

Cambridge IGCSE · Business Studies 0450 · Notes

Analysis of accounts

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Read first: [Income statements](#), [Statement of financial position](#)

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What you need to know

By the end of this topic you should be able to:

1. **Profitability.** Explain what profitability means, how much profit a business makes compared with the size of its sales or the capital invested in it (measured as a percentage), and why it matters.
2. **Liquidity.** Explain what liquidity means, the ability of a business to pay its short-term debts (current liabilities) when they are due, and why it matters.
3. **Calculate and interpret five ratios.** Work out the gross profit margin, profit margin and return on capital employed (profitability ratios), and the current ratio and acid test ratio (liquidity ratios), then say what each result shows about the business's performance.
4. **Users of accounts.** Explain what different groups (owners, managers, employees, banks, suppliers, government, possible investors) want from a business's accounts, and how they use the figures and ratios to decide, for example whether to lend to it or invest in it.

You will not be given a formula sheet. All five ratio formulas must be learnt.

Understand it

Profit is not the same as profitability

Profit is a dollar amount: total revenue minus total costs. It says how much a business made, not whether that is good: \$1 million is excellent for a corner shop and poor for a car maker.

Profitability: how much profit a business makes compared with the size of its sales or the capital invested in it (measured as a percentage). Turning profit into a percentage lets a business be compared with last year, with rivals or with a target, whatever its size. Two taxi firms each making \$50 000 profit on revenue of \$250 000 and \$500 000 keep \$20 and \$10 of every \$100 of sales: same profit, but the first is more profitable.

Profitability matters because owners compare it with what their money could earn elsewhere; managers use it to see whether costs are under control and whether a product or plan is worth continuing; lenders and investors prefer a business that turns its sales and capital into profit efficiently; and a business that stays unprofitable has nothing to reinvest and will struggle to survive.

Liquidity

Liquidity: the ability of a business to pay its short-term debts (current liabilities) when they are due.

Short-term debts are the current liabilities: trade payables (money owed to suppliers), an overdraft, short-term loans. They are paid from **current assets**: cash, trade receivables (money customers owe) and inventory (once it is sold). A profitable business can still run short of cash if customers pay late or it has bought too much inventory. Liquidity matters:

- to **pay suppliers, wages and other short-term debts on time**, so trade continues;
- to **keep trade credit** and **get finance** (banks check liquidity before lending);
- to **survive**: a business that cannot pay its debts may be forced to stop trading, even if it is profitable;
- to **cope with an emergency**, such as a sudden repair or a fall in sales.

Too much liquidity has a cost too: idle cash and piles of inventory earn nothing, when the money could buy machinery, repay a loan or fund growth.

The running example

Throughout this section we use a company that makes kitchen cabinets. Its figures for Year 1 (\$000) are:

Income statement, Year 1	\$000	Statement of financial position, end of Year 1	\$000
Revenue	800	Non-current assets	500
Cost of sales	480	Inventory	120
Gross profit	320	Trade receivables	100
Expenses	200	Cash	80
Profit	120	Current assets (total)	300
		Current liabilities	200
		Non-current liabilities	150
		Equity	450

Gross profit margin

$$\text{Gross profit margin} = \frac{\text{gross profit}}{\text{revenue}} \times 100$$

Cabinet maker: $\frac{320}{800} \times 100 = 40\%$. Out of every \$100 of sales, \$40 is left after paying for the goods sold (materials, or the goods bought to resell).

What it shows: control of **cost of sales** compared with prices. It falls if suppliers charge more, materials are wasted or prices are cut; it rises with a cheaper supplier or higher prices.

Profit margin

$$\text{Profit margin} = \frac{\text{profit}}{\text{revenue}} \times 100$$

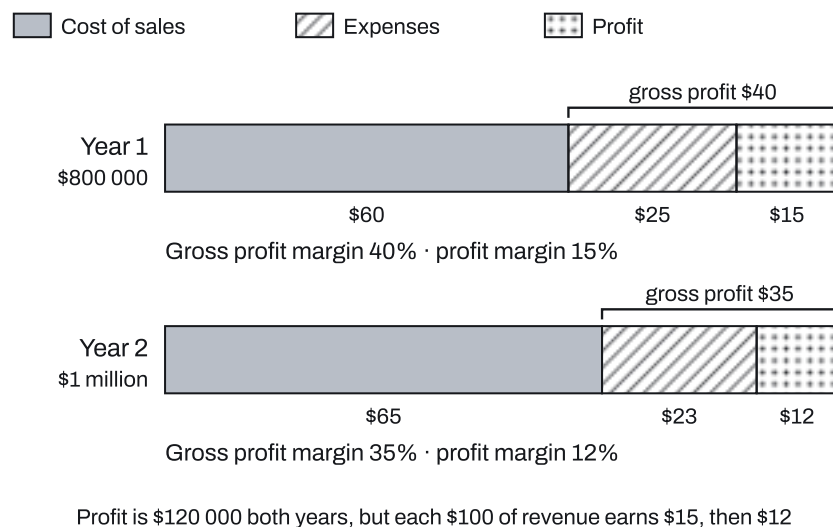
Cabinet maker: $\frac{120}{800} \times 100 = 15\%$. Out of every \$100 of sales, \$15 is profit once **all** costs are paid.

