Free first case



Open the tea cart

The tea tins have lost their labels. Find the weight at every lettered position. One of you keeps the stock slips and the other keeps the weighing slips. Read them aloud, but keep your sheets private. Put the shared worksheet between you. You only need pencils; no scale or cutting.

Use every listed weight exactly once. Each line on a slip shows the sum of the weights at the named positions. For example, A + B = 7 means the tins on A and B weigh 7 units together.

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Case 1 · Role A · Stockkeeper

Keep these slips private. Compare possible weights with your partner and mark deductions on the shared sheet.

- **A + C = 10**

Case 1 · Role B · Weigher

Keep these slips private. Compare possible weights with your partner and mark deductions on the shared sheet.

- **C + D = 11**

Case 1 · Shared worksheet

Available weights: 2 · 3 · 5 · 8

Cart positions

A	B	C	D

Work space

List candidate weights, then cross out options that fail a slip. Write the final weights in the boxes.

Case 1 · Hint and solution

Start with the first slip from each role. Look for a position that both slips name, then compare the possible groups of weights.

$A + C = 10$ & $C + D = 11 \rightarrow C \in \{8\}$

The checks below show how many arrangements remain as you apply the slips in order. Only one arrangement satisfies every slip.

Remaining arrangements

1. $A + C = 10 \rightarrow 4$
2. $C + D = 11 \rightarrow 1$

A = 2 · B = 5 · C = 8 · D = 3