Fraction Multiplication Word Problems

Explore ideas and representations

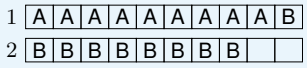
Name _____ **Date** _____ **Score** _____ / 8

QUICK REVIEW

Multiply the number of groups by the fractional amount in each group. Two $\frac{5}{12}$-m pieces make $2 \times \frac{5}{12} = \frac{10}{12} = \frac{5}{6}$ m. Keep the measurement unit; the group count is not a length. On a bar model, start a new whole strip when the first is full.

Worked example

Two sacks each hold $\frac{9}{10}$ kg. Use the marked groups to find the total.



1. Each strip is 1 kg, so a cell is $\frac{1}{10}$ kg. Count left to right. Continue on the next strip after each row.

2. The diagram labels these cells by group: A: 1–9; B: 10–18.

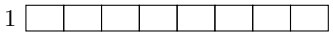
3. $2 \times 9 = 18$ cells. $18 = 1 \times 10 + 8$: 1 full strips and 8 more cells. The amount is $\frac{18}{10} = 1\frac{4}{5}$ kg.

Answer: A: 1–9; B: 10–18. Total: $1\frac{4}{5}$ kg.

Practice Problems

Show your thinking.

1. Two bags each hold $\frac{3}{8}$ kg of beans. The strip is 1 kg. Mark both groups and find the total.



2. Three puppets each need $\frac{2}{6}$ m of elastic. Write a repeated sum and a product. Find the length.

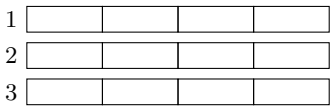
3. Five trays each hold $\frac{1}{4}$ L. What does each factor in $5 \times \frac{1}{4}$ count or measure? Give the total with its unit.

4. One batch of three windsocks uses $\frac{2}{8}$ m of tape per windsock. Find the tape for one batch and for two identical batches.

5. Write a one-sentence length story for $4 \times \frac{2}{3}$ m. Then find the total.

6. Each card uses $\frac{3}{8}$ m of ribbon. How many cards use $1\frac{7}{8}$ m?

7. Three jars each hold $\frac{3}{4}$ L. Each strip is 1 L. Mark one group per jar and find the combined volume.



8. Will three $\frac{2}{5}$-m pieces be enough for a 1-m border? Find the extra or shortage.

Answer Key

1. A: 1–3; B: 4–6. Total: $\frac{3}{4}$ kg.
2. $\frac{2}{6} + \frac{2}{6} + \frac{2}{6} = 3 \times \frac{2}{6} = 1$ m.
3. 5 trays, $\frac{1}{4}$ L per tray; $1\frac{1}{4}$ L in all.
4. One batch: $\frac{3}{4}$ m. Two batches: $1\frac{1}{2}$ m.
5. For example, join four $\frac{2}{3}$-m cords; the total is $2\frac{2}{3}$ m.
6. 5 cards.
7. A: 1–3; B: 4–6; C: 7–9. Total: $2\frac{1}{4}$ L.
8. Enough; $\frac{1}{5}$ m extra.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Each strip is 1 kg, so a cell is $\frac{1}{8}$ kg. Count left to right.
2. Label the cells by group: A: 1–3; B: 4–6.
3. $2 \times 3 = 6$ cells. There are 6 marked cells out of 8 in the strip. The amount is $\frac{6}{8} = \frac{3}{4}$ kg.

Problem 2

1. Each puppet uses 2 sixths, so the sum is $\frac{2}{6} + \frac{2}{6} + \frac{2}{6}$.
2. Three groups give $3 \times 2 = 6$ sixths: $3 \times \frac{2}{6} = \frac{6}{6}$.
3. The 6 sixth-meter parts make $\frac{6}{6} = 1$ m.

Problem 3

1. The 5 counts trays; $\frac{1}{4}$ L is the amount in each one.
2. There are $5 \times 1 = 5$ quarter-liters, or $\frac{5}{4}$ L.
3. $\frac{5}{4} = 1\frac{1}{4}$. The total measures liters, not trays.

Problem 4

1. One batch needs $3 \times \frac{2}{8} = \frac{6}{8} = \frac{3}{4}$ m.
2. The second batch uses the same amount. $\frac{6}{8} + \frac{6}{8} = \frac{12}{8} = 1\frac{1}{2}$ m.
3. Check with 6 windsocks: $6 \times \frac{2}{8} = \frac{12}{8}$ m.

Problem 5

1. Let 4 count the cords and $\frac{2}{3}$ m measure each cord.
2. The four cords use $4 \times 2 = 8$ thirds of a meter.
3. $\frac{8}{3} = \frac{6}{3} + \frac{2}{3} = 2\frac{2}{3}$ m is the joined length.

Problem 6

1. The total is $1\frac{7}{8} = \frac{15}{8}$ m.
2. Each card takes 3 eighth-meter parts. $15 \div 3 = 5$ cards.
3. Check: $5 \times \frac{3}{8} = \frac{15}{8} = 1\frac{7}{8}$ m.

Problem 7

1. Each strip is 1 L, so a cell is $\frac{1}{4}$ L. Count left to right. Continue on the next strip after each row.
2. Label the cells by group: A: 1–3; B: 4–6; C: 7–9.
3. $3 \times 3 = 9$ cells. $9 = 2 \times 4 + 1$: 2 full strips and 1 more cells. The amount is $\frac{9}{4} = 2\frac{1}{4}$ L.

Problem 8

1. The joined pieces measure $3 \times \frac{2}{5} = \frac{6}{5} = 1\frac{1}{5}$ m.
2. The border needs $1 = \frac{5}{5}$ m, which is less than $\frac{6}{5}$ m.
3. $\frac{6}{5} - \frac{5}{5} = \frac{1}{5}$ m remains.

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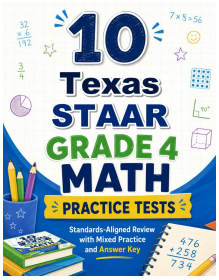

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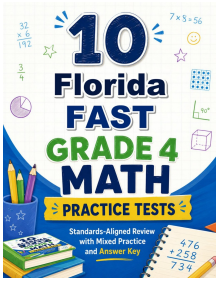

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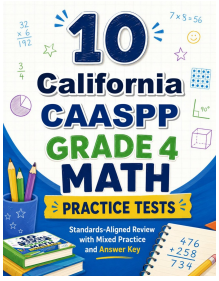

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