What it shows: how well the business controls **all** its costs, including its **expenses** (rent, salaries, advertising, interest). The gap between the two margins is the expenses: here $40\% - 15\% = 25\%$, so \$25 of every \$100 of sales goes on expenses.

Reading the two margins together tells you **which** costs are the problem:

- gross profit margin falls → cost of sales is rising faster than revenue (or prices were cut);
- gross profit margin steady but profit margin falls → expenses are rising faster than revenue;
- gross profit margin falls but profit margin rises → cost of sales got worse while expenses were cut or spread over more sales.

In Year 2 revenue grows to \$1 000 000, cost of sales to \$650 000 and expenses to \$230 000. Profit is still \$120 000, but the ratios tell a different story:



The gross profit margin fell from 40% to 35%: each \$100 of sales now needs \$65 of cost of sales, not \$60, perhaps because wood costs more or prices were cut to win orders. Expenses fell from \$25 to \$23 per \$100, not enough to make up the difference, so the profit margin fell from 15% to 12%: more sales, less earned on each.

Return on capital employed (ROCE)

Capital employed: the total long-term finance invested in the business: equity plus non-current liabilities. It equals non-current assets plus working capital, so you can work it out either way.

Cabinet maker: equity \$450 000 + non-current liabilities \$150 000 = \$600 000. Check: non-current assets \$500 000 + working capital (\$300 000 – \$200 000 = \$100 000) = \$600 000.

$$\text{ROCE} = \frac{\text{profit}}{\text{capital employed}} \times 100$$

Cabinet maker: $\frac{120}{600} \times 100 = 20\%$. Every \$100 invested in the business earned \$20 of profit in the year.

What it shows: how well the business uses the money invested in it. Owners and investors compare it with what the money would earn elsewhere: if a bank pays 4% interest, 20% is a good return for the extra risk, while 3% suggests the money could be better used.

Current ratio

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

Cabinet maker: $\frac{300}{200} = 1.5$, written 1.5 or 1.5:1. It has \$1.50 of current assets for every \$1 of short-term debt.

What it shows: whether current assets cover current liabilities. A usual guide is **about 1.5 to 2**:

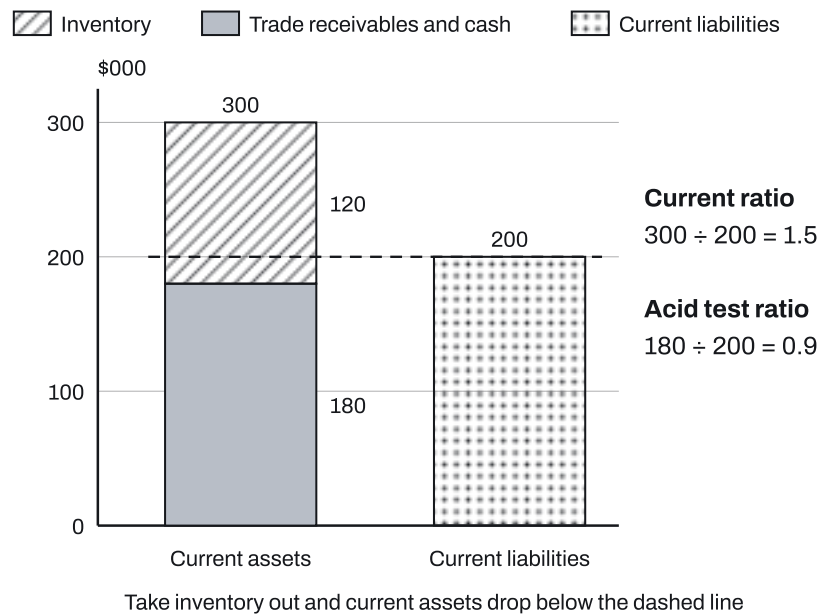
- **below 1:** the business could not pay all its short-term debts even if it turned every current asset into cash, a sign of liquidity problems;
- **1.5 to 2:** comfortable;
- **well above 2** (for example 3): very safe, but money may be tied up in idle cash, unpaid customer debts or too much inventory that could be earning a return elsewhere.

Acid test ratio

$$\text{Acid test ratio} = \frac{\text{current assets} - \text{inventory}}{\text{current liabilities}}$$

Cabinet maker: $\frac{300-120}{200} = \frac{180}{200} = 0.9$.

Inventory is left out because it is the hardest current asset to turn into cash: it must be sold first, perhaps at a discount. The acid test asks: **could the business pay its short-term debts without selling any inventory?** A usual guide is **about 1**: below 1 (as here) means it could not, and the further below, the bigger the worry; well above 1 means cash may be sitting idle.



A big gap between the two ratios means much of the current assets is inventory: normal for a shop that sells its stock in days, a warning for a business whose stock sells slowly.

Interpreting ratios: comparisons and judgement

A ratio on its own says little. Compare it **with last year**, **with a competitor**, **with a guide** (current ratio about 1.5 to 2, acid test about 1, ROCE above the interest rate) or **with a forecast**. Then say **what** the change shows (cost control, use of capital, ability to pay debts), **why** it might have happened and **what it means** for the person deciding. Remember the limits: accounts show the past, a forecast may not come true, and businesses of very different sizes or industries need care.

