

Multi-step problem solver: revision-pack budget

Pupil activity

Audience: Years 9 to 13 Mathematics pupils

Break a budget problem into unit costs, total cost, revenue and surplus, then check the result with a second method.

Problem

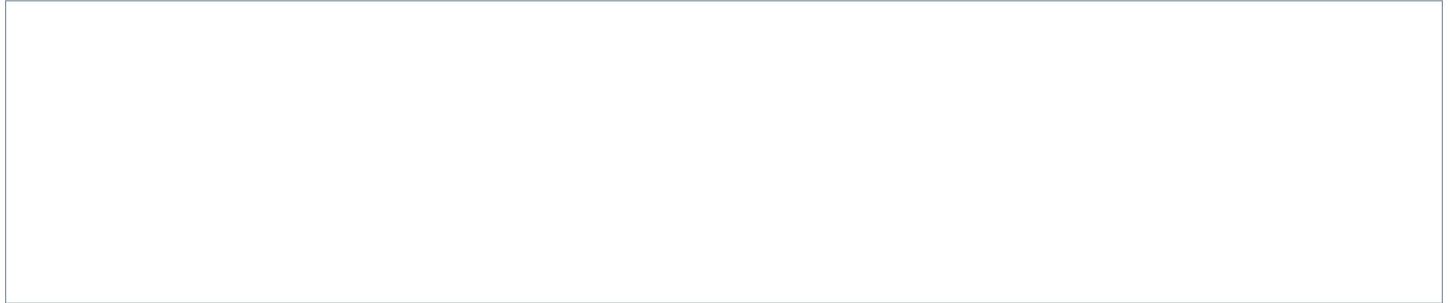
A club assembles 40 revision packs. Each pack uses 3 notebooks at £1.20 each and 2 pens at 65p each. The club sells 38 packs at £6.50 each. What is the surplus or shortfall before any other costs?

1. Plan and calculate

Step	My calculation	My answer
Cost of 3 notebooks		£
Cost of 2 pens		£
Cost of one pack		£
Cost of 40 packs		£
Income from 38 packs		£
Income minus total cost		£

2. Model the amounts

Draw or label one bar for total income and one for the cost of all 40 packs. Mark the difference as a surplus or shortfall.



Total income: _____

Total production cost: _____

Surplus / shortfall and amount: _____

3. Check with a second method

Margin on each sold pack: £6.50 – cost of one pack = £_____

Margin from 38 sold packs: _____ × 38 = £_____

Cost of the 2 unsold packs: _____ × £_____ = £_____

Second-method result: margin from sold packs – cost of unsold packs = £_____