

Cambridge AS & A Level · Accounting 9706

Accounting 9706 formulas and definitions

All 205 formulas, facts and definitions to learn, by syllabus topic. Formulas the exam gives you are left out.

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Types of business entity

$$\text{Interest for a period} = \text{amount} \times \text{annual rate} \times \frac{\text{months}}{12}$$

$$\text{Debenture interest per year} = \text{nominal value of debentures} \times \text{rate}$$

$$\text{New shares in an "a for b" rights or bonus issue} = \text{shares held} \times \frac{a}{b}$$

$$\text{Cash from a share issue} = \text{number of shares} \times \text{issue price}$$

$$\begin{aligned} \text{Share capital increase} &= \text{number of shares} \times \text{nominal value; share premium} \\ &= \text{number of shares} \times (\text{issue price} - \text{nominal value}) \end{aligned}$$

$$\text{Shareholder's share of the company} = \frac{\text{shares held}}{\text{total shares in issue}} \times 100\%$$

$$\text{Total cost of leasing} = \text{payment} \times \text{number of payments}$$

$$\text{Net cost of buying with a loan} = \text{price} + \text{interest} - \text{value of the asset at the end}$$

The accounting system

$$\text{assets} = \text{liabilities} + \text{capital}$$

$$\text{capital} = \text{assets} - \text{liabilities} = \text{non-current assets} + \text{current assets} - \text{non-current liabilities} - \text{current liabilities}$$

$$\text{closing capital} = \text{opening capital} + \text{capital introduced} + \text{profit} - \text{drawings (subtract a loss)}$$

$$\text{cash discount} = \text{amount owed} \times \text{rate; amount paid} = \text{amount owed} - \text{discount}$$

$$\text{price charged} = \text{list price} \times (1 - \text{trade discount rate})$$

$$\text{Goods for own use at cost: cost} = \text{selling price} \div (1 + \text{mark-up})$$

Accounting for non-current assets

$$\text{Straight-line: charge} = \frac{\text{cost} - \text{residual value}}{\text{useful life}} \text{ or } \text{rate} \times \text{cost}$$

$$\text{Reducing balance: charge} = \text{rate} \times (\text{cost} - \text{accumulated depreciation})$$

$$\text{Part year: full-year charge} \times \frac{\text{months owned}}{12}$$

$$\text{carrying value} = \text{cost (or valuation)} - \text{accumulated depreciation}$$

$$\text{profit (loss) on disposal} = \text{proceeds} - \text{selling costs} - \text{carrying value}$$

$$\text{revaluation gain} = \text{new value} - \text{carrying value}$$

$$\text{After revaluation: charge} = \frac{\text{new value} - \text{residual value}}{\text{remaining useful life}}$$

$$\text{Revaluation method: charge} = \text{opening value} + \text{purchases} - \text{closing value}$$

$$\text{closing CV} = \text{opening CV} + \text{additions} - \text{CV of disposals} - \text{depreciation}$$

Reconciliation and verification

$$\text{Updated cash book balance} = \text{original balance} + \text{receipts on the statement only} - \text{payments on the statement only} \pm \text{cash book errors}$$

$$\text{Bank statement balance} = \text{updated cash book balance} + \text{unpresented cheques} - \text{lodgements not yet credited} \pm \text{bank errors}$$

$$\text{SLCA closing balance} = \text{opening} + \text{credit sales} + \text{dishonoured cheques} + \text{interest charged} + \text{refunds} - \text{receipts} - \text{discounts allowed} - \text{returns inwards} - \text{irrecoverable debts} - \text{contras}$$

$$\text{PLCA closing balance} = \text{opening} + \text{credit purchases} + \text{interest charged by suppliers} + \text{refunds received} - \text{payments} - \text{discounts received} - \text{returns outwards} - \text{contras}$$

$$\text{Entry on the wrong side: correct with } 2 \times \text{the amount}$$

$$\text{Wrong side and wrong amount: cancel the wrong entry, then enter the right one (e.g. a \$415 payment entered on the debit side as \$451 needs Cr \$451 + Cr \$415 = \$866)}$$

$$\text{Balance left out of the trial balance (or in the wrong column): suspense entry only, with the balance (or } 2 \times \text{ it); the ledger account is not changed}$$

$$\text{Wrong amount on one side: correct with the difference, (right amount} - \text{wrong amount)}$$

$$\text{Revised profit} = \text{draft profit} + \text{corrections that credit income or expenses} - \text{corrections that debit them}$$