Users of accounts and what they look for

Internal users work inside the business; **external users** are outside it.

User	What they look at	The decision it helps
Managers (internal)	All five ratios, against last year, rivals and targets	Raise prices or cut costs; keep or drop a product; expand
Owners and shareholders	Profit, ROCE, profit margin; liquidity for safety	Keep, buy more or sell shares; put more money in
Possible investors (including a business planning a takeover)	ROCE, margins, growth, liquidity	Whether to invest, or to take the business over
Banks and other lenders	Liquidity ratios, profit, existing loans	Whether to lend or offer an overdraft, how much, at what interest rate
Suppliers	Current ratio and acid test ratio, cash	Whether to give trade credit, and for how long

User	What they look at	The decision it helps
Employees	Profit, revenue trend, margins	Job security; whether to ask for a pay rise
Government	Profit	Collecting the right amount of tax
Local community	Profit, growth	Whether the business is likely to stay, grow or close

To answer "how might this user use the accounts?": **user** → **the figure or ratio they look at, quoted from the case** → **the decision it leads to**.

Key facts and formulas

There is no formula sheet in the exam. "Learn it" means you must remember it.

Fact or formula	Status
Profitability: how much profit a business makes compared with the size of its sales or the capital invested in it (measured as a percentage)	Learn it
Liquidity: the ability of a business to pay its short-term debts (current liabilities) when they are due	Learn it
Gross profit margin = $\frac{\text{gross profit}}{\text{revenue}} \times 100$, in %	Learn it
Profit margin = $\frac{\text{profit}}{\text{revenue}} \times 100$, in %	Learn it
Return on capital employed (ROCE) = $\frac{\text{profit}}{\text{capital employed}} \times 100$, in %	Learn it
Capital employed: the total long-term finance invested in the business: equity plus non-current liabilities	Learn it
Capital employed = equity + non-current liabilities = non-current assets + working capital	Learn it
Current ratio = $\frac{\text{current assets}}{\text{current liabilities}}$, written as 1.5 or 1.5:1	Learn it
Acid test ratio = $\frac{\text{current assets} - \text{inventory}}{\text{current liabilities}}$	Learn it
Working capital = current assets – current liabilities	Learn it
Guides: current ratio about 1.5 to 2; acid test ratio about 1; below 1 suggests liquidity problems, far above suggests idle assets	Learn it

How to do it

We have tagged 29 questions on this topic (2021–2025), on Paper 1 and Paper 2. Six of them have parts of more than one type, so the counts add to 37.

Question type	Questions
Calculate a ratio from given figures	10
Analyse accounts with calculations and make a judgement	8
Explain how a user of accounts would use the information	5
Ways a business or its managers can use accounts and ratio analysis	3
Judge which user finds the accounts most useful	3
Suggest or judge ways to improve profit or profit margin	3
Explain why profitability or liquidity matters	2
Define a ratio term or name ratios	2
Explain the effect of a change in a ratio	1

The mark scheme codes are **k** (knowledge: a correct point), **app** (application: a detail from the case), **an** (analysis: a developed consequence) and **eval** (evaluation: a justified judgement).

Part	Marks	What earns them
Paper 1 "Define" (a)	2	a full definition; a partial one gets 1
Paper 1 "Calculate" or "Identify" (b)	2	1 for the method, 1 for the right answer (2 for the right answer alone); only the first answers asked for are marked
Paper 1 "Outline" (c)	4	each point: k + app
Paper 1 "Explain" (d)	6	each point: k + app + an
Paper 1 (e) "Do you think ...?"	6	2 k + 2 an + 2 eval; a general question, so no app
Paper 2 (a)	8	four points × (1 + 1 explanation in context), or two points with three more marks each, as the question says
Paper 2 (b) "Consider ... Justify your answer using suitable calculations"	12	levels: Level 1 statements, Level 2 ratios calculated and explained, Level 3 both sides in context and a justified decision

1. Calculate a ratio from given figures (10 questions)

Paper 1 (b), 2 marks, "Show your working".

- 1. Write the formula in words** ("profit ÷ revenue × 100"): it earns the method mark even if the arithmetic goes wrong.

2. **Pick the right figures:** tables include ones you don't need, and two-year tables need the right year.
3. **Write the answer with its unit** on the final-answer line: margins and ROCE need %; current and acid test ratios are plain numbers (1.25 or 1.25:1).

For a table with revenue \$640 000, gross profit \$224 000 and profit \$96 000: gross profit margin = $224\,000 \div 640\,000 \times 100 = 35\%$; profit margin = $96\,000 \div 640\,000 \times 100 = 15\%$.

