

Cambridge AS & A Level · Accounting 9706 · Notes

Budgeting and budgetary control A2

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Last checked 30 September 2026

Read first: [Costs and cost behaviour](#), [Traditional costing methods](#), [Standard costing](#)

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What you need to know

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

1. **Give the advantages and disadvantages of budgetary control:** planning, coordination, control and motivation against cost, time, rigid targets and demotivation.
2. **Give the advantages and disadvantages of preparing budgets on spreadsheets** rather than by hand.
3. **Explain what a master budget is:** the summary plan built from all the other budgets.
4. **Prepare these budgets:** sales, production, purchases, labour, trade receivables, trade payables and cash, and the budgeted statement of profit or loss and budgeted statement of financial position.
5. **Explain the effect of a limiting factor** (such as demand, materials, labour, machine capacity or storage) on how budgets are prepared.
6. **Explain why a flexible budget is better than a fixed budget** for control, and **prepare a flexible budget statement**.
7. **Suggest possible causes of differences** between actual results and the flexible budget.
8. **Prepare statements reconciling** the flexible budgeted cost of production with the actual cost, and the flexible budgeted profit with the actual profit.
9. **Make business decisions and recommendations** supported by budget figures, such as how to deal with an overdraft or a cash surplus.
10. **Discuss the behavioural side of budgeting:** targets, incentives, participation and motivation.
11. **Weigh up non-financial factors** alongside the figures.

Splitting a difference between budget and actual into price, usage, rate, efficiency, expenditure and volume variances is taught in the note on standard costing, under "Read first". This note sets out the flexible budget and the reconciliation layout, one line per cost.

Understand it

What a budget is

A **budget** is a plan for a future period, usually a year split into months, written in numbers: units, kilos, hours and dollars. It is **short-term** and **quantitative**. The organisation's long-term objectives are turned into budgets for each department, and each budget is given to a manager who is responsible for it.

Budgetary control is the whole system: set the budgets, record what actually happens, compare the two regularly, find out why they differ, and act. Comparing actual with budget is what turns a plan into a control tool.

Why businesses budget, and what can go wrong

Advantages (examiners accept these and similar points):

- **Planning**: managers have to look ahead, spot problems such as a cash shortage or a shortage of materials, and deal with them early.
- **Coordination**: the sales, production and purchasing plans have to fit together, so departments work towards the same goal.
- **Control**: actual results are compared with the budget, so overspending shows up quickly and managers can take action.
- **Responsibility**: each budget belongs to a named manager, who can be held to account.
- **Communication**: everyone knows what is expected of them.
- **Motivation**: a clear, achievable target, especially one linked to a bonus, gives staff something to aim for.

Disadvantages and limits:

- Budgets are based on **estimates**; a budget does not guarantee a profit or make customers pay.
- They take **time and cost money** to prepare, and a small business may not have the staff or systems.
- They can be **rigid**: a manager may refuse a sensible cost because "it isn't in the budget", or spend what is left at the year end so next year's budget isn't cut.
- **Imposed** or **unrealistic** targets **demotivate**; managers who set their own budget may build in **slack** (an easy target) so they look good.
- Departments may compete for resources instead of cooperating (**departmental rivalry**), and budgets can **stifle new ideas** that weren't planned for.

Behavioural aspects: targets, incentives and motivation

How a budget is set matters as much as the numbers in it.

