{12} + \frac{3}{12} = \frac{10}{12}$. Left: $\frac{12}{12} - \frac{10}{12} = \frac{2}{12}$.

Answer: $\frac{10}{12}$ eaten and $\frac{2}{12}$ left

Problem 24: Farmers market fruit

Total fruit: wholes $3+2=5$; fractions $\frac{3}{5}+\frac{4}{5}=\frac{7}{5}=1\frac{2}{5}$; total $5+1\frac{2}{5}=6\frac{2}{5}$ pounds.

Left after the pie: wholes $6-1=5$; fractions $\frac{2}{5}-\frac{1}{5}=\frac{1}{5}$.

Answer: $5\frac{1}{5}$ **pounds**

Problem 25: Filling the water jug

First total: $3\frac{1}{4}+2\frac{3}{4}=\frac{13}{4}+\frac{11}{4}=\frac{24}{4}=6$ cups.

After pouring: $6=\frac{24}{4}$ and $4\frac{2}{4}=\frac{18}{4}$. $24-18=6$, so $\frac{6}{4}=1\frac{2}{4}$.

Answer: $1\frac{2}{4}$ **cups**