

The accounting equation

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What you need to know

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

1. **Explain what assets, liabilities and owner's equity are.** Assets are the resources a business owns and the amounts owed **to** it. Liabilities are the amounts the business owes **to others** for resources they have provided. Owner's equity (also called **capital**) is the owner's own stake in the business: what the owner has put in, plus profits kept in the business, less losses and drawings.
2. **Explain and use the accounting equation**, $\text{assets} = \text{liabilities} + \text{owner's equity}$, in any of its rearranged forms: find a missing total, and work out how a transaction changes assets, liabilities and capital while the equation stays in balance.

This topic is tested with one-mark multiple-choice questions near the start of Paper 1 (sometimes a second one later in the paper). The same idea sits under every statement of financial position you will prepare in Paper 2.

Understand it

Where the resources come from

Every business needs resources: premises, equipment, vehicles, goods to sell, money in the bank. Those resources had to come from somewhere, and there are only two sources:

- **the owner**, who put in money or other property and who leaves profits in the business; this is **owner's equity**, or **capital**;
- **other people**, such as a bank that lent money or a supplier who delivered goods and has not yet been paid; these are **liabilities**.

So the total of what the business has must equal the total of what it got from the owner and from others:

$$\text{assets} = \text{liabilities} + \text{owner's equity}$$

This is the **accounting equation**. It is always true, after every transaction, because it describes the same resources twice: once as what they are (assets) and once as who provided them (liabilities and capital).

Assets

An **asset** is a resource **owned by** the business, or an amount **owed to** it.

- **Non-current assets** are kept for use over several years: premises, machinery, fixtures and fittings, motor vehicles.
- **Current assets** are used up or turned into cash within a year: inventory, trade receivables (credit customers who owe the business), other receivables such as **rent prepaid** (an expense paid in advance), money in the bank and cash.

A **provision for depreciation** is not a liability. It is taken off the cost of the non-current asset to give its net book value.

Liabilities

A **liability** is an amount the business **owes to others** for resources they have provided.

- **Non-current liabilities** are due after more than a year, such as a five-year bank loan.
- **Current liabilities** are due within a year: trade payables (credit suppliers the business owes), other payables such as **wages due** or **interest accrued**, **income received in advance** (for example rent received from a tenant for next year), and a **bank overdraft**.

"Cash at bank" is an asset; a **bank overdraft** is a liability. Watch which one the question gives you.

Owner's equity (capital)

Owner's equity is the owner's claim on the business. It is what would be left for the owner if every asset were turned into cash at its book value and every liability paid:

$$\text{owner's equity} = \text{assets} - \text{liabilities}$$

It is **not** the same as current assets minus current liabilities (that is working capital), and it is not non-current assets minus non-current liabilities.

Capital changes in only four ways:

Increases capital	Decreases capital
The owner puts in more money or property (capital introduced)	The owner takes money, goods or anything else out for private use (drawings)
The business makes a profit	The business makes a loss

So over a year:

$$\text{closing capital} = \text{opening capital} + \text{capital introduced} + \text{profit} - \text{drawings}$$

with a loss taken away instead of a profit added.

Every transaction keeps the equation balanced

Each transaction changes at least two figures, and the equation still balances afterwards. Start with a trader whose assets are \$20 000, liabilities \$5000 and capital \$15 000:

Transaction	Assets	Liabilities	Capital
Buys inventory for \$1000 on credit	+1000	+1000	no effect
Pays \$600 of that to the supplier by bank	−600	−600	no effect
Buys a machine for \$2000 by bank transfer	+2000 − 2000 (no net effect)	no effect	no effect
Owner pays \$3000 of her own money into the business bank	+3000	no effect	+3000
Sells goods that cost \$500 for \$800 cash	−500 + 800 = +300	no effect	+300 (profit)
Owner takes \$200 of goods for her own use	−200	no effect	−200

After all six: assets = $20\,000 + 1000 - 600 + 3000 + 300 - 200 = 23\,500$; liabilities = $5000 + 1000 - 600 = 5400$; capital = $15\,000 + 3000 + 300 - 200 = 18\,100$. And $5400 + 18\,100 = 23\,500$: still balanced.

Two patterns to notice:

- **Swapping one asset for another** (buying a machine by cheque, a customer paying what they owe) changes no totals at all.
- **Capital only moves when the owner puts in or takes out, or when there is a profit or loss.** Borrowing, repaying a loan and buying on credit never change capital.