Preparation of financial statements

$$\text{Expense for the year} = \text{paid} - \text{opening accrual} + \text{closing accrual} + \text{opening prepayment} - \text{closing prepayment}$$

$$\text{Income for the year} = \text{received} - \text{opening accrued income} + \text{closing accrued income} + \text{opening income in advance} - \text{closing income in advance}$$

$$\text{Allowance} = \text{rate} \times (\text{receivables} - \text{irrecoverable debts written off}); \text{ only the change goes to profit}$$

$$\text{Inventory} = \text{lower of cost and NRV, item by item; NRV} = \text{selling price} - \text{costs to complete and sell}$$

$$\text{Capital} = \text{assets} - \text{liabilities}$$

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

$$\text{Credit sales} = \text{receipts} + \text{discounts allowed} + \text{irrecoverable debts} + \text{closing receivables} - \text{opening receivables}$$

$$\text{Credit purchases} = \text{payments} + \text{discounts received} + \text{closing payables} - \text{opening payables}$$

$$\text{Mark-up} = \frac{\text{gross profit}}{\text{cost of sales}} \times 100; \text{ margin} = \frac{\text{gross profit}}{\text{revenue}} \times 100$$

$$\text{Cost of sales} = \text{revenue} \div (1 + \text{mark-up}) = \text{revenue} \times (1 - \text{margin})$$

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

$$\text{Residual profit} = \text{profit for the year} + \text{interest on drawings} - \text{salaries} - \text{interest on capital}$$

$$\text{Interest for part of a year} = \text{rate} \times \text{amount} \times \frac{\text{months}}{12}$$

$$\text{Number of shares} = \text{share capital} \div \text{nominal value per share}$$

$$\text{Share premium} = \text{number of shares} \times (\text{issue price} - \text{nominal value})$$

$$\text{Shares before an "a for b" issue} = \text{shares after} \times \frac{b}{a + b}$$

$$\text{Maximum dividend} = \text{revenue reserves (retained earnings} + \text{general reserve)}$$

$$\text{Carrying value before a reducing-balance charge} = \text{carrying value after} \div (1 - r)$$

Analysis and communication of accounting information

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

$$\text{Mark-up} = \frac{\text{Gross profit}}{\text{Cost of sales}} \times 100$$

$$\text{Profit margin} = \frac{\text{Profit for the year (after interest)}}{\text{Revenue}} \times 100$$

$$\text{ROCE} = \frac{\text{Profit from operations}}{\text{Capital employed}} \times 100$$

$$\text{Capital employed} = \text{issued shares} + \text{reserves} + \text{non-current liabilities}$$

$$\text{Expenses to revenue} = \frac{\text{Expenses}}{\text{Revenue}} \times 100; \text{operating expenses to revenue} = \frac{\text{Operating expenses}}{\text{Revenue}} \times 100$$

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}, \text{ written } x : 1$$

$$\text{Acid test ratio} = \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}, \text{ written } x : 1$$

$$\text{Non-current asset turnover} = \frac{\text{Net revenue}}{\text{Total net book value of non-current assets}} \text{ times}$$

$$\text{Trade receivables turnover} = \frac{\text{Trade receivables}}{\text{Credit sales}} \times 365 \text{ days}$$

$$\text{Trade payables turnover} = \frac{\text{Trade payables}}{\text{Credit purchases}} \times 365 \text{ days}$$

$$\text{Inventory turnover} = \frac{\text{Average inventory}}{\text{Cost of sales}} \times 365 \text{ days}$$

$$\text{Rate of inventory turnover} = \frac{\text{Cost of sales}}{\text{Average inventory}} \text{ times}$$

$$\text{Average inventory} = \frac{\text{Opening inventory} + \text{Closing inventory}}{2}$$

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

$$\text{Profit from operations} = \text{profit for the year} + \text{finance costs (+ tax, for a company)}$$

$$\text{Margin} = \frac{\text{mark-up}}{100 + \text{mark-up}} \times 100; \text{mark-up} = \frac{\text{margin}}{100 - \text{margin}} \times 100$$

Costs and cost behaviour

$$\text{Total cost} = \text{fixed cost} + \text{variable cost per unit} \times \text{output}$$

$$\text{Fixed cost per unit} = \text{total fixed cost} \div \text{output}$$

High-low: variable cost per unit = (difference in total cost) $\div$ (difference in output)

