Contents

Solving Word Problems

The key to solving word problems is to see what math operation(s) match the situation.

Read the problem carefully, and imagine in your mind what is happening. You can also draw a picture!

Example. Here, the solution to the problem is written out for you. Circle the correct word and fill in the missing parts.

A laptop cost $650, but Eli got a $40 discount. What was the final price?

Eli paid $40 *less / more* than $650.

It means we *subtract / add*: $650 ☐ $40 = _____

The final price was _____.

1. Circle the addition and / or subtraction sentence that matches the problem. Solve.

a. Maggie has 62 glitter pens. Of them, 15 don't work, and the rest are good. How many glitter pens do work?

62 + 15 = ?

62 + ? = 15

15 + ? = 62

15 − 62 = ?

b. Cash rode 148 km in a bus, and then walked 4 km to Grandma's house. How many kilometers did he travel?

148 + ? = 4

148 + 4 = ?

4 + ? = 148

148 − ? = 4

c. The temperature outside is 46 degrees Fahrenheit, and inside it is 74 degrees. What is the difference in the temperatures?

74 + 46 = ?

74 + ? = 46

? − 74 = 46

74 − ? = 46

d. Zoe needs 54 pins for a sewing project. She only has 44. How many more does she need?

54 + 44 = ?

44 − ? = 54

54 + ? = 44

54 − 44 = ?

2. Solve. On the empty line, write an addition or a subtraction sentence (or several) to match each problem.

a. An airplane has 143 seats. Of these, 46 are window seats
How many seats on the airplane are *not* window seats?

_____

_____ seats are not window seats.

b. One hundred seventy-five people were called to a meeting. Four couldn't come and nine others didn't show up. How many *did* come for the meeting?

_____

_____ people did come to the meeting.

c. During a year, a town had 104 rainy days. How many days did it not rain that year? (One year has 365 days.)

_____

It did not rain on _____ days.

d. Luca has 14 toy cars, Elliott has 25, and Owen has four more than Luca. How many more cars does Elliott have than Owen?

_____

_____

Elliott has _____ more cars than Owen.

e. Blake has saved 74 dollars. How much does he still need to buy a bicycle that costs $80?

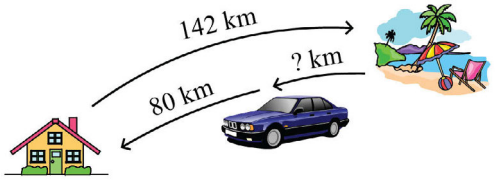
_____

Blake still needs $_____.

Multiple Steps — Addition and Subtraction

Example. The Blackwood family visited a beach that is 142 km away from their home. On their way home, they stopped to rest when they still had 80 km to go. How long a distance have they driven in total, so far?

A simple **drawing can help you "see" the situation.** They drove 142 km all the way to the beach. When they headed home, they drove an unknown distance, and had 80 km left.



This problem takes two calculations to solve.

(1) First we find the unknown distance x.

(2) Then we find the total distance they have traveled so far.

Example of student work:
(*calculations written down*)

$x = 142 \text{ km} - 80 \text{ km} = 62 \text{ km}$

Total distance:
$142 \text{ km} + 62 \text{ km} = 204 \text{ km}$

When solving word problems, **write down each calculation you do**, even if you could do it in your head. See the example above: it took two calculations, and both are written down. The second one also has the words "Total distance" to signify what the calculation is for.

All of this helps you organize your thinking. It also helps you (and others) to *easily* read what you did, and thus check your work. And it's not only the teacher that needs to read and understand what you did — you yourself need to do it, so you can check your work!

Monitoring your own work, checking if what you did is correct, is REALLY important in real life! And I don't mean just math, but everything! ☺

1. Solve. You can draw to help! Draw items with price tags, for example. Write down each calculation.

One watch costs $25 and another costs $8 less. Ian buys two of the cheaper watches. Find the total cost.

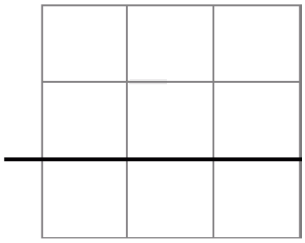
2. Solve. Write down each calculation you do, even if you could do it in your head.

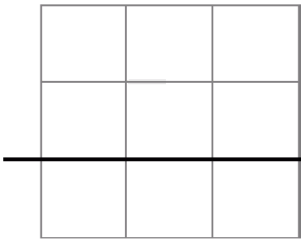
a. Dante had 64 golf balls and Jace had 31. Then Dante lost nine of his. How many *more* balls does Dante have now than Jace?

b. Brady has saved $270. He wants to buy a camera for $320 and its batteries for $20. How much does he still need to save?

c. Nadia wants to buy a stuffed elephant for $11, a stuffed lion for $23, and a stuffed pony for $14. She still needs to save $19 more, before she can buy them. How much money does she have now?

d. Grandma Elaine is sewing a quilt. She is planning for there to be 167 squares with plain colors and 185 squares with patterns. She sewed a total of 138 squares onto the quilt last month. How many squares does she have left to sew?

