

Valuation of inventory

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What you need to know

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

1. **Explain the rule for valuing inventory:** goods still unsold at the end of the year are valued at their **cost** or their **net realisable value**, whichever is **lower**. Know what each of these means and why the rule is used (the prudence principle).
2. **Prepare a simple inventory valuation statement:** a table that takes each type of goods separately, finds its cost and its net realisable value, uses the lower one, and adds up the total.
3. **Explain why the valuation matters**, and work out what an incorrect valuation does to gross profit, profit for the year, equity (capital) and the value of assets, this year and next year.

Understand it

What inventory is and where it goes

Inventory is the stock of goods a business has bought to sell but has not yet sold. At the end of each financial year the owner counts it and puts a value on it. That one figure is used in three places:

- in the **income statement**, where closing inventory is taken away when working out the cost of sales;
- in the **statement of financial position**, as a **current asset**;
- as the **opening inventory** of the next year.

$$\text{Cost of sales} = \text{opening inventory} + \text{purchases} + \text{carriage inwards} - \text{closing inventory}$$

$$\text{Gross profit} = \text{revenue} - \text{cost of sales}$$

Because closing inventory is **subtracted**, a higher closing inventory means a lower cost of sales and a **higher** gross profit. A valuation that is too high makes the profit look better than it really is.

Cost

The **cost** of inventory is what it took to get the goods into the shop, ready to sell:

- the purchase price (after any trade discount);

- **plus carriage inwards**, the cost of delivering the goods **to** the business.

It does **not** include anything paid to sell the goods, such as carriage outwards or advertising. Goods bought for \$12.00 each with carriage inwards of \$0.80 each have a cost of \$12.80 each.

Net realisable value

The **net realisable value (NRV)** is what the business expects to get for the goods, **after** paying anything still needed to sell them:

$$\text{NRV} = \text{expected selling price} - \text{costs to repair, clean or finish the goods} - \text{costs of selling them}$$

Goods that would sell for \$30 each, but only after a repair costing \$4 each, have an NRV of \$26 each. Normally NRV is well above cost, because the business sells at a profit. It falls below cost when goods are damaged, go out of fashion, pass their season, or when selling prices fall.

The rule: the lower of cost and net realisable value

Inventory is valued at the **lower of cost and net realisable value**. This is the **prudence** principle at work:

- **If NRV is higher than cost**, the goods are kept at cost. The profit expected on them has **not been earned yet** (the goods are not sold), so it must not be counted. That is why inventory is never valued at selling price.
- **If NRV is lower than cost**, the goods are valued at NRV. The loss is **already known**, so it is counted now, in the year it happened.

So the rule makes sure that neither **profit** nor **current assets** are overstated. Using the same rule every year also follows the **consistency** principle, so one year's results can be compared with the next.

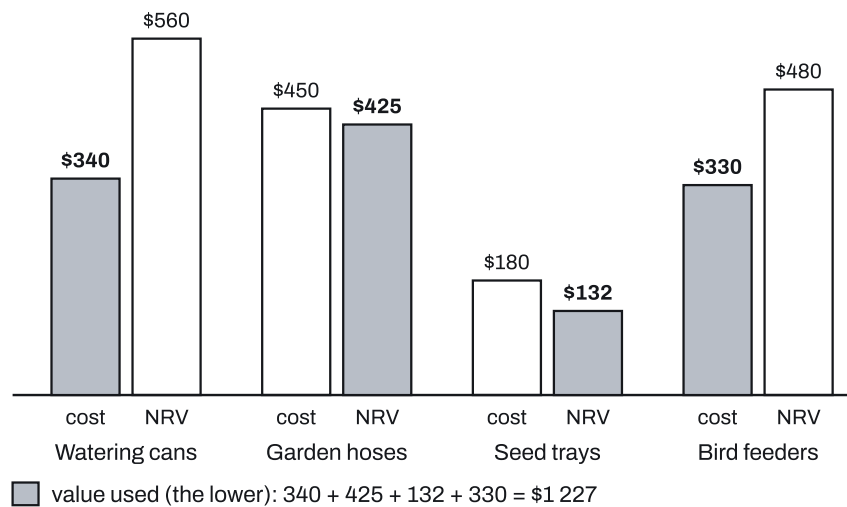
The rule is applied item by item

Each type of goods is compared on its own, not the business's inventory as a whole. Mei runs a garden centre. At her year end she has:

Item	Units	Cost per unit \$	NRV per unit \$	Value used per unit \$	Value \$
Watering cans	40	8.00 + 0.50 carriage = 8.50	14.00	8.50 (cost)	340.00
Garden hoses	25	18.00	22.00 – 5.00 repackaging = 17.00	17.00 (NRV)	425.00
Seed trays (sun-faded)	60	3.00	2.20	2.20 (NRV)	132.00
Bird feeders	30	11.00	16.00	11.00 (cost)	330.00

Item	Units	Cost per unit \$	NRV per unit \$	Value used per unit \$	Value \$
Total					1 227.00

Value each item at the lower of cost and NRV



Comparing the totals instead would be wrong. Mei's goods cost \$1 300 in total and have a total NRV of \$1 597, so "the lower total" would give \$1 300. That hides the \$73 lost on the hoses and the seed trays, which is exactly what prudence says must be shown.

Why a wrong valuation matters

Suppose Mei had simply valued all her inventory at cost, \$1 300. Her closing inventory would be **overstated by \$73**, and so:

- cost of sales would be **understated** by \$73;
- gross profit and profit for the year would be **overstated** by \$73;
- current assets, and so total assets, would be **overstated** by \$73;
- capital (equity) would be **overstated** by \$73, because the profit for the year is added to capital.

The error does not stop there. Next year the \$1 300 becomes **opening** inventory, which is **added** in the cost of sales. Next year's cost of sales is then \$73 too high and next year's profit is \$73 too **low**. By the end of next year the two errors cancel out, so capital at that point is correct again.

The same pattern works for any error:

Closing inventory is	Cost of sales	Gross profit and profit for the year	Current assets	Capital (equity)	Next year's profit
Overstated (too high)	understated	overstated	overstated	overstated	understated

Closing inventory is	Cost of sales	Gross profit and profit for the year	Current assets	Capital (equity)	Next year's profit
Understated (too low, or goods left out of the count)	overstated	understated	understated	understated	overstated

An error in **opening** inventory works the other way round: opening inventory that is too low (or left out) makes cost of sales too low and gross profit too **high**.

An inventory error changes gross profit and profit for the year by the **same** amount, because expenses are not affected. It never affects cash or the bank balance.

Recording closing inventory: the inventory account

Inventory has its own ledger account, which is only used at the year end:

1. The opening balance (last year's closing inventory) is on the **debit** side as "Balance b/d".
2. At the year end it is transferred to the income statement: **credit** Inventory, detail "Income statement".
3. The new closing inventory is brought in: **debit** Inventory, detail "Income statement". It stays as a debit balance, an asset, until the end of next year.

Key facts and formulas

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

Formula	Status
Inventory is valued at the lower of cost and net realisable value , item by item	Learn it
Cost = purchase price (after trade discount) + carriage inwards	Learn it
NRV = expected selling price – costs to repair, clean or finish – selling costs	Learn it
Value of an item = number of units × lower of cost per unit and NRV per unit	Learn it
Cost of sales = opening inventory + purchases + carriage inwards – closing inventory	Learn it
Closing inventory overstated ⇒ gross profit, profit for the year, current assets and capital overstated by the same amount; next year's profit understated	Learn it
Closing inventory understated (or goods omitted) ⇒ all of those understated; next year's profit overstated	Learn it

Formula	Status
Principle behind the rule: prudence (don't overstate profit or assets); using it every year: consistency	Learn it

How to do it

We have 40 tagged questions for this topic from 2021 to 2025 (28 different, as many appear on two or three paper variants): 28 one-mark multiple-choice questions from Paper 1 and 12 twenty-mark Paper 2 questions where this topic is one or more parts. 5 questions mix two types, so the counts add up to 45.

Question type	Questions
Calculate the value of inventory (lower of cost and NRV)	17
State the rule, the reason for it or the principle	13
Effect of an incorrect valuation on profit, assets and equity	11
Prepare the inventory account	2
Discuss valuing inventory at selling price	2

1. Calculate the value of inventory (17 questions)

1. **Cost per unit** = purchase price + carriage inwards per unit.
2. **NRV per unit** = selling price — any repair, cleaning or selling costs per unit.
3. **Choose the lower** of the two, for each item separately.
4. **Multiply** by the number of units and add up the items.

Set it out as a table, with one line per item and the working visible, as Mei's statement above does.

Variations you will meet:

- **Carriage inwards given separately.** Add it to the cost. If a cost is given "including carriage inwards of \$1", it is already in: don't add it again or take it out.
- **A cost per batch**, such as "\$42 to clean 14 items": divide to get the cost per item (\$3), or deduct it from the batch's total selling price. Either way, compare like with like.
- **Some units damaged.** Split the item into good units (usually at cost) and damaged units (at their own NRV, if lower). Take the damaged units away from the total first, so nothing is counted twice.
- **A mark-up or margin is given** (for example "normally sold at a mark-up of 40%"). It only tells you the usual selling price. If the goods are damaged, what matters is what they can be sold for **now**.
- **A table with total cost and total NRV for each item** (Paper 1): pick the lower figure on each line, then add. Never compare the column totals.
- **Only the selling price is given.** Treat it as NRV if there are no selling costs.