Fixed cost = total cost at one level – variable cost per unit $\times$ output at that level

Semi-variable cost = fixed part + rate $\times$ activity

Stepped cost = number of steps (always rounded **up**) $\times$ cost per step

Prime cost = direct materials + direct labour + direct expenses

Gross pay = basic hours $\times$ rate + overtime hours $\times$ overtime rate + bonus (or the guarantee, if higher)

Time saved = time allowed for actual output – time worked; bonus = time saved $\times$ bonus % $\times$ hourly rate

Labour cost per unit = hourly rate $\div$ units per hour

AVCO average = total value held $\div$ units held (perpetual: after each receipt; periodic: once, for the whole period)

Cost of issues = opening inventory + purchases – closing inventory

Traditional costing methods

OAR = budgeted department overheads $\div$ budgeted activity (labour hours, machine hours or units)

Overheads absorbed = OAR $\times$ actual activity

Under-absorbed if absorbed < actual overheads; over-absorbed if absorbed > actual overheads

Apportioned share = cost $\times$ department's share of the basis $\div$ total of the basis

Absorption production cost per unit = direct materials + direct labour + variable production overheads + fixed production overhead at the OAR

Total cost per unit = production cost per unit + selling, distribution and administration costs per unit

Contribution per unit = selling price – variable cost per unit

Profit = total contribution – total fixed costs

C/S ratio = contribution $\div$ sales revenue

Break-even point (units) = total fixed costs $\div$ contribution per unit (round **up**)

Break-even revenue = total fixed costs $\div$ C/S ratio

Target output = (total fixed costs + target profit) $\div$ contribution per unit; target revenue = (fixed costs + target profit) $\div$ C/S

Margin of safety = budgeted sales – break-even sales; as a % = margin of safety $\div$ budgeted sales $\times$ 100

Absorption profit – marginal profit = increase in inventory (units) $\times$ fixed production OAR per unit

Profit from a mark-up of $m\%$: cost $\times m\%$; from a margin of $m\%$: cost $\times \frac{m}{100 - m}$

Limiting factor: rank by contribution $\div$ units of the scarce resource per product

Preparation of financial statements

Direct materials consumed = opening raw materials + purchases + carriage inwards – returns – closing raw materials

Prime cost = direct materials + direct labour + direct expenses

Cost of production = prime cost + factory overheads + opening WIP – closing WIP

Transfer price = cost of production $\times \left(1 + \frac{r}{100}\right)$, for factory profit $r\%$ on cost

PURP = finished goods at transfer price $\times \frac{r}{100 + r}$ (or $\times \frac{m}{100}$ if the profit is $m\%$ of transfer price)

SoPL: add factory profit, deduct an **increase** in PURP (add a decrease); SoFP: finished goods less **closing** PURP

Subscriptions income = received – opening arrears + closing arrears + opening advance – closing advance

Life membership to income each year = fee $\div$ number of years; fund = opening + fees received – transfer to income

Accumulated fund = total assets – total liabilities (including the life membership fund and any overdraft)

Closing accumulated fund = opening accumulated fund + surplus (or – deficit)

Goodwill: credit old partners in the **old** ratio; debit the new partners in the **new** ratio

Revaluation gain or loss: shared in the **old** ratio

Due to a retiring partner = capital + current account + loan + share of goodwill $\pm$ share of revaluation

Profit on realisation = proceeds from assets + discounts on payables – carrying amounts – dissolution costs

Recoverable amount = the higher of value in use and fair value less costs to sell; impairment = carrying amount – recoverable amount (if positive)

Profit for the year = change in retained earnings + dividends paid + transfers to reserves + bonus issue from retained earnings

Profit from operations = profit for the year + tax + finance costs

Depreciation = opening carrying amount + additions – carrying amount of disposals – closing carrying amount

Sale proceeds = carrying amount + profit on disposal (or – loss)

Interest (or tax) paid = charge for the year + opening amount owing – closing amount owing

Net cash from operating + investing + financing = closing – opening cash and cash equivalents

Regulatory and ethical considerations

Inventory (IAS 2) = lower of cost and NRV, item by item; NRV = selling price – costs to complete – costs to sell

Fair value less costs to sell = selling price – costs of disposal

Recoverable amount (IAS 36) = higher of fair value less costs to sell and value in use