A **cash discount** is a small profit or loss. If a trader owes a supplier \$1000 and pays \$980 after a 2% discount, assets fall by \$980, liabilities fall by \$1000, and the \$20 discount received is income, so capital rises by \$20. Allowing a discount to a customer works the other way: bank rises by less than receivables fall, so assets and capital both fall.

Key facts and formulas

There is no formula list in the IGCSE Accounting exam, so everything here must be learnt.

Formula	Status
assets = liabilities + owner's equity	Learn it
owner's equity (capital) = assets − liabilities	Learn it

Formula	Status
$\text{liabilities} = \text{assets} - \text{owner's equity}$	Learn it
$\text{assets} = \text{non-current assets} + \text{current assets};$ $\text{liabilities} = \text{non-current liabilities} + \text{current liabilities}$	Learn it
$\text{closing capital} = \text{opening capital} + \text{capital introduced} + \text{profit} - \text{loss} - \text{drawings}$	Learn it
Assets: owned by the business or owed to it. Liabilities: owed by the business to others	Learn it

How to do it

We have 33 tagged questions for this topic from 2021 to 2025, all one-mark multiple-choice questions from Paper 1 (22 different, as some appear on two or three paper variants). Each tests one of four things.

Question type	Questions
Effect of a transaction on assets, liabilities and capital	14
Calculate capital, liabilities or assets from a list of balances	7
Define or identify assets, liabilities and owner's equity	7
Choose the correct form of the accounting equation	5

1. Effect of a transaction on assets, liabilities and capital (14 questions)

The question describes a transaction and asks how assets, liabilities and capital change, or which transaction increases (or does **not** reduce) capital.

1. **Say what happens to each thing the business owns or owes.** Bank goes down, inventory goes up, a supplier is now owed, and so on.
2. **Put each change in the right column:** asset, liability or capital.
3. **Ask whether capital moves.** Only four things change it: capital introduced, drawings, a profit or a loss (including a discount, or goods sold above or below cost).
4. **Check the equation still balances:** the change in assets must equal the change in liabilities plus the change in capital.

Variations you will meet:

- **"What increases owner's capital?"** Look for the owner bringing something in: money, or a **vehicle or other property transferred from private use**. Loans, credit purchases and buying assets by cheque do not change capital.

- **"Which does not reduce capital?"** Drawings in any form (cash, goods, business money spent on private bills) reduce capital. The odd one out is usually the reverse: the owner paying a **business** expense with **personal** money, which is capital introduced.
- **Part cash, part credit.** Fixtures bought for half cash, half later: the fixtures add the full price to assets, cash falls by half, so assets rise by half the price, liabilities rise by the same half, and capital does not change.
- **Two linked steps.** An owner pays \$5000 of her own money in (assets +5000, capital +5000), then uses \$2000 of it to repay a loan (assets –2000, liabilities –2000). Add the two steps: assets +3000, capital +5000, liabilities –2000.
- **The owner pays off a business debt personally** (an overdraft or loan): liabilities fall, capital rises by the same amount, assets do not change.
- **Given the effects, find the transaction.** Test each option with the table method. "Assets down, liabilities down, capital up" is paying a supplier after a cash discount received.

2. Calculate capital, liabilities or assets from a list of balances (7 questions)

1. **Label every item** A (asset) or L (liability). Leave out anything that is neither, such as a provision for depreciation (it reduces an asset instead).
2. **Add up each group.**
3. **Use the equation.** Capital = assets – liabilities. If capital is given and another total is missing, rearrange.

For example, premises \$50 000, inventory \$3000, trade receivables \$2000, trade payables \$4000 and a bank overdraft \$1000 give capital = 55 000 – 5000 = 50 000.

Variations you will meet:

- **"What was the total of the liabilities?"** Add only what is owed to others: loans, trade payables, wages due, overdraft. Prepaid rent and trade receivables are assets.
- **Net book value.** Use the asset's value after depreciation, as given.
- **A missing current asset.** Capital \$24 000, non-current assets \$15 000 and current liabilities \$5000 (no other liabilities): assets = 24 000 + 5000 = 29 000, so current assets = 29 000 – 15 000 = 14 000.
- **The opening capital is a distractor.** "She started with \$30 000" does not matter if you are asked for capital at the end: use the closing assets and liabilities.
- **Capital account over a year.** Start from opening capital, then add profit and capital introduced and take away a loss and drawings, including **goods taken for own use**.