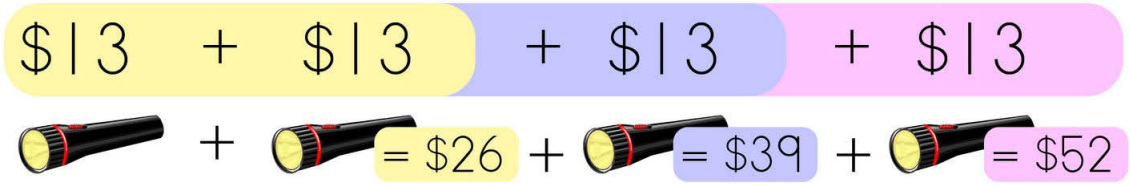




Money Situations

Example. *Flashlights cost $13 each. How many can Derek buy if he has $50? How much will he have left?*

To find how many times 13 can fit inside 50, you can add $13 multiple times until you've found the answer:



Derek can buy three flashlights that cost $13, which would cost $39. Then we subtract $50 − $39 to find he would have $11 left over.

1. Solve.

a. How many backpacks that cost $34 each can you buy with $100?

How much money will you have left?

b. Mugs cost $8 each. How many can you buy if you have $40?

How much money will you have left?

c. Caleb wants to buy a tablet for $169. He has $10, and he earns $40 each week. In how many weeks will he have enough to buy the tablet?

2. Round the prices to estimate your total. Then find the exact total. Remember: if your answer is far away from your estimation, there is probably an error.

a. You buy headphones for $16.50 and a watch for $38.20.

Estimated total $_____

Exact total $_____

b. You buy an ice maker for $155.45 and a set of kitchen utensils for $37.99.

Estimated total $_____

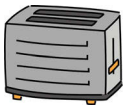
Exact total $_____

3. Solve the problems.


$7.90


$5.25

$2.40


$28.50


$36.90

a. How many bottles of glue can Ernest buy with $10?

b. Daniel bought a toaster and paid with a $50 bill. He received $21.50 as change Was that correct?

c. Can Carol buy three computer mice and a microscope with $70? Use estimation and mental math.

Multiplication in Word Problems

A word problem that involves **equal-size groups** has to do with **multiplication**.
Such a problem may ask...

- for the total number of objects, or
- for the number of groups, or
- for the number of the objects in each group.

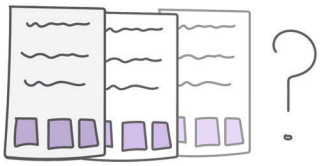
A multiplication word problem doesn't always ask for the total! So, don't "blindly" multiply the numbers given in the problem. You need to think first. Drawing can help!

Example 1. A city has four post offices, and each post office has five workers.
How many postal workers do the post offices have altogether?

This is the common situation where we have groups of equal size (groups of five workers), and there are four of them. You could draw **four** boxes (to signify the post offices), and **five** dots in each (to signify the workers).

The total number of workers is $4 \times 5 = 20$.

Example 2. Ava wrote some invitations, and put three stickers in each.
She used 18 stickers. How many invitations did she write?



Here we have groups of 3 — each invitation is a "group" — but we don't know how many groups or invitations there are. We are given the total number of stickers (18), and we are asked how many groups.

You can write a missing number multiplication sentence: $3 \times \_\_\_\_ = 18.$ or the same thing using a letter for the unknown: $3 \times G = 18$. The answer is six invitations.

1. Circle the multiplication sentence that matches the problem. Then find the answer.

a. Adrian had fifteen toy cars, and he sorted them into three equal piles. How many cars were in each pile?

$15 \times 3 = \_\_\_\_$

$3 \times \_\_\_\_ = 15$

b. Six children are playing tennis together. They each brought four tennis balls. How many balls do they have altogether?

$4 \times b = 6$

$6 \times 4 = b$

2. Write a multiplication sentence with an unknown for each problem. Use a letter for the unknown. You can draw pictures to help.

a. The Russ family ordered two veggie pizzas and one chicken pizza. Each pizza was sliced into four pieces. How many slices of pizza were there?

_____ × _____ = _____

There were _____ slices of pizza.

b. Each person in the Green family keeps a hand towel and a bath towel in the bathroom. In total, there are 10 towels hanging in their bathroom. How many people are in the Green family?