Variations you will meet:

- **Profit margin** (0450/12/F/M/25 Q3, part (b); 0450/12/O/N/22 Q2, part (b)): $400 \div 1000 \times 100 = 40\%$; $72 \div 480 \times 100 = 15\%$; the % was needed for 2 marks. The 2025 report says some left out the $\times 100$ or the %, or gave dollars; the 2022 report says a common mistake was working out the gross profit margin instead.
- **Gross profit margin** (0450/12/F/M/22 Q3, part (b); 0450/11/M/J/21 Q2, part (b)): $12\,000 \div 20\,000 \times 100 = 60\%$; $3330 \div 7400 \times 100 = 45\%$ (0.45 alone scored 0). The 2022 report says some put revenue and gross profit the wrong way up or calculated the profit margin; the 2021 report says some misread 3330 as 3300.
- **ROCE** (0450/11/O/N/24 Q3, part (b); 0450/12/M/J/24 Q2, part (b); 0450/13/O/N/23 Q2, part (b)): $100 \div 800 \times 100 = 12.5\%$; $150\,000 \div 750\,000 \times 100 = 20\%$; $60 \div 300 \times 100 = 20\%$, from a table that also listed revenue, gross profit and current liabilities. The last two mark schemes stated that the % was needed for both marks.
- **Current ratio** (0450/12/O/N/24 Q3, part (b); 0450/13/M/J/24 Q1, part (b)): $250 \div 200 = 1.25$ ("1.25" or "1.25:1" both earned 2) and $120\,000 \div 150\,000 = 0.8$; the non-current figures in the tables were not needed.
- **Acid test ratio from a two-year table** (0450/12/F/M/23 Q2, part (b)): for 2022, $(50\,000 - 30\,000) \div 40\,000 = 0.5$. The report says a common mistake was calculating the current ratio.

A correct answer with no working scored 2; several of these mark schemes gave only 1 when the right figure appeared in the working but was not given as the final answer.

2. Analyse accounts with calculations and make a judgement (8 questions)

Paper 2 (b), 12 marks, levels. The case gives two sets of figures (two years, a year and a forecast, two companies, a business and its competitor, or two products) and asks for a decision.

1. **Calculate the ratios that fit the figures:** an income statement gives the margins (and ROCE if capital employed is given); a statement of financial position gives the current and acid test ratios, but no profit.
Label every result ("current ratio 2025 = 1.25") and keep the units.
2. **Interpret each comparison** (Level 2): what it shows (cost of sales control, expenses control, use of capital, ability to pay short-term debts), why it might have happened, and how it compares with the guides.
3. **Discuss both sides** in context, using non-financial details too (plans, the economy, a new loan, whether figures are a forecast).
4. **Decide and justify** (Level 3): answer the question, say why the supporting figures matter more and why the other option is rejected.

Variations you will meet:

- **Which of two companies should be taken over? (0450/22/M/J/25 Q4, part (b)):** Company A had revenue \$100m, cost of sales \$40m and expenses \$40m (gross profit margin 60%, profit margin 20%); Company B had revenue \$200m, cost of sales \$90m and expenses \$60m (55% and 25%). Either choice could be justified. Lessons from the report: link each calculated margin to what the buyer gains (choosing B just because its numbers are bigger is not enough), keep gross profit and profit apart, write \$ and "m" on every figure, and label each result.
- **Should a relative invest, using this year and a forecast? (0450/21/M/J/25 Q4, part (b)):** current ratio 1.25 in 2025 and 1.2 forecast for 2026; acid test ratio 1, then 0.6, after a \$460 000 rise in bank loans for a new factory. The report's lessons: calculate and label both liquidity ratios rather than comparing lines, treat 2026 as a forecast, and read the \$000 heading.
- **Will financial performance improve, from a forecast income statement? (0450/23/O/N/24 Q4, part (b)):** revenue (\$20m to \$30m) and profit (\$5m to \$6m) rise, but the gross profit margin falls from 75% to about 67% and the profit margin from 25% to 20%, as costs rise by a larger percentage than revenue; and a forecast may not be reached.
- **Is a business's performance better than its competitor's? (0450/22/O/N/24 Q4, part (b)):** ROCE 30% against 15% and acid test 1.3 against 0.67, but gross profit margin 50% against 60% and profit margin 5% against 20%.
- **Which product should be dropped? (0450/21/M/J/24 Q4, part (b)):** Product A made \$60 000 profit at a 30% profit margin, with demand rising 10% a year; Product B had the higher gross profit margin (62.5%) and revenue (\$400 000) but a 12.5% profit margin and \$50 000 profit, with demand rising 20% a year. Weigh future growth against this year's figures.
- **Should the managing director be concerned? (0450/23/M/J/23 Q4, part (b)):** revenue \$25m to \$32m, profit \$5m to \$8m; gross profit margin 60% to 50%, profit margin 20% to 25%. The report warns that higher cost of sales is not good news: it rose with sales, but faster than revenue, which is what pulled the gross profit margin down.
- **Which company is in the better financial position? (0450/23/O/N/22 Q4, part (b)):** current ratio 2 and acid test 1.95 against 1 and 0.75 for a competitor with twice the revenue. Work out both liquidity ratios for both businesses; the report notes that profit cannot be found from these statements, although some tried.
- **Is the business in a good position to expand? (0450/22/M/J/22 Q2, part (b)):** current ratio 3 and acid test 2, both up by 1 and above the guides, so liquidity is strong but money may be idle. From the report: "higher" or "lower" alone stays in Level 1, a ratio is never in dollars, the ratios use current (not total) assets and liabilities, and a list of figures with no comparison scored 0.