3. Define or identify assets, liabilities and owner's equity (7 questions)

1. **Use the "to" and "by" test.** Owed **to** the business or owned **by** it: asset. Owed **by** the business to others: liability. Provided by the **owner**: capital.
2. **For a grid of yes/no columns,** decide each column for each term before looking at the options.

3. **For a description of a heading**, ask two questions. Who provided the resource, or who has a claim on it? If it is the owner, the heading is capital. If someone outside the business is still waiting to be paid, it is liabilities. If the description is things the business has, or money coming in to it, it is assets. Then check your choice with the "to" and "by" test.

Variations you will meet:

- **"Which item is an asset?"** Money owed by credit customers. Money owed to credit suppliers, interest accrued and rent received in advance are all liabilities.
- **"What are liabilities?"** Amounts owed to others for resources they provided. Watch for options that mix in "owned by", amounts written off, or amounts the owner owes.

4. Choose the correct form of the accounting equation (5 questions)

1. **Write the base form yourself:** $A = L + C$.
2. **Rearrange it** in each correct way: $C = A - L$, $L = A - C$, $A - L = C$, $C + L = A$.
3. **Test each option** against those. Any form with $A + L$, or with $C - L$ on one side, is wrong.

Variations you will meet:

- **"Owner's equity" and "capital" mean the same thing.** Options may use either.
- **Current items only.** "Capital = current assets – current liabilities" is the formula for working capital, not the accounting equation.
- **Numbered formulas.** Mark each one right or wrong, then pick the option that matches your set exactly.

Worked examples

The bold codes show where marks are earned, as in Cambridge mark schemes. The number is how many marks.

- **M1** method mark: for a correct method, even if the numbers slip.
 - **A1** accuracy mark: for a correct answer; it needs the M mark before it.
 - **B1** mark for a correct result on its own, with no method needed.
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Example 1

A trader has the following balances.

	\$
premises	60 000
inventory	4 200

	\$
trade receivables	2 800
cash	300
bank overdraft	1 500
trade payables	3 100
bank loan (repayable in 5 years)	20 000

What is the trader's capital? [1]

A \$37 300 B \$42 700 C \$45 700 D \$91 900

Assets: $60\,000 + 4\,200 + 2\,800 + 300 = 67\,300$. Liabilities: $1\,500 + 3\,100 + 20\,000 = 24\,600$. Capital = $67\,300 - 24\,600 = 42\,700$. **Answer B B1**

(C comes from treating the overdraft as an asset; D adds the liabilities instead of subtracting them.)

Example 2

A trader takes goods costing \$400 from the business for her family's use. What is the effect on the accounting equation? [1]

	assets	liabilities	capital
A	decrease	no effect	decrease
B	decrease	increase	no effect
C	no effect	no effect	decrease
D	increase	no effect	increase

Inventory (an asset) falls by \$400. This is drawings, so capital falls by \$400. Nothing is owed to anyone.

Answer A B1

Example 3

At 1 May, Omar's business had assets of \$50 000, liabilities of \$12 000 and capital of \$38 000. During May:

1. He bought equipment for \$3000 on credit.
2. He paid \$2000 to a credit supplier by bank transfer.
3. He paid \$5000 of his own money into the business bank account.
4. He sold goods that had cost \$800 for \$1100 cash.

Calculate Omar's total assets, liabilities and capital at 31 May, and show that the accounting equation still balances. [4]

Transaction	Assets	Liabilities	Capital
1 May	50 000	12 000	38 000
1	+3000	+3000	
2	−2000	−2000	
3	+5000		+5000
4	+1100 − 800 = +300		+300
31 May	56 300	13 000	43 300

B1 for transactions 1 and 2, **B1** for transaction 3, **B1** for transaction 4 (the \$300 profit is the only part that changes capital). Check: $13\,000 + 43\,300 = 56\,300$ **B1**.

Example 4

On 1 January, Priya's capital was \$45 000. During the year she paid in a further \$6000 of her own money, made a profit of \$9500, and took drawings of \$7200 in cash.