_____ × _____ = _____

The Green family has _____ people.

c. Mom washed laundry three times last week. In total, she used six scoops of detergent. How many scoops of detergent did she use for each wash?

_____ × _____ = _____

She used _____ scoops of detergent.

d. Jocelyn has four plastic flower pots and four ceramic ones. In each pot there are four flowers. How many flowers does she have?

_____ × _____ = _____

She has _____ flowers.

e. Sticker sheets cost $3 each. Lily buys five horse sticker sheets and two cat sticker sheets. How much did it cost?

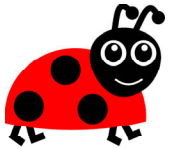
_____ × _____ = _____

It cost $_____.

Mixed Word Problems 1

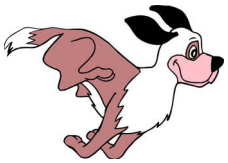
1. Solve. Write a number sentence to go with each problem.

a. In a garden, there are eight ladybugs that each have seven spots and two ladybugs that have nine spots. How many spots do the ladybugs have in total?



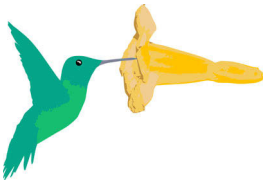
b. Teddy the dog has the zoomies. He runs one circle around his owner every 3 seconds. How many times will he circle his owner in 30 seconds?

Now Teddy slows down and makes one circle every five seconds. How many times will he circle his owner in the next 30 seconds?



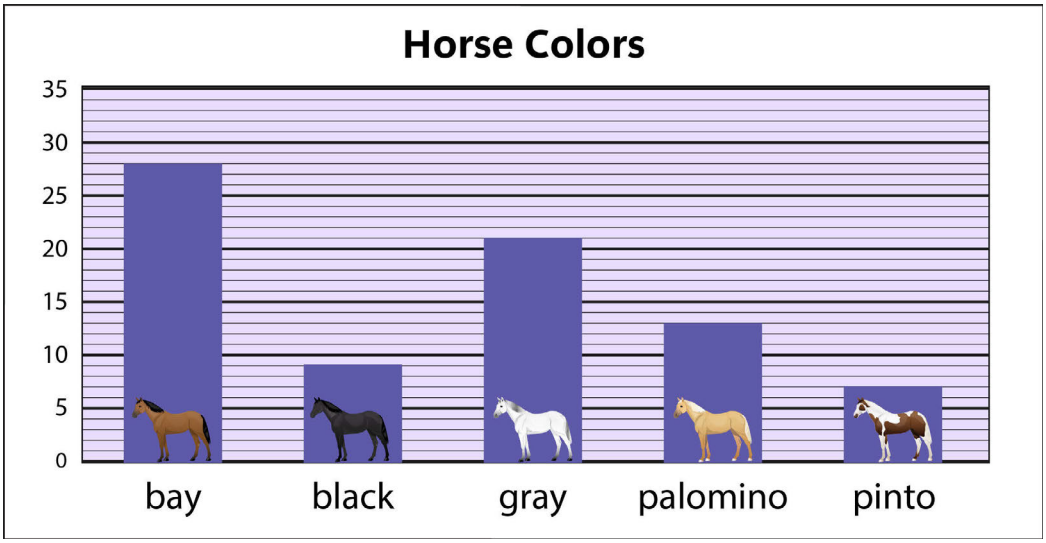
c. A beaver building a dam cuts down a tree every nine minutes. If it starts cutting trees at 8:15 AM, how many will it have cut down by 9:00 AM?

d. If a hummingbird drinks nectar from a flower once every fifteen minutes during the day, how many times will it feed over the course of six hours?



e. Michelle is baking blueberry muffins for a party. The muffins take 25 minutes to bake in the oven, but she can't fit all of them in the oven at once, so she decides to bake them in two batches. If she starts baking them at 2:30 PM, when will both batches be done?

2. Gary owns a horse farm. The graph shows the number of horses he has of each color.



a. Which color does he own the fewest of?

b. How many more bay horses are there than palominos?

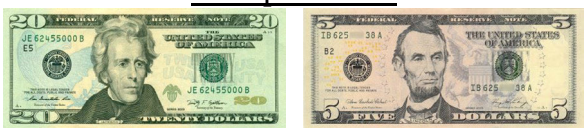
c. Gary sells two gray horses and a black horse.
How many horses does he have in total now?

3. Solve.

Tim bought a $21 turtle pool float. Then he left it in the car and forgot about it, so a week later, he bought a $26 dolphin pool float.

On the right, you see all the bills he used to pay for these two things. What was the change he received in total?

First purchase:



Second purchase: