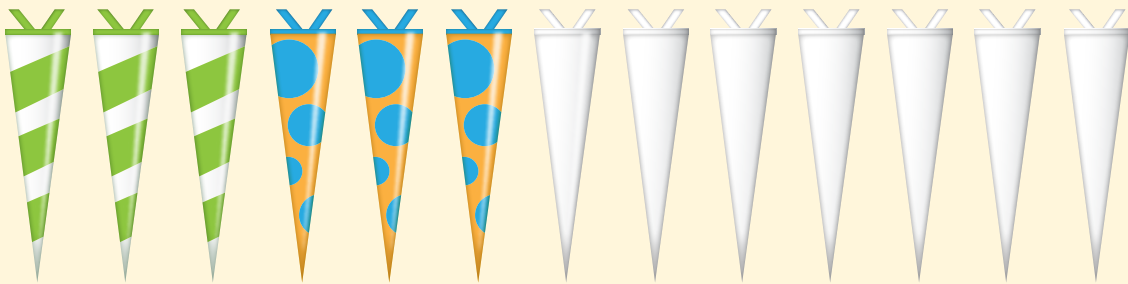


Solve Two-Step Word Problems

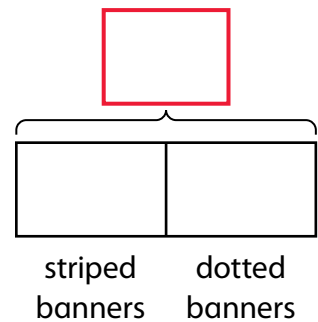
Use What You Know

You know how to solve one-step word problems.

Eve had 3 striped banners and 3 dotted banners. Then she made 7 white banners. How many banners does Eve have now?



a. How many striped and dotted banners are there?
Fill in the model at the right.

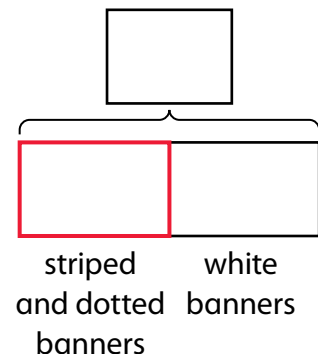


b. Now write an equation. How many striped and dotted banners are there in all?

_____ + _____ = _____

c. How many white banners are there? _____

d. Add the white banners to the total in Problem b.
Fill in the model at the right to show this.



e. Now write an equation. How many banners are there in all?

_____ + _____ = _____

Find Out More

The problem on the previous page is a two-step problem. First, you added the striped and dotted banners. Then you added the white banners to the sum.

Step 1: $3 + 3 = 6$ **Step 2:** $6 + 7 = 13$

Now look at this two-step problem.

Juan had 3 pink markers and 7 green markers. He lost 2 markers. How many markers does he have now?

Step 1: Add to find the total number of markers Juan had.

$$3 + 7 = 10$$

Step 2: Subtract the number of markers Juan lost to find how many he has now.

$$10 - 2 = 8$$



Juan has _____ markers now.

Reflect Work with a partner.

- 1 Talk About It** Suki had 17 grapes. She gave 8 grapes to her sister. Then she gave 3 grapes to her friend. Would you add or subtract to find how many grapes Suki has now?

Write About It _____

Learn About **Ways to Solve Two-Step Problems**

Read the problem. Then you will model a two-step problem.

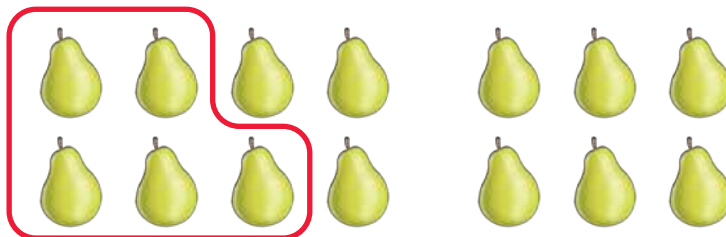
Meg had 8 pears in her basket. Then she picked 6 more pears. After that, she gave away 5 pears to her friends. How many pears are in the basket now?

Picture It You can draw a picture.

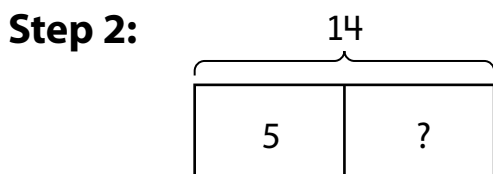
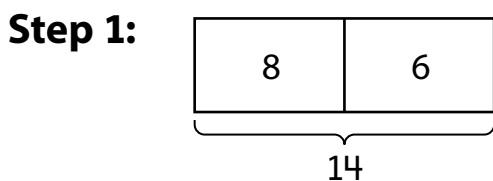
Step 1: 8 pears + 6 more pears



Step 2: 14 pears – 5 pears given away



Model It You can make a tape diagram.



▶ Connect It Write equations.

2 What happens in Step 1 of the problem?

3 Look at *Picture It*. Write an equation for Step 1.

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

4 What happens in Step 2 of the problem?

5 Look at *Model It*. Write an equation for Step 2.

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

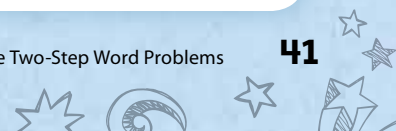
6 Talk About It Work with a partner.

How is a two-step problem different from a one-step problem?

Write About It _____

▶ Try It Try another problem.