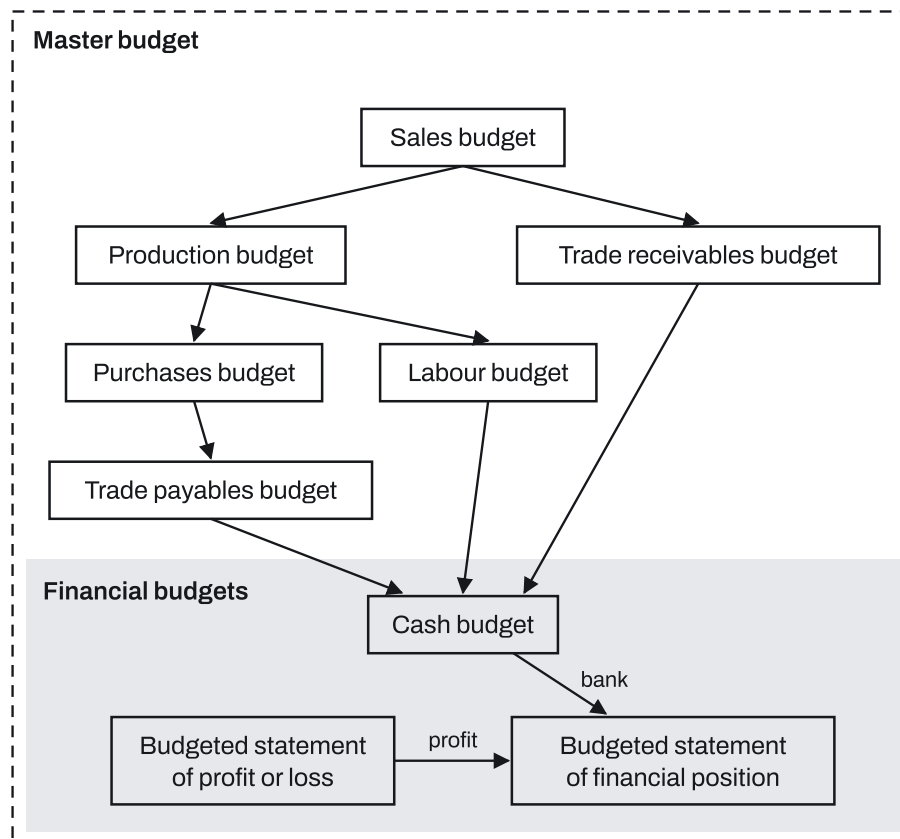
- **Participation** (bottom-up): managers help set their own budgets. They accept targets they helped to set, and they know the details of their department. The risk is budgetary slack.

- **Imposed** (top-down): senior managers set the budgets. It is quicker and fits the overall strategy, but staff may see the targets as unfair and stop trying.
- **Target difficulty**: a target that is too easy gives no challenge; one that is impossible is ignored. The best targets are hard but achievable.
- **Incentives**: bonuses linked to budget targets motivate, but can tempt managers to hit the number in the wrong way, such as cutting quality or delaying maintenance.

Limiting factors and the order budgets are prepared in

The **limiting factor** (or **principal budget factor**) is whatever stops the business doing more. It is usually **sales demand**, so most businesses start with the sales budget. But it can be the supply of **materials**, the **labour** available, **machine** capacity, **storage** space or **cash**. The budget that faces the limit must be prepared **first**, and every other budget is built around it. If a business can only make 2 000 units a month, a sales budget of 2 400 units is useless: the extra 400 units can only be sold if they were made and stored in an earlier month.

Once the limit is known, the budgets link together like this:



The **master budget** is the complete financial plan that brings all of this together. Its **operating budgets** (sales, production, purchases, labour, receivables, payables) lead to the **financial budgets**: the **cash budget**, the **budgeted statement of profit or loss** and the **budgeted statement of financial position**.

A running example: Brightwell Limited

Brightwell Limited makes garden benches. It sells them for \$120 each. Its budgeted sales are:

	July	August	September	October	November
Sales (units)	1 400	1 500	1 700	1 600	1 450

- Inventory of finished benches at the end of each month is 20% of the next month's sales.
- Each bench needs 6 kilos of timber at \$4.50 per kilo. Timber inventory at the end of each month is 30% of the next month's production needs. Timber is paid for in the month after purchase.
- Each bench takes 2.25 hours of direct labour at \$16 per hour, paid in the month worked.

The production budget

Production must cover this month's sales and leave the closing inventory the business wants; whatever is already in the warehouse at the start doesn't need making.

$\text{production} = \text{sales} + \text{closing inventory} - \text{opening inventory}$

Units	August	September	October
Sales	1 500	1 700	1 600
Add closing inventory (20% of next month's sales)	340	320	290
Less opening inventory (20% of this month's sales)	(300)	(340)	(320)
Production	1 540	1 680	1 570

One month's closing inventory is the next month's opening inventory: 340 at the end of August is the opening figure for September.

The purchases budget

The same idea works for materials, in kilos first and then in dollars. The closing inventory of timber depends on **next month's production**, which is why the production budget always runs one month further than the purchases budget.

