

THE STORY DETECTIVE

The Case of the Faked Order Tickets



Lead Agent: Penelope

Shortchange Sam is faking Maplewood's order tickets — he reads a story fast, grabs both numbers, and writes down the wrong total. The Bureau's trick beats him every time: **draw the bar model first**, then add or subtract. Read the story, draw the bar, catch the crook.

Read the Story, Then Act

Every case is a little story. First, DO what happens.

THREE KINDS OF STORY

Grab some counters (beans, coins, cereal). Before you write anything, **act out the story** and watch what happens to the pile:

1. Getting more → you **join** counters. **2. Going away** → you **take some off**. **3. Two kinds in one pile** → you **put them together**.

The Bureau rule: **read the action, not just the words.**

- 1** **Ben had 5 marbles. He won 4 more.** Act it out: put down 5, then bring 4 more. Draw a dot for each marble you end up with, then say how many.

draw your marbles here • how many? _____

- 2** **7 birds sat on a wire. 3 flew away.** Put down 7 counters, then take 3 off. Cross out the 3 that leave. How many birds are left?



Draw the 7 birds as dots, then cross off the ones that fly away:

- 3** **Mia has 4 red crayons and 2 blue crayons.** These are two kinds in ONE box. Put the reds and blues together. How many crayons in all?

- 4** Detective sort: label each story **JOIN**, **TAKE AWAY**, or **PUT TOGETHER**. (Read what HAPPENS.)

a. "A dog had 6 bones, then dug up 2 more." _____

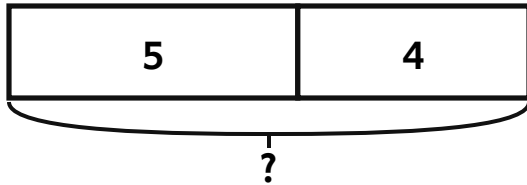
b. "There were 8 apples. We ate 3." _____

c. "3 boys and 5 girls are on the team." _____

The Part-Whole Bar

The Bureau's secret weapon. Two parts, one whole.

HOW TO DRAW IT



5 and 4 are the **PARTS** • the whole is ?

When a story gives you **two parts** and asks for the **whole**, draw **two part-bars end to end**. The long bar underneath is the **whole** — put a ? there.

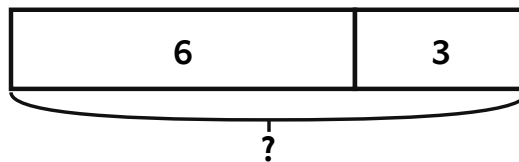
Ben had 5, won 4 more. Parts 5 and 4; the whole is what we want. When the whole is missing, you **add the parts**.

- 1 Read the bar above. The two parts are and . The ? is the **whole**

/ **part** (circle one). So $5 + 4 =$.

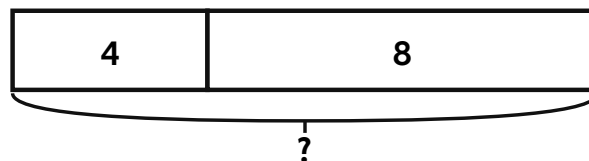
- 2 Each bar has its parts filled in. Write the whole (the ?) under each one.

- a. The Martian found 6 stickers, then 3 more.



$6 + 3 =$ → **stickers**

- b. A box has 4 red crayons and 8 blue crayons.



$4 + 8 =$ → **crayons**

- 3 Your bar this time, Agent — no bar is drawn. **Penelope read 7 books, then 5 more.** Draw the part-whole bar, mark the ?, and solve.

draw your bar: two parts, ? on the whole • $7 + 5 =$ _____

3

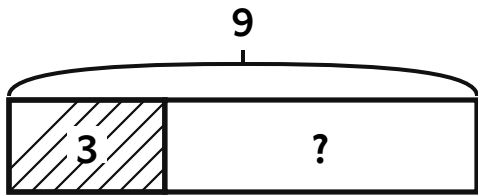
finished? color the star!



The Take-From Bar

When some go AWAY, the start is the whole.

HOW TO DRAW IT



9 is the **WHOLE** • cross off 3 • ? is left

In a **going-away** story, the number you **START** with is the **whole** — draw one long bar for it and write the total in the brace on top. Then **cross off** the piece that leaves and label it. The clean piece that's left is the ?.

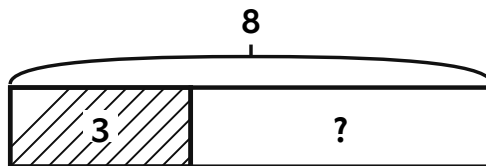
9 marbles, 3 rolled away. Whole = 9, crossed-off part = 3, so $9 - 3 = 6$ left. When a **part** is missing, you **subtract**.

- 1 Read the bar above. The whole (the number he started with) is . The crossed-

off part is . So $9 - 3 =$ left.