7 There were 12 boys in the pool. Then 3 went home. Then 6 more boys jumped in the pool. How many boys are in the pool now? Show your work.



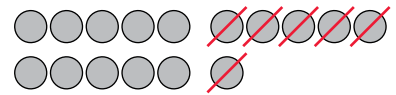
Learn About **More Ways to Solve Two-Step Problems**

Read the problem. Then you will model a two-step problem.

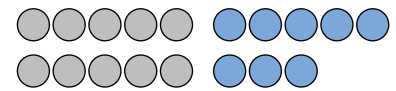
There were 16 quarters in a jar. Russ took 6 quarters. Then Dad added more quarters to the jar. Now there are 18 quarters in the jar. How many did Dad put in?

Picture It You can draw a picture.

Step 1: There were 16 quarters in a jar.
Russ took 6 quarters.

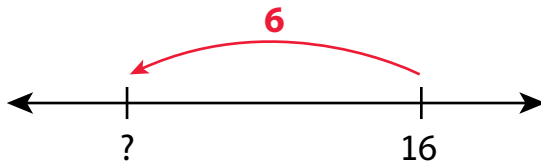


Step 2: Then Dad added more quarters to the jar.
Now there are 18 quarters in the jar.

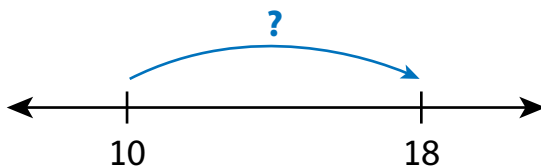


Model It You can use open number lines.

Step 1: There were 16 quarters in a jar.
Russ took 6 quarters.



Step 2: Then Dad added more quarters to the jar.
Now there are 18 quarters in the jar.



▶ Connect It Understand what the models mean.

8 What happens in Step 1 of the problem?

9 Look at the number line in Step 1 of *Model It*.

Complete the equation. $16 - 6 =$ _____

10 What happens in Step 2 of the problem?

11 Write an equation for Step 2.

_____ + ? = _____

12 How many quarters did Dad put in the jar? _____

13 Talk About It Work with a partner.

Explain how to solve a two-step problem.

Write About It _____

▶ Try It Try another problem.

14 Gus had 7 shells. Then he found 4 more. Then some shells broke. Now Gus has 9 shells. How many shells broke? Show your work.

Practice  **Solving Two-Step Word Problems**

Study the model below. Then solve Problems 15–17.

Example

Emma had 12 cards and Stan had 0. Stan took some of Emma's cards. Now Emma has 9 cards. How many more cards does Emma have than Stan?

Look at how you can show your work.

Emma starts with 12 cards and ends up with 9.

$$12 - ? = 9 \quad 12 - 3 = 9$$

So, Stan has 3 cards.

Emma has 9 cards. Stan has 3 cards.

$$9 - 3 = ? \quad 9 - 3 = 6$$

| | |
|----|---|
| 12 | |
| 9 | ? |

| | |
|---|---|
| 9 | |
| 3 | ? |

Answer Emma has 6 more cards than Stan.

- 15** There were 6 toys in a box. Fritz took 2 toys out of the box. Then he put 8 toys into the box. How many toys are in the box now?

Show your work.

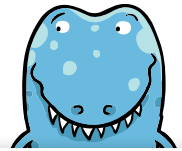


Try acting out the problem.

Answer _____

- 16** Rob had 16 crayons. He gave 8 crayons to Troy. Ella gave Rob some crayons. Now Rob has 17 crayons. How many crayons did Ella give to Rob?

Show your work.

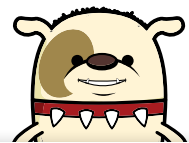


How many crayons did Rob have after he gave some away? How many does he have now?

Answer _____

- 17** Bev got 6 dollars from her mom and 4 dollars from her dad. She wants to buy a game that costs 18 dollars. How many more dollars does Bev need?

- A** 2
- B** 8
- C** 10
- D** 14



How can you find how much money Bev has?

Allie chose **C** as the answer. This answer is wrong. How did Allie get her answer?

Solving Two-Step Word Problems

Solve the problems.

- 1** Cara picked 11 big apples and 7 small apples. Dan picked 5 fewer apples than Cara. How many apples did Dan pick? Circle the correct answer.

A 18**C** 13**B** 6**D** 2

- 2** There were 15 birds on a branch. Then 6 birds flew away. Then 3 birds landed on the branch. How many birds are on the branch now?

Fill in the blanks. Then circle all the answers that show a step in solving the problem.

A $15 + 6 = \underline{\hspace{2cm}}$

B $15 - 6 = \underline{\hspace{2cm}}$

C $9 - 3 = \underline{\hspace{2cm}}$

D $9 + 3 = \underline{\hspace{2cm}}$

- 3** Ana has 10 beads. Beth has 3 more beads than Ana. Beth has 7 small beads. The rest of her beads are big. How many big beads does Beth have? Circle the correct answer.

A 20**C** 6**B** 13**D** 0

4 Lee had 8 square blocks and 9 triangle blocks. Jon took some of Lee's blocks. Then Lee had 10 blocks left. How many blocks did Jon take? Circle the correct answer.

A 2

C 17

B 7


D 27

5 A star card is worth 10 points. A moon card is worth 4 fewer points. How many points are a star card and moon card worth together?

Show your work.

6 Write a two-step word problem that uses addition and subtraction. Then solve the problem.

Show your work.

 **Self Check** Now you can solve two-step problems. Fill this in on the progress chart on page 1.