	August	September
Timber used in production (production $\times$ 6 kilos)	9 240	10 080
Add closing inventory (30% of next month's use)	3 024	2 826
Less opening inventory (30% of this month's use)	(2 772)	(3 024)
Timber to buy (kilos)	9 492	9 882
Purchases at \$4.50 per kilo (\$)	42 714	44 469

September's closing inventory is 30% of October's use: $1\,570 \times 6 \times 0.3 = 2\,826$ kilos.

The labour budget

Labour hours = production $\times$ hours per unit; cost = hours $\times$ rate. August: $1\,540 \times 2.25 = 3\,465$ hours, costing $3\,465 \times 16 = 55\,440$ dollars. September: $1\,680 \times 2.25 = 3\,780$ hours, costing \$60 480. If hours above a limit are paid at an overtime rate, cost the basic hours and the overtime hours separately.

Receipts from customers and the trade receivables budget

45% of Brightwell's sales are for cash. Of the credit sales, 30% by value is paid in the month after sale, with a 2% cash discount; the other 70% is paid two months after sale. Sales in dollars: July \$168 000, August \$180 000, September \$204 000.

Receipts in September come from three months:

September receipts	\$
Cash sales, September: $204\,000 \times 0.45$	91 800
August credit sales, paid after one month: $180\,000 \times 0.55 \times 0.3 \times 0.98$	29 106
July credit sales, paid after two months: $168\,000 \times 0.55 \times 0.7$	64 680
Total	185 586

The **trade receivables budget** is a control account for the month. It starts with what customers owe, adds new credit sales, and takes off cash received and discounts allowed:

Trade receivables budget, September	\$
Balance b/d: 70% of July credit sales + all of August credit sales = $64\,680 + 99\,000$	163 680
Credit sales: $204\,000 \times 0.55$	112 200
Less receipts: $29\,106 + 64\,680$	(93 786)
Less discount allowed: $180\,000 \times 0.55 \times 0.3 \times 0.02$	(594)
Balance c/d	181 500

Check: at the end of September customers still owe 70% of August's credit sales and all of September's, $69\,300 + 112\,200 = 181\,500$. The **trade payables budget** works the same way: balance b/d + credit purchases – payments – discounts received = balance c/d. Brightwell's September figures are $42\,714 + 44\,469 - 42\,714 = 44\,469$.

The cash budget

A cash budget lists, month by month, **cash** coming in and going out, and shows the bank balance at the end of each month. It includes only real movements of cash, **when** they happen.

- **Leave out** depreciation (no cash moves), irrecoverable debts (the cash never arrives), and discounts (they are already taken off the receipt or payment).

- **Include** capital items when they are paid for (a machine, a share issue, a loan repayment), and each instalment in its own month.

Brightwell's other overheads are \$37 000 a month, which includes \$5 000 depreciation, paid in the month. It will pay \$24 000 for a new machine in September. The bank balance on 1 September is \$8 400.

Cash budget, September	\$
Receipts from customers	185 586
Payments: suppliers (August purchases)	42 714
Payments: direct labour	60 480
Payments: overheads (37 000 – 5 000)	32 000
Payments: new machine	24 000
Total payments	159 194
Net receipts	26 392
Balance b/f	8 400
Balance c/f	34 792

Why prepare a cash budget? It shows in advance when there will be a **shortage**, so an overdraft or loan can be arranged or spending delayed, and when there will be a **surplus**, so the spare cash can be invested or used to repay debt. Profit and cash are different: a profitable business can still run out of cash.

Budgeted statement of profit or loss and statement of financial position

These are the normal financial statements, prepared in advance on the **accruals** basis. So the budgeted statement of profit or loss **includes** depreciation, irrecoverable debts, discounts allowed and received, and expenses owing, whether or not cash moves; it **excludes** capital spending and loan repayments. The budgeted statement of financial position takes its closing figures from the other budgets: trade receivables and trade payables from their budgets, the bank from the cash budget, inventory from the production and purchases budgets, retained earnings from the budgeted profit.

Fixed and flexible budgets

A **fixed budget** is prepared for one planned level of output and is not changed. If actual output is different, comparing actual costs with the fixed budget is misleading: making fewer units naturally costs less, and that is not good management.