Impairment loss = carrying amount – recoverable amount, if positive (otherwise 0)

Depreciation after impairment = recoverable amount $\div$ remaining useful life (straight line)

Revaluation reserve (IAS 16) = revalued amount – carrying amount at the revaluation date

Fall in value: set against that asset's revaluation reserve first; the rest is an expense

Provision (IAS 37): present obligation from a past event + probable outflow ($> 50\%$) + reliable estimate

Contingent liability: note only; remote: nothing. Contingent asset: note only if probable; asset only if virtually certain

Adjusting event: condition existed at the year end (change figures). Non-adjusting: arose after (note if material)

Prior-period error or change of policy (IAS 8): adjust opening retained earnings. Change of estimate: this year and future only

Intangible asset or PPE recognised when future benefits are probable and cost can be measured reliably

Research: always an expense. Development: capitalise only if all IAS 38 tests are met; amortise from when available for use

Amortisation (straight line) = $\text{cost} \div \text{useful life}$

Business acquisition and merger

Net assets taken over = assets taken over – liabilities taken over

Goodwill = purchase consideration – fair value of net assets taken over

Goodwill = multiple $\times$ average profit of the stated years

Purchase consideration = agreed net assets + goodwill; or cash + value of shares + debentures

Profit on realisation = credits – debits of the realisation account (see the one-line version above)

Share capital = number of shares $\times$ nominal value; share premium = number of shares $\times$ (issue price – nominal value)

Number of shares = value to be settled in shares $\div$ issue price

Cash to (or from) a partner = capital + current account + share of realisation profit – shares and debentures received – assets taken

Dividend per share = profit for the year $\div$ dividend cover $\div$ number of shares

Dividend yield = dividend per share $\div$ market price per share $\times 100\%$

Computerised accounting systems

Opening trial balance in the new system: debit total = credit total = the manual trial balance totals at the changeover date

Total of the customers' balances entered = sales ledger control account balance at the changeover date

Total of the suppliers' balances entered = purchases ledger control account balance at the changeover date

Difference found = amount that should have been entered – amount actually entered

Analysis and communication of accounting information

Working capital cycle = trade receivables days + inventory days – trade payables days

Inventory days = $\frac{\text{average inventory}}{\text{cost of sales}} \times 365$; receivables days = $\frac{\text{trade receivables}}{\text{credit sales}} \times 365$; payables days = $\frac{\text{trade payables}}{\text{credit purchases}} \times 365$

Net working assets to revenue = $\frac{\text{net working assets}}{\text{revenue}} \times 100$, where net working assets = inventories + trade receivables – trade payables

Interest cover = $\frac{\text{profit from operations}}{\text{interest payable}}$ times

Gearing = $\frac{\text{non-current liabilities}}{\text{issued ordinary share capital} + \text{all reserves} + \text{non-current liabilities}} \times 100$

Earnings per share = $\frac{\text{profit for the year}}{\text{number of issued ordinary shares}}$

$$\text{Price/earnings} = \frac{\text{market price per share}}{\text{earnings per share}}$$

$$\text{Dividend per share} = \frac{\text{annual ordinary dividend}}{\text{number of issued ordinary shares}}; \text{annual ordinary dividend} = \text{interim paid} + \text{final proposed}$$

$$\text{Dividend yield} = \frac{\text{dividend per share}}{\text{market price per share}} \times 100$$

$$\text{Dividend cover} = \frac{\text{profit for the year available to pay ordinary dividend}}{\text{annual ordinary dividend}} \text{ times}$$

$$\text{Number of shares} = \frac{\text{ordinary share capital}}{\text{par value of one share}}$$

$$\text{Profit from operations} = \text{profit for the year} + \text{interest}$$

Activity based costing (ABC)

$$\text{Cost driver rate} = \frac{\text{cost pool}}{\text{total number of cost drivers}}$$

$$\text{Product's share of a pool} = \text{rate} \times \text{product's drivers} = \text{pool} \times \frac{\text{product's drivers}}{\text{total drivers}}$$

$$\text{ABC overhead per unit} = \frac{\text{sum of the product's shares of every pool}}{\text{units produced}}$$

$$\text{Traditional OAR} = \frac{\text{budgeted overheads}}{\text{budgeted direct labour (or machine) hours}}$$

