

Solving Decimal Story Problems



Objective

In this lesson, you will

Overview

Which **two** math problems are most like the sort of real-world math problems people might face in everyday life?

- $80 \times 1.5 = ?$
- $10 - (2.3 + 3.45) = ?$
- Bob has 1.5 pounds of nails. If there are 80 nails in a pound, how many nails does Bob have?
- Rachel bought a piece of fabric 2.3 meters long and a piece of fabric 3.45 meters long. She needs 10 meters of fabrics altogether. How much more does she need to buy?

How will you solve problems like this? Here are **six steps** to help you:


1. **Decide** what the _____ is.
2. **List** the information you know.
3. _____ a picture or chart that shows the information and the question.
4. **Write** the _____ that tell you how to find the answer.
5. **Write and solve** the arithmetic problem for each step.
6. _____ your work.

Problem 1

Bob has 1.5 pounds of nails. If there are 80 nails in a pound, how many nails does Bob have?

Step 1

_____ what the question is.

-  What is the question for this problem?
- How many nails does Bob have?
 - How many more nails does Bob need?
 - How many nails in 1 pound?

Step 2

_____ the information you know.

From the problem you know this:

- There are _____ nails in 1 pound.
- Bob has _____ pounds of nails.


Step 3

_____ a picture or chart that shows the information and the question.

1 lb.	_____ lb.
_____ nails	? nails

Step 4


_____ the steps that tell how to find the answer.

-  Now you are ready to write how to find the answer. What should you do?
- Multiply the number of nails in one pound times the number of pounds.
 - Divide the number of nails in one pound by the number of pounds.

Step 5

Write and _____ the arithmetic problem for each step.

- To find out how many nails Bob has, multiply the number of nails in 1-pound time the number of pounds.

 Write and solve the problem:
_____ × _____ = _____

Step 6

_____ your work.

To check this problem, divide the total number of nails by the number of pounds:

$$120 \text{ nails} \div \text{_____ lbs.} = \text{_____ nails}$$

*You get the number you started with.

Problem 2

Rachel bought a piece of fabric 2.3 meters long and a piece of fabric 3.45 meters long. She needs 10 meters of fabric altogether. How much more does she need to buy?

Step 1

_____ what the question is.



What question do you need to answer?

- How many meters of red fabric did Rachel buy?
- How many meters of fabric did Rachel buy together?
- How much more does she need to buy?

Step 2

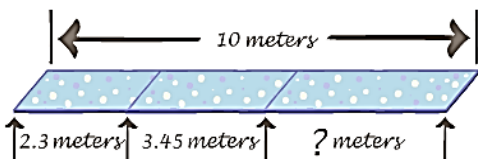
_____ the information you know.

From the problem you know this:

- A piece of fabric is _____ meters long.

Step 3

_____ a picture or chart that shows the information and the question.



Step 4

_____ the steps that tell how to find the answer.



Which of these plans will work?

- Add the length of one piece to the length of the other piece. Add the sum to the length needed.
- Add the length of one piece to the length of the other piece. Subtract the sum from the length needed.

Step 5

Write and _____ the arithmetic problem for each step.

- a) Add the length of one piece to the length of the other piece.

$$\underline{\quad} \text{ m} + \underline{\quad} \text{ m} = \underline{\quad} \text{ m}$$

- b) Subtract the sum from the length needed.

$$10.00 \text{ m} - \underline{\quad} \text{ m} = \underline{\quad} \text{ m}$$

Step 6

_____ your work.

- a) Add the number of meters she needs to the number of meters she already has:

$$\underline{\quad} \text{ m} + \underline{\quad} \text{ m} = \underline{\quad} \text{ m}$$

- b) Subtract the number of yards of one piece from the number of yards she already has:

$$\underline{\quad} \text{ m} - \underline{\quad} \text{ m} = \underline{\quad} \text{ m}$$

*The answer will be the number you started

Summary

How was it useful to have a consistent, set-by-step approach to these real-world math problems?