3. Explain how a user of accounts would use the information (5 questions)

1. **Name what the user wants to decide** (k), using the users table in "Understand it".
2. **Quote a figure or ratio from the case** that this user would look at (app), a different one for each user.
3. **Say how it leads to the decision** (an, or the "explanation" mark on Paper 2).

Example for a bakery chain with a current ratio of 0.75: "A supplier would check whether it will be paid on time (k). The current ratio of 0.75 (app) means the bakery has only 75 cents of current assets for each \$1 it owes in the short term, so the flour supplier may refuse trade credit and ask for payment on delivery (an)."

Variations you will meet:

- **Owners, employees, suppliers and a bank, one way each (0450/23/O/N/25 Q4, part (a)):** 1 per way plus 1 for an explanation in context, 8 in all. The mark scheme's examples drew on the \$100 000 profit, the 50% rise in revenue, the current ratio of 2 and the acid test ratio of 0.5.
- **Employees and suppliers (0450/12/F/M/23 Q2, part (d)):** k + app + an. The report's advice: name the figure the user wants (such as the \$10 000 loss or the \$5000 fall in cash) instead of writing "financial problems" or "the financial statements", develop the point rather than restate it, and remember that cash, not profit, pays wages and suppliers.
- **Shareholders and suppliers (0450/11/M/J/22 Q3, part (d)):** numbers had to be quoted for application, and calculating the current ratio alone was not analysis. The report adds: use a different figure for each user, and "accounts" means the financial statements, not the bank account.
- **Shareholders, suppliers, employees and banks (0450/23/O/N/21 Q1, part (a)):** figures included profit \$20 million, ROCE 5% and current ratio 2. The report says backing every user with a figure was rare, so that is where marks were lost.
- **Identify two external users (0450/13/O/N/24 Q4, part (b)):** banks or lenders, suppliers, government, possible investors, the local community or pressure groups (not managers or employees, who are internal).

4. Ways a business or its managers can use accounts and ratio analysis (3 questions)

Uses: see whether a profit was made and how much; calculate margins, ROCE, working capital or liquidity ratios; compare with past years or competitors; track performance against objectives; decide whether to continue a product; plan investment; support a loan application; show what the business owns, owes and is worth. Name a **specific** use (k), add a case figure for "Outline" (app) and what it lets managers do for "Explain" (an).

Variations you will meet:

- **Outline two ways a finance director could use an income-statement extract (0450/13/O/N/25 Q1, part (c)):** credited ways included showing the \$90m profit, calculating the gross profit margin (52%) or profit margin (12%), deciding whether to continue production, tracking performance and supporting a loan; "use ratio analysis" was credited only when no specific example was given.
- **Identify four ways a statement of financial position can be used (0450/13/O/N/24 Q4, part (c)):** working capital, current or acid test ratio, what is owned and owed, how expansion was financed, the value of the business, a loan application, comparisons over time or with rivals.
- **Explain two ways managers can use ratio analysis (0450/11/M/J/21 Q2, part (d)):** trends, comparisons with competitors, measuring performance (is the 8% ROCE better than last year's?), investment decisions, checking liquidity (current ratio 1.5). The report calls it one of the more challenging questions; its lessons: write about profitability and liquidity (not profit or cash flow), and develop each use into what managers then do.

5. Judge which user finds the accounts most useful (3 questions)

Paper 2 (b), 12 marks, three named groups: for each, the decision it faces, the figures or ratios it would use (calculated) and what they suggest; then which group gains most **and why the other two gain less** (they need other information too, or the figures barely affect their decision).

Paper 1 (e), 6 marks, general: develop the bank's use (whether to lend, how much, at what interest rate), develop another user's (suppliers judging liquidity before credit; government checking profit for tax), then decide. No application marks.

Variations you will meet:

- **Employees, shareholders, or a competitor thinking of a takeover (0450/21/O/N/23 Q3, part (b)):** revenue \$100m to \$125m, profit \$20m both years, profit margin 20% to 16%. Employees judge a pay rise and job security; shareholders, dividends and whether to keep their shares; the competitor, whether the business is worth buying. The top band needed all three and why the others find the data less useful.
- **Shareholders of the target, managers of the bidder, and the bidder's bank manager (0450/22/O/N/22 Q4, part (b)):** the bidder made \$42m profit against the target's \$3.5m and had a profit margin of 25%; the target had a current ratio of 1 and an acid test of 0.33; the bidder needed \$35m and already owed \$10m. The report calls it the hardest question on the paper. Level 3 needs a specific figure tied to each group's decision, as in the best point seen: the bank manager weighing existing loans, profit and liquidity ratios before lending. Note that the bank manager works for the bank.
- **Are banks the main external users? (0450/12/M/J/24 Q2, part (e)):** credited points were the bank deciding on a loan, its interest rate, the amount and whether repayments can be made, against government (tax on profit) and suppliers (liquidity, level of debt).

6. Suggest or judge ways to improve profit or profit margin (3 questions)

The margins rise only if profit grows faster than revenue:

- **raise prices:** both margins rise, but customers may switch to rivals;
- **cut variable costs** (cheaper materials or suppliers, less waste): both margins rise, but quality may fall;
- **cut expenses** (lower rent): the profit margin rises, the gross profit margin does not; hard to do quickly.