$$\text{Total unit cost} = \text{direct materials} + \text{direct labour} + \text{overhead per unit}$$

$$\text{Selling price with a mark-up of } m\% = \text{cost} \times \left(1 + \frac{m}{100}\right)$$

$$\text{Mark-up } \% = \frac{\text{selling price} - \text{cost}}{\text{cost}} \times 100$$

$$\text{Change in price from a cost change (same mark-up)} = \text{change in cost} \times \left(1 + \frac{m}{100}\right)$$

$$\text{Total overheads charged are the same under every method or driver}$$

Standard costing

$$\text{Material price} = (\text{standard price} - \text{actual price}) \times \text{actual quantity}$$

$$\text{Material usage} = (\text{standard quantity for actual output} - \text{actual quantity}) \times \text{standard price}$$

$$\text{Material total} = \text{standard cost of actual output} - \text{actual cost} = \text{price} + \text{usage}$$

$$\text{Labour rate} = (\text{standard rate} - \text{actual rate}) \times \text{actual hours}$$

$$\text{Labour efficiency} = (\text{standard hours for actual output} - \text{actual hours}) \times \text{standard rate}$$

$$\text{Labour total} = \text{standard cost of actual output} - \text{actual cost} = \text{rate} + \text{efficiency}$$

$$\text{OAR} = \frac{\text{budgeted fixed overhead}}{\text{budgeted labour hours}}; \text{fixed overhead per unit} = \text{OAR} \times \text{standard hours per unit}$$

$$\text{Fixed overhead expenditure} = \text{budgeted fixed overhead} - \text{actual fixed overhead}$$

$$\text{Fixed overhead volume} = \text{absorbed} - \text{budgeted}$$

$$= (\text{actual units} - \text{budgeted units}) \times \text{standard fixed overhead per unit}$$

$$\text{Capacity} = (\text{actual hours} - \text{budgeted hours}) \times \text{OAR}$$

Fixed overhead efficiency = (standard hours for actual output – actual hours) × OAR

Capacity + efficiency = volume; expenditure + volume = total = absorbed – actual

Sales price = (actual price – standard price) × actual units sold

Sales volume = (actual units – budgeted units) × standard profit per unit

Flexible budget profit = actual units × standard profit per unit = fixed budget profit + sales volume variance

Actual profit = flexible budget profit + favourable variances – adverse variances

Budgeting and budgetary control

Production (units) = sales + closing inventory – opening inventory

Materials used = production × materials per unit

Purchases (kilos) = materials used + closing material inventory – opening material inventory; purchases (\$) = kilos × price

Labour cost = production × hours per unit × rate (overtime hours at the overtime rate)

Receipt with cash discount = credit sales × % paying early × (1 – discount rate)

Trade receivables c/d = b/d + credit sales – receipts – discounts allowed (– irrecoverable debts)

Trade payables c/d = b/d + credit purchases – payments – discounts received

Closing bank balance = opening balance + receipts – payments

Units in inventory at the end = opening inventory + units made or bought – units sold

Flexible budget line = budgeted amount per unit × actual units

Flexible budget profit = actual units × budgeted profit per unit

Actual profit = flexible budget profit + favourable differences – adverse differences

Actual cost = flexible budget cost + adverse differences – favourable differences

Investment appraisal

Net cash flow = cash inflows – cash outflows (no depreciation)

Cash flow = profit + depreciation; cash fixed costs = fixed costs including depreciation – depreciation

Straight-line depreciation (no residual value) = $\frac{\text{cost}}{\text{life in years}}$

Payback = full years + $\frac{\text{amount still to recover}}{\text{next year's cash flow}}$; months = fraction × 12

Total profit = total net cash inflows – cost of the investment

ARR = $\frac{\text{average profit}}{\text{average investment}} \times 100$, average investment = $\frac{\text{cost}}{2}$

PV = cash flow × discount factor (Year 0 factor = 1)

NPV = total PV of inflows – outlay

Equal annual flows: PV = annual flow × sum of the factors

$$\text{IRR} = L + (H - L) \times \frac{\text{NPV}_L}{\text{NPV}_L - \text{NPV}_H}, \text{ where } L, H \text{ are the lower and higher rates and } \text{NPV}_H \text{ is negative}$$

$$\text{Flow needed in year } n \text{ to fill an NPV gap} = \frac{\text{shortfall in NPV}}{\text{year } n \text{ discount factor}}$$
