Solving Real-World Problems with Decimals

Solving Real-World Problems with Decimals: Apply, Compare, and Design

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

QUICK REVIEW

Choose the operation from the situation: combine with addition, find a difference with subtraction, repeat equal amounts with multiplication, and share or count groups with division. For 3 bottles of 0.75 L, $3 \times 0.75 = 2.25$ L; from 4 L, $4 - 2.25 = 1.75$ L remains.

Worked example

A jug contains 4.6 L. Three bottles take 0.8 L each. Find the remainder.

1. Used: $3 \times 0.8 = 2.4$ L.
2. Remaining: $4.6 - 2.4 = 2.2$ L.
3. $2.2 + 2.4 = 4.6$ L checks the total.
Answer: 2.2 L.

Practice Problems

Show your thinking.

1. A runner travels 2.45 km in the morning and 2.1 km later. The goal is 5 km. Find the distance still needed.

2. Plan A uses 5 bottles of 0.75 L; plan B uses 3 bottles of 1.2 L. Which supplies more juice and by how much?

3. A 9.6 m rope is cut into 0.8 m pieces. Three pieces are used. How many pieces remain?

4. Correct: A 6.3 kg bag split into 3 equal bags has 18.9 kg in each.

5. A shipment needs 6.4 kg. Plan A has 8 packs of 0.8 kg. Plan B has 5 packs of 1.25 kg. Decide which meets the target.

6. A craft needs 7 strips of 0.45 m. Will a 3.2 m ribbon be enough? Find any extra.

7. A design needs 4 equal strips plus a 0.25 m tab, totaling 5.05 m. Find strip length, then the length of two strips.

8. Design 6 equal portions from 4.5 kg of rice. Find each mass, then the mass of 2 portions.

Answer Key

1. 0.45 km.
2. Plan A; 0.15 L more.
3. 9 pieces.
4. 2.1 kg each.
5. Only A; B is 0.15 kg short.
6. Yes; 0.05 m extra.
7. 1.2 m per strip; 2.4 m for two.
8. 0.75 kg each; 1.5 kg for two.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Total traveled: $2.45 + 2.1 = 4.55$ km.
2. Remaining: $5 - 4.55 = 0.45$ km.

Problem 2

1. A supplies $5 \times 0.75 = 3.75$ L.
2. B supplies $3 \times 1.2 = 3.60$ L.
3. $3.75 - 3.60 = 0.15$ L more.

Problem 3

1. $9.6 \div 0.8 = 12$ pieces initially.
2. $12 - 3 = 9$ pieces remain.
3. $9 \times 0.8 = 7.2$ m remains as a length check.

Problem 4

1. Equal sharing requires $6.3 \div 3 = 2.1$ kg.
2. $3 \times 2.1 = 6.3$ kg checks the shares.
3. The proposed 18.9 kg exceeds the entire starting mass.

Problem 5

1. A: $8 \times 0.8 = 6.4$ kg, exactly enough.
2. B: $5 \times 1.25 = 6.25$ kg.
3. $6.4 - 6.25 = 0.15$ kg short.

Problem 6

1. Needed: $7 \times 0.45 = 3.15$ m.
2. $3.20 - 3.15 = 0.05$ m extra.
3. Because $3.15 \leq 3.20$, the ribbon is long enough.

Problem 7

1. Strips total $5.05 - 0.25 = 4.80$ m.
2. $4.80 \div 4 = 1.20$ m each.
3. Two strips: $2 \times 1.20 = 2.40$ m.

Problem 8

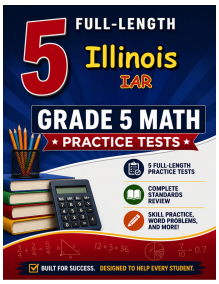
1. $4.5 \div 6 = 0.75$ kg per portion.
2. $2 \times 0.75 = 1.5$ kg for two portions.
3. $6 \times 0.75 = 4.5$ kg checks the design.

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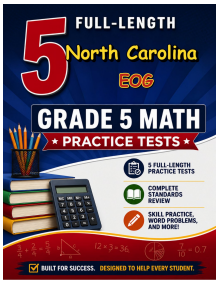
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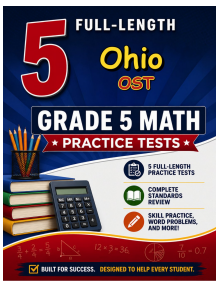
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