

Grade 4 - Adding and Subtracting Fractions and Mixed Numbers - Test Answer Key

Common Core 4.NF.B.3a, 4.NF.B.3b, 4.NF.B.3c, 4.NF.B.3d · maths-pdf.fr/en/

Use this answer key and scoring guide to grade the fractions test. Each solution shows the steps, and the scoring notes explain how partial credit is awarded out of 20 points.

Grade 4 · Common Core State Standards: **4.NF.B.3a, 4.NF.B.3b, 4.NF.B.3c, 4.NF.B.3d**

Question 1 - Like denominators [2 pts]

(a) $3+6=9$. (b) $11-4=7$.

(a) $\frac{9}{10}$ (b) $\frac{7}{12}$

Scoring: 1 point for each correct answer; 0 points if the denominator is added.

Question 2 - Decompose [2 pts]

Split 7 into $3 + 4$ and $5 + 2$.



$$\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$$

One way to decompose.

$\frac{7}{8} = \frac{3}{8} + \frac{4}{8}$ and $\frac{7}{8} = \frac{5}{8} + \frac{2}{8}$ (other correct splits are accepted)

Scoring: 1 point for each correct decomposition.

Question 3 - Mixed number picture [2 pts]

2 whole strips and 3 fifths: $2\frac{3}{5}$.

$2 = \frac{10}{5}$, and $\frac{10}{5} + \frac{3}{5} = \frac{13}{5}$.

$$2\frac{3}{5} = \frac{13}{5}$$

Scoring: 1 point for the mixed number; 1 point for the improper fraction.

Question 4 - Convert [2 pts]

(a) $17 \div 6 = 2$ remainder 5, so $2\frac{5}{6}$.

(b) $3 = \frac{6}{2}$, and $\frac{6}{2} + \frac{1}{2} = \frac{7}{2}$.

(a) $2\frac{5}{6}$ **(b)** $\frac{7}{2}$

Scoring: 1 point for each part.

Question 5 - Add mixed numbers [2 pts]

Wholes: $2+3=5$. Fractions: $\frac{5}{8} + \frac{6}{8} = \frac{11}{8} = 1\frac{3}{8}$.

$5 + 1\frac{3}{8} = 6\frac{3}{8}$.

$6\frac{3}{8}$

Scoring: 1 point for adding the wholes and the fractions; 1 point for regrouping to the correct answer.

Question 6 - Subtract mixed numbers [2 pts]

$6\frac{2}{5} = \frac{32}{5}$ and $3\frac{4}{5} = \frac{19}{5}$.

$\frac{32}{5} - \frac{19}{5} = \frac{13}{5} = 2\frac{3}{5}$.

$2\frac{3}{5}$

Scoring: 1 point for converting correctly; 1 point for the correct answer.

Question 7 - Hiking trail [3 pts]

(a) $5\frac{2}{10} = \frac{52}{10}$ and $2\frac{7}{10} = \frac{27}{10}$. $\frac{52}{10} - \frac{27}{10} = \frac{25}{10} = 2\frac{5}{10}$.



The part left is $2 \frac{5}{10}$ miles.

(b) $2\frac{5}{10} = \frac{25}{10}$ and $1\frac{8}{10} = \frac{18}{10}$. $\frac{25}{10} - \frac{18}{10} = \frac{7}{10}$.

(a) $2\frac{5}{10}$ miles (b) $\frac{7}{10}$ mile

Scoring: (a) 1 point for the method, 1 point for the answer; (b) 1 point.

Question 8 - Farmers market [3 pts]

(a) Wholes $1+2=3$, fractions $\frac{3}{4} + \frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}$, so $4\frac{1}{4}$.

(b) $4\frac{1}{4} + \frac{3}{4} = 4\frac{4}{4} = 5$.

(c) $6-5=1$.

(a) $4\frac{1}{4}$ lb (b) 5 lb (c) 1 lb

Scoring: 1 point for each part.

Question 9 - Mia's mistake [2 pts]

Mia added the denominators. The size of the parts (fifths) does not change when you add. Two fifths plus two fifths is four fifths.

$$\frac{2}{5} + \frac{2}{5} = \frac{4}{5}$$

Scoring: 1 point for the explanation; 1 point for the correct sum.

Total
20 points