Name _____ Date _____

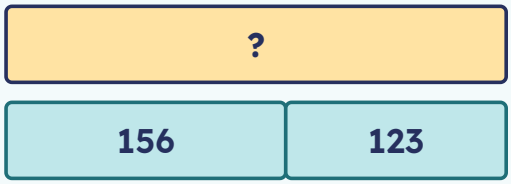
Part–whole bar models

A bar model shows a whole and its parts. Know two numbers, find the third.

1 Learn



Every case has a **whole** and its **parts**. If the whole is missing, **add** the parts. If a part is missing, **take away** the part you know from the whole.



Whole missing: add. 156 + 123 = **279**



Part missing: subtract. 300 − 175 = **125**

Case: a boat catches **348** fish. **215** are cod. The rest are mackerel. How many mackerel?

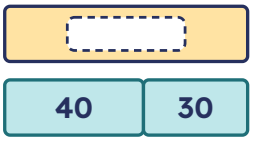


1. Draw the whole: all **348** fish.
2. Split it: **215** cod and **?** mackerel.
3. A part is missing, so subtract: 348 − 215 = **133**.
4. Check: 133 + 215 = 348. ✓

Flip's tip: find the **whole** first. Is it a number in the story, or is it the question? Only add when the whole is the missing number.

Warm up: write the missing number in each bar model.

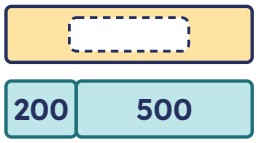
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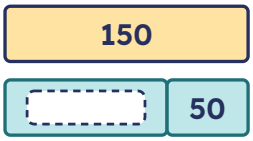
b



c



d



Grown-ups: ask "Which is the whole?" before any working out. Run a finger along the whole bar, then each part: the parts together make the whole.

Name _____ Date _____

2 Try it together a child and a grown-up, about 10 minutes



Sort and split

You need: a big handful of small things in two kinds (two shapes of dry pasta, or buttons in two colours), a pencil.

1. Count **all** the things together. That is the **whole**. Write it in the table.
2. Sort them into the two kinds. Count **one kind only** and write it as the part you know.
3. Draw a bar model below: the whole on top, the two parts underneath.
4. Work out the other part by **subtracting**. Then count it to check. Did you match?

Round	Whole	Part I counted	Other part (worked out)	Counted to check
1				
2				

My bar model for round 1:

Grown-ups: for round 2, swap jobs: you count the whole and one part, and your child works out the missing part. Ask, "Why did we take away, not add?" (Because we already knew the whole.)

3 Practise

A. Add or subtract? Write the missing number in each bar model.

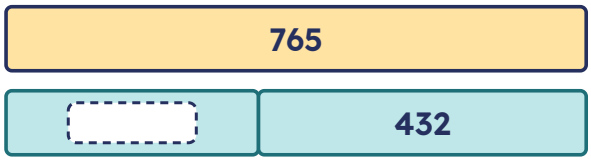
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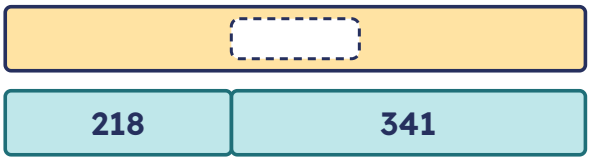
2



3



4



Name _____ Date _____

B. Draw a bar model for each case. Tick **add** or **subtract**, then solve.

1. A café sells **136** sandwiches in the morning and **152** in the afternoon. How many does it sell altogether?

☐ add ☐ subtract Answer: _____ sandwiches

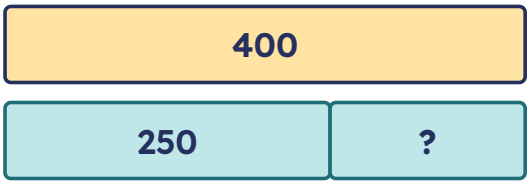
2. A ferry carries **465** people. **230** are grown-ups. The rest are children. How many children are there?

☐ add ☐ subtract Answer: _____ children

3. Mia's book has **284** pages. She has read **150** pages. How many pages are left?

☐ add ☐ subtract Answer: _____ pages

C. Write a story for this bar model, then solve it.



The missing part is ____

Challenge

Leo reads: "There are **360** shells in a jar. **140** are white and the rest are pink. How many are pink?" He writes **360 + 140 = 500**. Is he right? Explain and find the answer.

I can… Tick when you can.

- ☐ draw a bar model with the whole and its parts
- ☐ add the parts when the whole is missing
- ☐ subtract when one part is missing