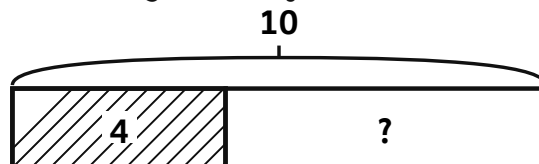
- 2 Each bar shows a going-away story. Cross-off part is already shaded — find the ? that's left.

- a. There were 8 apples. We ate 3.



$8 - 3 =$ → **apples left**

- b. The robot baked 10 cookies and gave away 4.



$10 - 4 =$ → **cookies left**

- 3 Whole-hunt: **15 fish, Sam scooped out 6.** Circle the **WHOLE** (the long bar):

15

6

then solve: $15 - 6 =$

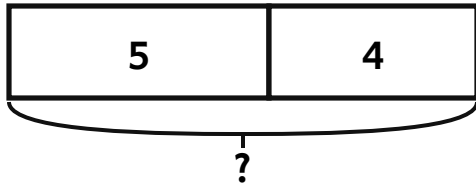
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finished? color the star! ☆

Bar → Equation → Sentence

Turn the picture into numbers, then into a real answer.

THREE STEPS



1. Draw the bar. 2. Write the equation with a **box** for the **?**: $5 + 4 = \square$, then solve the box. 3. Write a **full sentence** with the thing's name: "**There are 9 marbles.**"

A number with no name isn't an answer yet. Always say **what** there are 9 of.

- 1 Finish all three steps for the marbles bar above.

equation: $5 + 4 = \square$

sentence: There are _____.

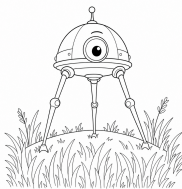
- 2 For each story, decide + or - (is the WHOLE missing, or a PART?), write the equation with your answer in the box, then the sentence.



- a. Penelope had 8 shells and found 6 more.

8 $\square$ 6 = $\square$

There are _____.



- b. The Martian had 13 grapes and ate 5.

13 $\square$ 5 = $\square$

There are _____.

- 3 Last one has no bar and no boxes. **11 ducks were on the pond. 4 swam off.** Write the equation and a full sentence yourself.

equation: _____

sentence: _____

Don't Fall for Sam's Trick

Two numbers does *NOT* always mean add.

SAM'S BAD HABIT

Shortchange Sam has a lazy trick: he sees **two numbers** in a story and just **adds them** — every time. That's how he fakes tickets. Sometimes adding is right... but only when the **whole** is missing. When some go **away**, a **part** is missing, so you **subtract**.

Draw the bar and it can't trick you.

- 1 Catch Sam.** The story: "9 birds sat on a wire. 4 flew away." Sam's ticket says:



"Two numbers! $9 + 4 = 13$ birds. Ticket done!"

Is Sam right? **YES / NO** (circle one) Draw the right bar, then write the true answer:

draw the take-from bar for 9 birds, 4 fly away

- 2** Don't over-arrest him! Sam's next ticket says: "7 shells, found 6 more $\rightarrow 7 + 6 = 13$ shells." The story: "Mia had 7 shells and found 6 more." Is THIS ticket a trick, or did he get it right? **TRICK / OK** (circle one)

- 3** You decide with a bar. **12 frogs sat on a log. 5 hopped into the pond.** Draw the bar, write the equation, and finish the sentence.

draw your bar · equation: _____

There are _____.

Case Closed at the Market

Real orders, all mixed up. Draw the bar, fill the ticket.

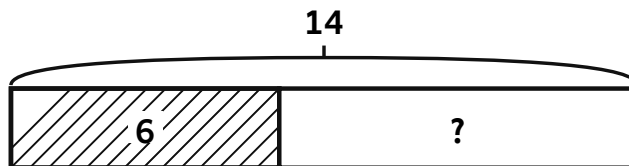
Every ticket: is the **whole** missing (add the parts) or is a **part** missing (subtract)? Draw the bar to be sure.

- 1 The fruit stand sold 8 apples and 5 pears. How many fruits sold in all? Fill the blank bar, then solve.



$$8 + 5 = \boxed{} \rightarrow \boxed{} \text{ fruits}$$

- 2 There were 14 balloons. 6 of them popped. Use the bar, then solve.



$$14 - 6 = \boxed{} \rightarrow \boxed{} \text{ balloons left}$$

- 3 Penelope had 9 gold coins and earned 7 more. No bar this time — draw your own, then write the equation and sentence.

draw your bar · equation: _____

There are _____.

- 4 Final ticket, Agent — no help at all. **Sam faked 16 raffle tickets. The Bureau tore up 9 fakes.** How many real tickets are left? Write the equation and a full sentence.

equation: _____

sentence: _____

CASE CLOSED: every ticket checks out. An agent who draws the bar before she adds or subtracts can't be fooled by a fast story. Sam is back in the lock-up. Outstanding work, Agent Penelope!