Paper 1 (c), 4 marks: two ways, each k + app. **Paper 1 (e), 6 marks:** develop the named way and one alternative (k + an each), then decide (eval × 2).

- **Two ways a café business can improve its profit margin (0450/12/M/J/24 Q2, part (c)):** raise the price of its food, lower fixed costs such as the rent of its cafés, or lower variable costs, each with a case detail.
- **Is increasing prices the best way to increase profit? (0450/11/O/N/24 Q3, part (e)):** general, no application; weigh higher revenue per sale against losing customers, and compare with cutting costs.
- **Is reducing variable costs the best way to improve profit? (0450/13/O/N/23 Q2, part (e)):** general, no application; weigh a higher margin without a price rise against lower quality, and compare with raising prices or selling more. The income statements note covers both in detail.

7. Explain why profitability or liquidity matters (2 questions)

1. **Use the right idea**, from the definitions in "Understand it": profitability is about profit **compared with** sales or capital, shown by ratios, and liquidity is about **short-term debts**. Neither is just "profit" or "cash".
2. **Give different reasons**. For liquidity: pay suppliers and other short-term debts on time; get finance or trade credit; survive (avoid being forced to close); cope with emergencies. Paying wages and paying suppliers are the **same** reason (day-to-day costs).
3. For a 12-mark part, **name the ratios** and what each shows, quote a guide value, and decide which matters more for this business and why the other matters less.

Variations you will meet:

- **Outline two reasons liquidity is important to a garden products business (0450/12/M/J/22 Q1, part (c))**: current assets \$660 000, current liabilities \$600 000. Credited reasons were paying day-to-day expenses or short-term debts, arranging finance, survival and emergencies. The report warns that paying wages and paying suppliers count as one reason, and that liquidity is not a measure of profit.
- **Why profitability and liquidity ratios matter to a restaurant owner, and which matters more (0450/23/M/J/25 Q3, part (b))**: credited points included gross profit margin for ingredient costs, profit margin for expenses, ROCE against the \$50 000 franchise cost, current ratio about 1.5 to 2, acid test about 1, and banks judging a loan. It was the lowest-scoring question on the paper; the report puts this down to confusing profit with profitability and weak knowledge of liquidity ratios, which it names as the least understood topic on that paper.

8. Define a ratio term or name ratios (2 questions)

- **Define "capital employed" (0450/11/O/N/24 Q3, part (a))**: 2 marks for the total long-term finance invested in the business: equity plus non-current liabilities; non-current assets plus working capital, or total assets minus current liabilities, were also accepted. "Money invested in a business" alone was partial (1).
- **State four financial ratios (0450/12/O/N/21 Q3, part (c))**: any four of gross profit margin, profit margin, ROCE, current ratio, acid test ratio. Give four different ratios, not items such as profit or revenue (a mistake the report names).

9. Explain the effect of a change in a ratio (1 question)

1. **State the change with its figures** (k or app).
 2. **Explain what it will do to the business** (an), not why it happened: a falling current ratio → harder to pay short-term debts, so suppliers may stop giving credit; a falling profit margin → less profit per \$ of sales, so less to reinvest, and it may need to raise prices or cut costs.
- **Current ratio 1.6 to 1.3 and profit margin 12% to 10% for a group of sports clubs (0450/11/O/N/22 Q3, part (d))**: "fallen" could earn k or app but not both, and reasons for the change were not credited. Stating the falls with figures reached only those marks; the analysis needs the consequence for the clubs.

Worked examples

Example 1

Incline is a private limited company that prints posters and leaflets. An extract from its accounts for 2025 is shown.

	\$000
Revenue	450
Cost of sales	270
Expenses	117
Current assets	96
Inventory	24
Current liabilities	60
Capital employed	252

(a) Calculate Incline's profit margin. Show your working. [3]

(b) Calculate Incline's acid test ratio. Show your working. [2]

(c) Calculate Incline's return on capital employed. Show your working. [2]

(a) Gross profit = $450 - 270 = 180$, so profit = $180 - 117 = 63$, that is \$63 000 (1). Profit margin = profit ÷ revenue × 100 = $63 \div 450 \times 100$ (1) = 14% (1).

(b) Acid test ratio = (current assets – inventory) ÷ current liabilities = $(96 - 24) \div 60$ (1) = 1.2 (1).

(c) ROCE = profit ÷ capital employed × 100 = $63 \div 252 \times 100$ (1) = 25% (1).

Part (a) earns 3, parts (b) and (c) 2 each. Total 7 marks. Part (c) reuses the profit from part (a), so check it first.

Example 2

Kurl owns 8 hair salons. It buys hair dye and styling products from one supplier. In 2025 Kurl cut its prices for students to win more customers, and it moved its head office to cheaper premises. Some of its figures are shown.

	2024	2025
Gross profit margin	70%	64%
Profit margin	18%	20%
Acid test ratio	1.1	0.7

(a) Outline two possible reasons why Kurl's gross profit margin fell. [4]

(b) Explain how a bank and a supplier might each use the change in Kurl's acid test ratio. **[6]**

(a) Lower selling prices (k): Kurl cut its prices for students (app), so each haircut brings in less revenue while the products used cost the same.