(a) Calculate Priya's capital on 31 December. **[2]**

(b) On 31 December her business had total assets of \$71 800. Calculate its total liabilities. **[2]**

(a) $45\,000 + 6000 + 9500 - 7200 = 53\,300$ **M1 A1**

(b) $\text{Liabilities} = \text{assets} - \text{capital} = 71\,800 - 53\,300 = 18\,500$ **M1 A1**

Common mistakes

- **Mixing up "owed to" and "owed by".** Trade receivables are owed **to** the business (asset); trade payables are owed **by** it (liability). Read the preposition carefully in definition questions.
- **Treating a bank overdraft as an asset.** An overdraft is money owed to the bank, so it is a current liability. Only a positive bank balance is an asset.
- **Counting prepaid expenses or depreciation as liabilities.** Rent prepaid is an asset (the business has paid for something it has not used yet). The provision for depreciation reduces an asset; it is not owed to anyone.
- **Thinking a loan changes capital.** Borrowing adds to assets and liabilities equally; repaying a loan takes from both. Capital is untouched unless the owner's own money is used.
- **Picking a transaction that only moves liabilities.** Examiners pointed out that when the owner repays a business loan from his own bank account, capital rises but it is liabilities, not assets, that change; and a customer paying after a cash discount makes assets and capital both **fall**. Only a profitable sale, or the owner bringing something in, raises assets and capital together.
- **Missing drawings in disguise.** Goods taken for own use and private bills paid from the business bank are drawings, and they reduce capital just like cash drawings.

- **Using the wrong subtraction.** Owner's equity is **total** assets minus **total** liabilities, not current assets minus current liabilities. Examiners report that most candidates choose the plain equation correctly; the wrong options are these near misses, so check which totals are used.
- **Only counting one step.** When a question has two linked transactions, work out the effect of each one and then add them. The wrong options are usually the result of only one of the two steps.
- **Using opening capital in a closing-capital question.** If the question gives the assets and liabilities at the end, the starting capital is not needed.

How to get the marks

- **Multiple choice** gives one mark for the correct letter only. For effect questions, fill in your own assets/liabilities/capital row **before** looking at the options, then find the match.
- **Check your answer with the equation.** The change in assets must equal the change in liabilities plus the change in capital. If an option breaks this, it is wrong.
- **Show workings in Paper 2.** When you calculate capital or a missing total, write the equation and the two totals, so a method mark can be given even if one figure is wrong.
- **"Explain"** the meaning of a term needs the definition in accounting words: an asset is a resource owned by the business or an amount owed to it; a liability is an amount owed by the business to others; capital is the owner's investment, adjusted for profit, loss and drawings.
- **Use the right names:** trade receivables and trade payables, not "debtors" and "creditors" described vaguely; "owner's equity" and "capital" both earn the mark.

Quick check

1. Write the accounting equation in three different correct forms.
2. Classify each item as an asset or a liability: (a) bank overdraft; (b) trade receivables; (c) insurance prepaid; (d) wages accrued; (e) a four-year bank loan; (f) inventory.
3. A business has total assets of \$84 000 and total liabilities of \$29 500. Calculate the owner's equity.
4. A trader pays a credit supplier \$1200 by cheque. State the effect on assets, liabilities and capital.
5. A trader's capital at the start of the year was \$30 000. During the year she made a loss of \$4500, took drawings of \$6000 and paid in \$2000 of her own money. Calculate her capital at the end of the year.

Answers

1. $A = L + C$; $C = A - L$; $L = A - C$ (also $A - L = C$ or $C + L = A$).
2. Assets: (b), (c), (f). Liabilities: (a), (d), (e).
3. $84\,000 - 29\,500 = 54\,500$, so owner's equity is \$54 500.
4. Assets (bank) decrease by \$1200, liabilities (trade payables) decrease by \$1200, capital has no effect.
5. $30\,000 - 4\,500 - 6\,000 + 2\,000 = 21\,500$, so capital is \$21 500.

Past questions to try

- 0452/12/O/N/24 Q2: fixtures bought for part cash and part credit.
- 0452/13/M/J/23 Q2: matching descriptions to assets, liabilities and capital.
- 0452/12/F/M/24 Q2: capital from a list of closing balances.
- 0452/12/O/N/22 Q2: the capital account after goods taken and a loss.