

0450 sets short calculations and then asks what they mean for the business. The arithmetic is never the hard part; the marks go to working that can be followed, an answer that carries its unit, and one sentence of business sense afterwards. Each solution below is written the way it should be written in the exam. 0450

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Break-even

I A café has fixed costs of \$4800 a month. A meal sells for \$12 and costs \$7 to make. Calculate the break-even number of meals, and the profit if 1400 meals are sold.

Break-even is 960 meals. Selling 1400 meals gives a profit of \$2200, with a margin of safety of 440 meals.

Commentary: Contribution per meal = $12 - 7 = \$5$

Commentary: Break-even = $4800 \div 5 = 960$ meals

Commentary: Margin of safety = $1400 - 960 = 440$ meals

Commentary: Profit = $1400 \times 5 - 4800 = 7000 - 4800 = \2200

Commentary: Profit is TOTAL CONTRIBUTION minus fixed costs – subtracting fixed costs twice is the usual slip.

I The rent rises by \$600 a month. Recalculate the break-even point and advise the owner.

Break-even rises to 1080 meals. The margin of safety falls from 440 to 320 meals, so the café is closer to making a loss. The owner could raise the price, cut the cost of ingredients, or try to sell more – but raising the price may itself reduce sales.

Commentary: New fixed costs = $4800 + 600 = \$5400$

Commentary: Break-even = $5400 \div 5 = 1080$ meals

Commentary: New margin of safety = $1400 - 1080 = 320$ meals

Commentary: The advice is the application mark, and a good answer names a drawback of its own recommendation.

Divide fixed costs by CONTRIBUTION, not by the selling price. Dividing by \$12 gives 400 meals here – less than half the real figure.

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Cash flow

I A business starts a month with \$12\,000 in the bank. Receipts are \$48\,000 and payments are \$53\,000. Find the net cash flow and the closing balance, and explain the difference between this and profit.

Net cash flow is $-\$5000$ and the closing balance is $\$7000$. Cash flow is money actually moving in and out this month; profit is revenue minus costs over a period, and a business can be profitable and still run out of cash if customers pay late.

Commentary: Net cash flow = $48\,000 - 53\,000 = -\$5000$

Commentary: Closing balance = opening balance + net cash flow = $12\,000 - 5000 = \$7000$

Commentary: A negative net cash flow is not automatically a crisis – the closing balance is still positive. Read both figures before judging.

The closing balance of one month is the OPENING balance of the next. In a cash-flow forecast table, that single carry-across is where most arithmetic marks are won or lost.

Ratios and accounts

I Revenue is \$400\,000 and the gross profit margin has fallen from 36% to 31%. Calculate the gross profit in each case and suggest two causes.

Gross profit has fallen from \$144\,000 to \$124\,000, a loss of \$20\,000 on the same revenue. Either the cost of buying or making the goods has risen, or the business has cut its selling prices – perhaps to compete – without cutting its costs to match.

Commentary: $\text{Gross profit} = \text{revenue} \times \text{margin} \div 100$

Commentary: Before = $400\,000 \times 36 \div 100 = \$144\,000$

Commentary: After = $400\,000 \times 31 \div 100 = \$124\,000$

Commentary: The gross margin is about the COST OF SALES, so the causes must be about buying, making or pricing – not about rent or salaries, which sit below gross profit.

I Current assets are \$96\,000, of which \$36\,000 is inventory, and current liabilities are \$48\,000. Calculate the current ratio and the acid test ratio, and comment.

The current ratio is 2 : 1 and the acid test is 1.25 : 1. The business can cover its short-term debts comfortably, and can still do so even without selling any stock.

Commentary: Current ratio = $96\,000 \div 48\,000 = 2 : 1$

Commentary: Acid test = $(96\,000 - 36\,000) \div 48\,000 = 60\,000 \div 48\,000 = 1.25 : 1$

Commentary: Write ratios as “ $x : 1$ ”. Inventory is removed from the acid test because it is the current asset hardest to turn into cash quickly.

Productivity, capacity and the market

I A factory’s output per worker rises from 400 to 460 units a month after new machinery is installed. Calculate the percentage change and give one reason why profit may still not rise.

Productivity rose by 15%. Profit may still not rise because the machinery had to be paid for, workers may need training or may resist the change, and the extra output is only useful if it can actually be sold.

Commentary: Percentage change = $(460 - 400) \div 400 \times 100$

Commentary: = $60 \div 400 \times 100 = 15\%$

Commentary: Divide by the ORIGINAL figure, 400.

I A firm’s sales are \$180\,000 in a market worth \$1.2 million. The market grows to \$1.5 million while the firm’s sales rise to \$195\,000. Calculate its market share in each year and comment.

Share fell from 15% to 13%. Sales grew, but the market grew faster – so the firm is losing ground to competitors even though its revenue is up.

Commentary: Year 1 = $180\,000 \div 1\,200\,000 \times 100 = 15\%$

Commentary: $\text{Year 2} = 195\,000 \div 1\,500\,000 \times 100 = 13\%$

Commentary: Rising sales and falling share at the same time is exactly the trap this style of question is built on. Say both.

What the examiner is actually marking

Show the formula before the numbers. If the calculator slips, the method mark survives.

Write the unit, the currency symbol or the percent sign on every answer, and “ $x : 1$ ” on every ratio.

Then say what it means for THIS business, using the case study. A number with no comment is half an answer to a “calculate and comment” question.

Divide by the ORIGINAL value in every percentage change. A rise from 400 to 460 is 15%; the fall back from 460 to 400 is about 13%, and they are not the same.

Where you recommend something, give one drawback of your own recommendation. That balance is what moves an answer into the top band.