Higher cost of sales (k): its supplier may have raised the price of the hair dye and styling products it buys (app), so more of each \$100 of sales goes on materials.

(b) Bank. A bank uses liquidity to decide whether to lend or offer an overdraft (k). Kurl's acid test ratio fell from 1.1 to 0.7 (app), so without counting its inventory it now has only 70 cents of current assets for every \$1 of short-term debt. The bank sees a higher risk of not being repaid, so it may refuse an overdraft or charge a higher interest rate (an).

Supplier. A supplier uses liquidity to decide whether to keep giving trade credit (k). The company selling Kurl its hair dye and styling products (app) may fear that it will be paid late, so it may shorten the credit period or ask for payment on delivery, which would put even more pressure on Kurl's cash (an).

Part (a) earns k + app per reason ($2 + 2 = 4$); part (b) k + app + an per user ($3 + 3 = 6$). Total 10 marks. The profit margin **rose** while the gross profit margin fell, so expenses fell as a share of sales, which fits the cheaper premises.

Example 3

A supermarket chain wants one business to supply all its fresh fruit juice for the next three years. It needs large, regular deliveries, and juice must be sold within days of being made. Two juice makers, P and Q, have sent their latest accounts (\$ million).

	P	Q
Revenue	40	90
Cost of sales	24	63
Expenses	10	18
Current assets	8	30
Inventory	2	18
Current liabilities	5	20
Capital employed	30	45

Consider the financial information for P and Q. Which juice maker should the supermarket chain choose? Justify your answer using suitable calculations. **[12]**

Calculations (label each one):

	P	Q
Gross profit	$40 - 24 = 16, \$16\text{m}$	$90 - 63 = 27, \$27\text{m}$

	P	Q
Gross profit margin	$16 \div 40 \times 100 = 40\%$	$27 \div 90 \times 100 = 30\%$
Profit	$16 - 10 = 6, \$6\text{m}$	$27 - 18 = 9, \$9\text{m}$
Profit margin	$6 \div 40 \times 100 = 15\%$	$9 \div 90 \times 100 = 10\%$
ROCE	$6 \div 30 \times 100 = 20\%$	$9 \div 45 \times 100 = 20\%$
Current ratio	$8 \div 5 = 1.6$	$30 \div 20 = 1.5$
Acid test ratio	$(8 - 2) \div 5 = 1.2$	$(30 - 18) \div 20 = 0.6$

P. P's gross profit margin of 40% against 30% shows better control of the cost of its fruit and bottles, and its 15% profit margin shows its expenses are kept down too. Its current ratio of 1.6 is within the usual 1.5 to 2, and its acid test ratio of 1.2 means it could pay all its short-term debts without selling any juice. However, P's revenue is \$40m, less than half of Q's \$90m, so it is much smaller and may not be able to make the large, regular quantities the chain needs without expanding first.

Q. Q is larger, with more profit (\$9m against \$6m) and the same 20% ROCE, so it uses its capital as well as P and already produces on a big scale. But its margins are lower, and while its current ratio of 1.5 is acceptable, its acid test ratio of 0.6 shows that most of its current assets is inventory (\$18m of \$30m). Juice that is not sold within days is wasted, so Q could struggle to pay its \$20m of current liabilities.

Decision. The chain should choose P. It cannot afford a supplier that might fail during a three-year contract, and P's acid test ratio of 1.2 against Q's 0.6, together with its higher margins, makes it the safer partner; its strong liquidity also means it could fund the extra capacity it needs. Q's size matters less than its liquidity risk: the chain can split early orders between P and its current supplier while P expands, but cannot easily replace a supplier that collapses. This depends on P being willing and able to grow: if it cannot, Q is the only choice, and the chain should then ask Q to explain its high inventory.

How this is marked: raw figures only (Q has more revenue) is Level 1; ratios calculated and explained for one maker is Level 2; Level 3 (9–12) needs both makers discussed in context and a choice that says why the other was rejected. Choosing Q, because only Q is already big enough, could also reach Level 3.

Example 4

Do you think a business should always aim to have an acid test ratio above 1? Justify your answer. [6]

An acid test ratio above 1 means the business can pay its short-term debts without having to sell inventory (k). Suppliers and banks see it as a safe customer, so it is more likely to get trade credit and loans on good terms, and it can survive a sudden fall in sales (an).

But a very high acid test ratio means money is tied up in cash and trade receivables that are earning nothing (k). That money could have bought new equipment or repaid a loan, so profitability and ROCE may be lower than they could be (an).

The business should not always aim for above 1. The right level depends on how quickly it sells its inventory: a supermarket turns its stock into cash every few days, so an acid test of 0.6 may be safe for it, while a furniture maker whose stock sells slowly needs a ratio nearer 1 (eval). So about 1 is a sensible aim only when inventory is slow to sell, and holding much more than that just lowers the return, so any surplus should be invested instead (eval).

This is a general question, so there are no marks for application: 2 k + 2 an + 2 eval = 6.

