

# Grade 4 · Adding and Subtracting Fractions and Mixed Numbers · Test Answer Key

Common Core 4.NF.B.3 · mathovore.fr

Use this answer key to score the fractions test. Each solution shows a full method and a scoring guide, so partial credit can be given when a student gets some of the steps right.

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

### Question 1: Decompose a fraction (2 points)

a.  $\frac{5}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

b. For example,  $\frac{5}{8} = \frac{2}{8} + \frac{3}{8}$  (or  $\frac{1}{8} + \frac{4}{8}$ ).

|     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

2 eighths plus 3 eighths.

Scoring: (a) 1 point for 5 unit fractions. (b) 1 point for any two numerators that add to 5.

### Question 2: Same denominator (2 points)

a.  $\frac{5}{12} + \frac{4}{12} = \frac{9}{12}$

b.  $\frac{9}{10} - \frac{6}{10} = \frac{3}{10}$

Scoring: 1 point for each correct answer. No credit if the denominators are added.

### Question 3: Missing numbers (2 points)

a.  $1 = \frac{8}{8}$  and  $8 - 3 = 5: \frac{5}{8}$

b.  $5 + 4 = 9: \frac{9}{12}$

Scoring: 1 point for each missing fraction.

### Question 4: Mixed numbers and fractions (2 points)

a.  $2 \times 5 + 3 = 13: \frac{13}{5}$

b.  $19 \div 8 = 2$  remainder 3:  $2\frac{3}{8}$

Scoring: 1 point for each correct form.

### Question 5: Add mixed numbers (3 points)

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- a. Wholes:  $2+3=5$ . Fractions:  $\frac{4}{10}+\frac{3}{10}=\frac{7}{10}$ .  $5\frac{7}{10}$   
b. Wholes:  $1+2=3$ . Fractions:  $\frac{7}{8}+\frac{5}{8}=\frac{12}{8}=1\frac{4}{8}$ . Total:  $4\frac{4}{8}$

Scoring: (a) 1 point. (b) 1 point for adding the fractions to get  $\frac{12}{8}$ , 1 point for the final mixed number.

### Question 6: Subtract mixed numbers (3 points)

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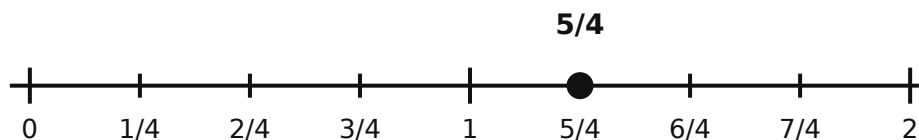
- a. Wholes:  $7-2=5$ . Fractions:  $\frac{5}{6}-\frac{1}{6}=\frac{4}{6}$ .  $5\frac{4}{6}$   
b.  $5\frac{1}{4}=\frac{21}{4}$  and  $2\frac{3}{4}=\frac{11}{4}$ .  $21-11=10$ , so  $\frac{10}{4}=2\frac{2}{4}$ .  $2\frac{2}{4}$

Scoring: (a) 1 point. (b) 1 point for renaming both numbers (or renaming one whole), 1 point for the correct answer.

### Question 7: Number line addition (2 points)

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- a.  $\frac{3}{4}+\frac{2}{4}=\frac{5}{4}$   
b.  $\frac{5}{4}=1\frac{1}{4}$ .  $1\frac{1}{4}$



The end point is 1 and  $\frac{1}{4}$ .

Scoring: (a) 1 point for the equation. (b) 1 point for the mixed number.

### Question 8: Recipe ingredients (2 points)

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Wholes:  $1+2=3$ . Fractions:  $\frac{5}{8}+\frac{4}{8}=\frac{9}{8}=1\frac{1}{8}$ . Total:  $3+1\frac{1}{8}=4\frac{1}{8}$ .

$4\frac{1}{8}$  cups

Scoring: 1 point for adding the whole numbers and the fractions correctly. 1 point for renaming and the final answer with units.

### Question 9: Rope length (2 points)

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$6=\frac{24}{4}$  and  $2\frac{3}{4}=\frac{11}{4}$ .  $24-11=13$ , so  $\frac{13}{4}=3\frac{1}{4}$ .



The piece left is  $3\frac{1}{4}$  yards.

$3\frac{1}{4}$  yards

*Scoring: 1 point for renaming 6 or the mixed number correctly. 1 point for the correct answer with units.*

|                  |
|------------------|
| <b>Total</b>     |
| <b>20 points</b> |