- **Cost of goods for a trading account** (incomplete records questions): closing inventory = units × (price + carriage inwards).

2. State the rule, the reason for it or the principle (13 questions)

- **"How should inventory be valued?"** At the lower of cost and net realisable value.
- **"Why?"** So that profit (and current assets) are **not overstated**. A loss is recognised as soon as it is known, but a profit is only recognised when the goods are sold.
- **"Name the principle": prudence.** (Consistency is about using the same method every year; historic cost is about recording assets and expenses at what they actually cost, not about this rule.)
- **"Why was damaged inventory included at a reduced value?"** Because its NRV is below its cost, and inventory is valued at the lower of the two.
- **"How is the prudence principle applied to inventory?"** It is valued at the lower of cost and NRV.
- **"Which asset is valued at the lower of cost and NRV?"** Inventory (not non-current assets such as machinery, which are shown at cost less depreciation).

Watch for the reversed options in multiple choice: "higher of cost and NRV", "lower of cost and net book value", "to avoid understating profit". All are wrong.

3. Effect of an incorrect valuation (11 questions)

1. **Decide whether closing inventory is too high or too low.** Valuing damaged goods at cost when NRV is lower makes it too **high**. Leaving goods out of the count, or leaving carriage inwards out of the cost, makes it too **low**.
2. **Find the amount:** the difference per unit × the number of units. If there are two errors, net them off.
3. **Follow the chain:** closing inventory too high → cost of sales too low → gross profit and profit for the year too high → current assets and capital too high. Too low reverses every step.
4. **Next year**, if asked: the wrong closing figure becomes the opening figure, so next year's profit moves the **opposite** way by the same amount, and capital at the end of next year is correct.

For example, 18 printers were valued at their cost of \$95 each, but they are an old model and can now be sold for only \$80 each. Inventory is overstated by $18 \times 15 = 270$, so gross profit, profit for the year, current assets and capital are all overstated by \$270. **Correcting** the error reduces all of them by \$270.

Variations you will meet:

- **"What is the effect of correcting the valuation?"** The correction moves each figure **back**: if inventory was overstated, correcting it **decreases** profit and current assets.
- **"Which error causes gross profit to be overstated?"** Closing inventory too high, or opening inventory too low (or left out of the income statement).
- **Tick-box tables** ("increase / decrease", "overstated / understated"): writing damaged goods down to NRV **decreases** gross profit.

4. Prepare the inventory account (2 questions)

1. **Debit** "Balance b/d" on the first day of the year with the opening inventory.
2. **Credit** "Income statement" on the last day of the year with the same amount. Total both sides.
3. **Debit** "Income statement" on the last day of the year with the closing inventory, below the totals.

The closing inventory stays as a debit balance: it is an asset. Worked Example 4 shows the layout.

5. Discuss valuing inventory at selling price (2 questions)

A trader wants to value inventory at selling price to show a bigger profit. Give the points the mark scheme looks for, then a conclusion:

- inventory must be valued at the **lower of cost and NRV**;
- selling price would overstate closing inventory, so cost of sales would be understated;
- **profit would be overstated**, counting a profit that has not been earned because the goods are not sold;
- **current assets** (and capital) would be overstated;
- it breaks the **prudence** principle, and changing the method breaks **consistency**;
- the results could no longer be **compared** with earlier years or other businesses, and users such as lenders would be misled;
- next year's profit would be understated when this inventory is sold.

Talk about the **accounting** effects. Examiners report answers about what higher prices would do to customers, which earn nothing.

Worked examples

Example 1

A trader has 250 identical table lamps in inventory. Each cost \$22, including carriage inwards of \$1.50. They normally sell for \$30 each, but 40 of the lamps are scratched. They can be sold for \$26 each after a repair costing \$6 each.

What is the value of the closing inventory? [1]

A \$4 620 B \$5 105 C \$5 420 D \$5 500

Cost per lamp = 22 (carriage is already included).

Good lamps: $250 - 40 = 210$ at cost: $210 \times 22 = 4\,620$.

Scratched lamps: $NRV = 26 - 6 = 20$, which is lower than \$22, so $40 \times 20 = 800$.

Total = $4\,620 + 800 = 5\,420$. **C (1)**

A leaves the scratched lamps out; B takes the carriage out of the cost; D values everything at cost.