Common mistakes

- **Leaving out the $\times 100$ or the % sign, or giving dollars.** The March 2025 report names all three; mark schemes require the % for full marks, and 0.45 is not 45%. Current and acid test ratios are plain numbers (1.25 or 1.25:1); the June 2022 report names ratios written as money.
- **Calculating the wrong ratio.** Reports name the current ratio instead of the acid test ratio (March 2023), the gross profit margin instead of the profit margin (November 2022), the reverse (March 2022), and revenue and gross profit put the wrong way up. Read the ratio's name twice.
- **Misreading the table or dropping its units.** Copy figures exactly (3330, not 3300), check the year, and notice \$000 or \$ million; the June 2025 report says missing \$ signs and "million" cost marks.
- **Using total assets and liabilities in a liquidity ratio.** Only current ones go in.
- **Treating profit and profitability as the same,** or writing about profit or cash flow when asked about profitability and liquidity (June 2025 and June 2021 reports). Liquidity is about paying short-term debts, not a measure of profit (June 2022 report).
- **Confusing gross profit with profit,** or taking a rise in cost of sales as good news when it is growing faster than revenue.
- **Trying to calculate profit from a statement of financial position.** It has no revenue or expenses.
- **Only comparing or copying raw figures, without labelled ratios.** "Revenue rose by \$7m" stays at Level 1; write "acid test ratio 2026 = 0.6" and say what it shows.
- **Missing that a figure is a forecast,** or choosing an option only because its numbers are bigger. Say how the figures help the person deciding, and why the other option loses, without repeating earlier points.
- **Users of accounts without figures,** the same figure for two users, or just "they would look at the financial statements". Quote a different figure for each user and the decision it leads to.
- **Thinking profit pays wages and suppliers.** Cash does; profit shows whether a pay rise is affordable.
- **Misreading the case:** "accounts" means the financial statements, not the bank account, and a bank manager works for the bank.
- **Giving the reason for a ratio change when asked for its effect,** or two reasons that are really one (paying wages and paying suppliers).

How to get the marks

- **Calculate** (2 marks): formula in words, figures substituted, answer with its unit on the final-answer line. Working rescues the method mark; a right figure left only in the working loses a mark.

- **Define** (2 marks): the full idea. Capital employed is the total long-term finance invested in the business: equity plus non-current liabilities. The word **long-term** matters.
- **Outline** needs a case detail, ideally a figure (k + app); **Explain** adds what follows, using "so" or "which means" (an).
- **Interpret** a ratio by saying what it shows and comparing it: last year, a rival, a guide value.
- **Paper 1 (e)** (6 marks): general, so no case details. Develop two points, then decide and say why one wins and when the other would.
- **Paper 2 (b)** (12 marks), "using suitable calculations": labelled ratios with units, what each shows, every option (or year, or user) in context, then a decision that says why the alternative is rejected.

Quick check

1. A gym company has revenue of \$2.4 million, profit of \$0.3 million and capital employed of \$1.5 million. Calculate its profit margin and its return on capital employed.
2. A garage has a current ratio of 1.8, current liabilities of \$50 000 and inventory of \$40 000. Calculate its current assets and its acid test ratio.
3. A dentist and a florist each make a profit of \$50 000. The dentist has revenue of \$250 000 and the florist has revenue of \$500 000. Which business is more profitable? Explain your answer with a calculation.
4. For each decision, name the user of accounts and one ratio they would look at first: (a) whether to let a café pay for deliveries 60 days later; (b) whether to buy shares in a hotel company; (c) whether to give a shop an overdraft.
5. A clothing retailer's gross profit margin rose from 45% to 48%, but its profit margin fell from 14% to 11%. What does this suggest? Give one possible cause.

Answers

1. Profit margin = $0.3 \div 2.4 \times 100 = 12.5\%$. ROCE = $0.3 \div 1.5 \times 100 = 20\%$.
2. Current assets = $1.8 \times 50\,000 = 90\,000$, that is \$90 000. Acid test ratio = $(90\,000 - 40\,000) \div 50\,000 = 1.0$.
3. Profit margin of the dentist = $50\,000 \div 250\,000 \times 100 = 20\%$; of the florist = $50\,000 \div 500\,000 \times 100 = 10\%$. The dentist is more profitable: it keeps \$20 of every \$100 of sales as profit, the florist only \$10, even though their profits are equal.
4. (a) A supplier; current ratio or acid test ratio, to judge whether it will be paid on time. (b) A possible investor; ROCE (or profit margin), to judge the return on the money invested. (c) A bank; acid test ratio or current ratio, to judge whether the overdraft can be repaid.
5. The retailer controls its cost of sales better (perhaps a cheaper supplier or higher prices), but its expenses have risen faster than its revenue. One possible cause: higher rent for its shops, more advertising or higher salaries.

Past questions to try

- **0450/12/F/M/23 Q2**: parts (b) and (d), the acid test ratio from a two-year table, then why employees and suppliers are interested in the accounts.
- **0450/23/M/J/23 Q4**: part (b), both margins over two years and whether the managing director should be concerned.
- **0450/23/O/N/22 Q4**: part (b), current and acid test ratios for a business and its competitor.
- **0450/22/O/N/22 Q4**: part (b), which of three users finds the financial information most useful.