Fraction Word Problems

Apply the skill to decisions and designs

Name _____ **Date** _____ **Score** _____ / 8

QUICK REVIEW

Add fractions when joining amounts; subtract when taking away or finding a missing part. If $1\frac{1}{6}$ L is available and $\frac{2}{6}$ L is used, rename the start as $\frac{7}{6}$ L. Then $\frac{7}{6} - \frac{2}{6} = \frac{5}{6}$ L remains.

Worked example

A jug gets $\frac{3}{8}$ L, then $\frac{2}{8}$ L. How much is in the jug?

1. The pieces are all $\frac{1}{8}$ L.
2. Combine the counts: $3 + 2 = 5$, so $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$.
3. Rename if possible: $\frac{5}{8} = \frac{5}{8}$.
Answer: $\frac{5}{8}$ L.

Practice Problems

Show your thinking.

1. Two containers hold $\frac{7}{8}$ L and $\frac{5}{8}$ L. Find the amount needed in a combined container.

2. A $3\frac{3}{6}$-m strip must supply a $1\frac{2}{6}$-m part. Find the leftover length.

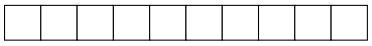
3. A route joins $1\frac{1}{10}$ km and $\frac{7}{10}$ km. Find its total length.

4. A $2\frac{3}{8}$-m board is trimmed by $1\frac{3}{8}$ m. Find the usable length.

5. A plan combines $\frac{5}{6}$ L and $\frac{4}{6}$ L in a 1-L bottle. Find why the plan fails.

6. Design a blue ribbon part to join a $\frac{3}{8}$-m red part for a $1\frac{1}{8}$-m total.

7. Use this bar to plan $\frac{7}{10}$ L as $\frac{2}{10}$ L juice plus water. Find the water amount.



8. A board is $2\frac{1}{4}$ m. Can it supply pieces $\frac{3}{4}$ m and $1\frac{2}{4}$ m with no waste?

Answer Key

1. $\frac{3}{2}$ L.
2. $2\frac{1}{6}$ m.
3. $1\frac{4}{5}$ km.
4. 1 m.
5. The mixture is $\frac{3}{6} = \frac{1}{2}$ L too much.
6. $\frac{6}{8} = \frac{3}{4}$ m.
7. $\frac{5}{10} = \frac{1}{2}$ L.
8. Yes.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. The pieces are all $\frac{1}{8}$ L.
2. Combine the counts: $7 + 5 = 12$, so $\frac{7}{8} + \frac{5}{8} = \frac{12}{8}$.
3. Rename if possible: $\frac{12}{8} = 1\frac{1}{2}$.

Problem 2

1. Rename the mixed numbers: $3\frac{1}{2} = \frac{21}{6}$ and $1\frac{1}{3} = \frac{8}{6}$.
2. $\frac{21}{6} - \frac{8}{6} = \frac{13}{6}$ because $21 - 8 = 13$.
3. $13 = 2 \times 6 + 1$, so the result is $2\frac{1}{6}$.

Problem 3

1. Rename the mixed numbers: $1\frac{1}{10} = \frac{11}{10}$ and $\frac{7}{10} = \frac{7}{10}$.
2. $\frac{11}{10} + \frac{7}{10} = \frac{18}{10}$ because $11 + 7 = 18$.
3. $18 = 1 \times 10 + 8$, so the result is $1\frac{4}{5}$.

Problem 4

1. Rename the mixed numbers: $2\frac{3}{8} = \frac{19}{8}$ and $1\frac{3}{8} = \frac{11}{8}$.
2. $\frac{19}{8} - \frac{11}{8} = \frac{8}{8}$ because $19 - 11 = 8$.
3. $8 = 1 \times 8 + 0$, so the result is 1.

Problem 5

1. The total is $\frac{9}{6} = 1\frac{3}{6}$ L.
2. The bottle holds $\frac{6}{6}$ L.
3. $\frac{9}{6} - \frac{6}{6} = \frac{3}{6} = \frac{1}{2}$ L will not fit.

Problem 6

1. The target is $1\frac{1}{8} = \frac{9}{8}$ m.
2. The missing part is $\frac{9}{8} - \frac{3}{8} = \frac{6}{8}$ m.
3. $\frac{3}{8} + \frac{6}{8} = \frac{9}{8}$ m checks the design.

Problem 7

1. Shade 7 of the 10 parts for the drink.
2. Assign 2 to juice; $7 - 2 = 5$ remain for water.
3. $\frac{2}{10} + \frac{5}{10} = \frac{7}{10}$ L verifies the plan.

Problem 8

1. The pieces total $\frac{3}{4} + \frac{6}{4} = \frac{9}{4}$ m.
2. The board is $2\frac{1}{4} = \frac{9}{4}$ m.
3. The difference is $\frac{9}{4} - \frac{9}{4} = 0$ m.

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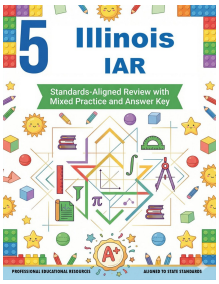

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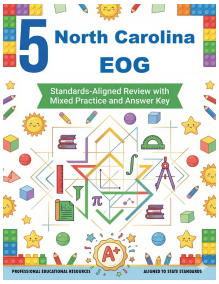

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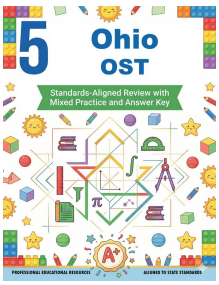

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