Example 2

Priya sells kitchenware. Her inventory at 31 December 2025 was as follows.

Item	Number of units	Purchase price per unit \$	Carriage inwards per unit \$	Selling price per unit \$	Selling expenses per unit \$
Mixing bowls	180	4.20	0.30	7.50	–
Frying pans	45	16.00	–	25.00	–
Kettles	70	11.00	–	10.40	0.60
Tea towels	300	1.20	0.10	1.25	0.05

6 of the frying pans have a scratched coating. They will be sold for \$12.00 each after repackaging costing \$1.50 each.

(a) Calculate the value of Priya's inventory at 31 December 2025. [6]

(b) State the accounting principle Priya applies when she values her inventory. [1]

(a)

Item	Units	Cost per unit \$	NRV per unit \$	Value per unit \$	Value \$
Mixing bowls	180	$4.20 + 0.30 = 4.50$	7.50	4.50	810.00 (1)
Frying pans (good)	39	16.00	25.00	16.00	624.00 (1)
Frying pans (scratched)	6	16.00	$12.00 - 1.50 = 10.50$	10.50	63.00 (1)
Kettles	70	11.00	$10.40 - 0.60 = 9.80$	9.80	686.00 (1)
Tea towels	300	$1.20 + 0.10 = 1.30$	$1.25 - 0.05 = 1.20$	1.20	360.00 (1)
Total					2 543.00 (1)OF

The kettles show why the selling expenses matter: their selling price, \$10.40, is below cost, and the delivery cost pushes NRV lower still. The tea towels would be at cost (\$1.20) if you forgot the carriage inwards; with it, their cost is \$1.30 and NRV is the lower figure.

(b) Prudence. (1)**Example 3**

Daniel prepared draft financial statements for the year ended 30 June 2025. They showed a gross profit of \$48 600 and a profit for the year of \$19 350. He then found three errors in his closing inventory:

- 12 garden benches had been valued at their cost of \$85 each. They were damaged in a storm and can only be sold for \$70 each after repainting costing \$8 each.
- Goods costing \$540, kept in a storeroom, had been left out of the inventory count.
- 200 bags of compost had been valued at their purchase price of \$3.40 each. Carriage inwards of \$0.25 per bag had not been included. The bags sell for \$5.00 each.

(a) Calculate the corrected gross profit and profit for the year. **[5]**

(b) State the effect on current assets at 30 June 2025, and on the gross profit for the year ending 30 June 2026, if the errors had not been corrected. **[2]**

(a) Work out each error's effect on closing inventory first.

1. NRV of a bench = $70 - 8 = 62$, below its cost of \$85. Inventory is overstated by $12 \times (85 - 62) = 276$. **(1)**
2. Goods left out: inventory is understated by \$540. **(1)**
3. Cost of a bag = $3.40 + 0.25 = 3.65$, still below the \$5.00 selling price. Inventory is understated by $200 \times 0.25 = 50$. **(1)**

	Gross profit \$	Profit for the year \$
Draft	48 600	19 350
Less Benches written down to NRV	(276)	(276)
Add Goods omitted from the count	540	540
Add Carriage inwards on compost	50	50
Corrected	48 914 (1)OF	19 664 (1)OF

Overall, closing inventory rises by $540 + 50 - 276 = 314$, so both profits rise by \$314.

(b) Current assets at 30 June 2025 would be **understated by \$314. (1)** The gross profit for the year ending 30 June 2026 would be **overstated by \$314**, because opening inventory for that year would be too low, making cost of sales too low. **(1)**

Example 4

Hamid is a trader whose year ends on 31 March. His inventory on 1 April 2024 was valued at \$12 350. On 31 March 2025 his inventory cost \$14 080; every item's net realisable value is above its cost, and the goods would sell for \$19 900 in total.

(a) Prepare the inventory account for the year ended 31 March 2025. [3]

Hamid wants to apply for a bank loan. He suggests valuing his inventory at 31 March 2025 at its selling price, because this would make his profit look higher.

(b) Advise Hamid whether he should do this. Justify your answer. [5]

(a)

Inventory account

Date	Details	\$	Date	Details	\$
2024			2025		
Apr 1	Balance b/d (1)	12 350	Mar 31	Income statement (1)	12 350
		12 350			12 350
2025					
Mar 31	Income statement (1)	14 080			

(b)

- Inventory should be valued at the lower of cost and net realisable value, which here is cost, \$14 080. (1)
- Valuing it at \$19 900 would understate cost of sales and overstate profit for the year by $19\,900 - 14\,080 = 5\,820$, a profit that has not been earned because the goods have not been sold. (1)
- Current assets and capital would also be overstated by \$5 820, so the statement of financial position would not show a realistic value. (1)
- It breaks the prudence principle, and changing the method from last year breaks consistency, so this year's results could not be compared with earlier years. (1)
- The bank would be relying on misleading statements when it decides whether to lend, and next year's profit would be understated by \$5 820 when the goods are sold. (1)

Advice: Hamid should not value his inventory at selling price; he should keep valuing it at cost, the lower of cost and NRV. (1) (Up to 4 marks for points, 1 for the justified advice.)

Common mistakes

- **Leaving out carriage inwards.** Examiners report this every time an inventory cost has to be calculated. The cost of getting goods to the business is part of their cost.
- **Using the selling price as the NRV** when there are repair, cleaning or selling costs. Deduct them first. In June 2025 almost no candidates valued a batch of goods that needed cleaning correctly, because the cleaning cost was not taken off the selling price.
- **Comparing totals instead of each item.** Pick the lower figure on each line, then add. Choosing the lower of the two column totals is a common wrong option in multiple choice.
- **Valuing at selling price**, or choosing the **higher** of cost and NRV. Inventory is never valued above cost.

- **Getting the direction wrong.** A higher closing inventory means a **lower** cost of sales and a **higher** profit. Many candidates reverse this.
- **Forgetting next year.** An overvalued closing inventory also becomes next year's overvalued opening inventory, so next year's profit is understated.
- **Counting damaged units twice:** valuing all units at cost and then the damaged ones again at NRV. Take the damaged units out of the total first.
- **Naming the wrong principle.** The rule is **prudence**. Examiners report answers linking inventory to historic cost, or discussing selling prices and customers when the question is about accounting.

How to get the marks

- **Valuation statements:** one mark for each item's value and one for the total (own figure). Show the cost, the NRV and the choice on every line, so a slip in one line doesn't cost the rest.
- **"State"** needs a short answer: "lower of cost and net realisable value", "prudence", "decrease". **"Name the principle"** needs just the name.
- **Tick boxes:** decide first whether inventory goes up or down, then follow the chain to the figure asked about.
- **Multiple choice:** write the per-unit cost and NRV in the margin. The wrong options are usually the answer without carriage, the answer at cost, the answer at selling price, or the lower of the totals.
- **"Discuss", "Advise":** give separate accounting points (the rule, profit, assets, prudence, consistency, comparability), each worth a mark, then a clear recommendation that doesn't contradict itself.
- **Ledger accounts:** every line needs a date, a detail and the amount on the correct side.

Quick check

1. A shop has 60 umbrellas. Each cost \$9.50 plus carriage inwards of \$0.50. At the end of the rainy season they are expected to sell for \$12.00 each, with advertising costs of \$1.20 each. Calculate their value.
2. A trader's inventory is shown below. Calculate the value of her inventory.

Item	Cost \$	Net realisable value \$
Rugs	1 400	1 250
Cushions	2 100	2 900
Lamps	760	700

3. A trader's closing inventory at the end of year 1 was overvalued by \$450. State the effect on (i) gross profit for year 1, (ii) current assets at the end of year 1, (iii) profit for year 2 and (iv) capital at the end of year 2.
4. A business left its opening inventory of \$3 600 out of its income statement. State the effect on gross profit.
5. Give **two** reasons why inventory is not valued at its selling price.

Answers

1. $\text{Cost} = 9.50 + 0.50 = 10.00$. $\text{NRV} = 12.00 - 1.20 = 10.80$. Cost is lower, so $60 \times 10.00 = 600$: **\$600**.
2. Rugs \$1 250 (NRV) + cushions \$2 100 (cost) + lamps \$700 (NRV) = **\$4 050**. (Not \$4 260, the lower of the column totals.)
3. (i) Overstated by \$450. (ii) Overstated by \$450. (iii) Understated by \$450. (iv) No effect: the two errors cancel out.
4. Cost of sales is understated by \$3 600, so gross profit is **overstated by \$3 600**.
5. Any two: the profit on the goods has not been earned yet because they are not sold; it would overstate profit and current assets; it breaks the prudence principle (the rule is the lower of cost and NRV).

Past questions to try

- 0452/23/M/J/22 Q4: part (a), a valuation statement with carriage inwards and selling expenses, and the principle.
- 0452/12/O/N/21 Q16: two inventory errors that pull in opposite directions, and their net effect on gross profit.
- 0452/13/M/J/22 Q16: an over-valued closing inventory, its effect this year and next.
- 0452/23/O/N/21 Q1: part (d), the implications of valuing inventory at selling price.