A **flexible (flexed) budget** recalculates the budget for the **actual** level of output: each revenue and cost line at its budgeted amount per unit, times the actual units. The comparison is then **like with like**, and the differences show real over- or under-spending.

Suppose a budget was for 2 500 units, and actual output was 2 300 units:

	Per unit (\$)	Fixed budget, 2 500 units (\$)	Flexible budget, 2 300 units (\$)	Actual, 2 300 units (\$)
Sales	84	210 000	193 200	197 800
Direct materials	19	(47 500)	(43 700)	(45 080)
Direct labour	27	(67 500)	(62 100)	(58 650)
Variable overhead	7	(17 500)	(16 100)	(16 610)
Fixed overhead	11	(27 500)	(25 300)	(28 950)
Profit	20	50 000	46 000	48 510

In 9706 mark schemes the fixed overhead is flexed too, at the budgeted **absorption rate per unit** ($\$27\,500 \div 2\,500 \text{ units} = \11), so the flexible profit is simply actual units $\times$ budgeted profit per unit: $2\,300 \times 20 = 46\,000$. Follow the question if it says fixed overhead is not flexed.

Against the fixed budget, profit is only \$1 490 lower, which hides what happened. Against the flexible budget, sales earned \$4 600 more than expected for 2 300 units (a higher selling price), materials cost \$1 380 more, labour \$3 450 less, variable overhead \$510 more and fixed overhead \$3 650 more.

Reconciling flexible budget and actual

Flexible budgeted profit to actual profit: start with the flexible profit, add each favourable difference, take off each adverse one, and finish at the actual profit.

	\$
Flexible budget profit	46 000
Sales 197 800 – 193 200	4 600 F
Direct materials 43 700 – 45 080	(1 380) A
Direct labour 62 100 – 58 650	3 450 F
Variable overhead 16 100 – 16 610	(510) A
Fixed overhead 25 300 – 28 950	(3 650) A
Actual profit	48 510

Flexible budgeted cost of production to actual cost: the same idea for costs only, but the signs turn round, because an adverse difference makes actual cost **higher**. Flexible cost = $43\,700 + 62\,100 + 16\,100 + 25\,300 = 147\,200$; add adverse differences ($1\,380 + 510 + 3\,650$) and take off favourable ones ($3\,450$): $147\,200 + 5\,540 - 3\,450 = 149\,290$, the actual cost.

A question may ask for each line split further (material price and usage, and so on); that is the variance analysis in the standard costing note.

Why actual differs from the flexible budget

- **Sales:** a different selling price (discounts, a price rise, competition).
- **Materials:** a price change from the supplier, inflation or exchange rates; a better or worse quality of material; more or less waste.
- **Labour:** a pay rise or overtime; more or less skilled staff; machine breakdowns causing idle time; motivation.
- **Overheads:** higher energy, rent or insurance; a budget that was badly estimated.

Budgets on spreadsheets

For: fewer arithmetic errors; faster; change one figure (a price, a growth rate) and every linked budget **recalculates automatically**, so "what if?" questions can be tested; easy to copy, share, sort and present; files can be password-protected.

Against: staff need training and the software costs money; a wrong **formula** or a data-entry error spreads through every budget unnoticed; files can be lost, corrupted or seen by the wrong people; and the budget is still only as good as the estimates put in ("garbage in, garbage out").

Non-financial factors

Budget figures never decide a question on their own. Also think about **customers** (will they accept a price change or slower delivery?), **suppliers** (relationships, reliability, whether they will allow longer credit), **staff** (morale, overtime, redundancy, training), **quality** and **reputation**, **risk** (a new product may fail; a forecast may be wrong) and the **long term** against the short term.

Key facts and formulas

There is no formula list in 9706 exams, so every formula here must be learnt.

Formula	Status
Production (units) = sales + closing inventory – opening inventory	Learn it
Materials used = production × materials per unit	Learn it
Purchases (kilos) = materials used + closing material inventory – opening material inventory; purchases (\$) = kilos × price	Learn it
Labour cost = production × hours per unit × rate (overtime hours at the overtime rate)	Learn it
Receipt with cash discount = credit sales × % paying early × (1 – discount rate)	Learn it

Formula	Status
Trade receivables c/d = b/d + credit sales – receipts – discounts allowed (– irrecoverable debts)	Learn it
Trade payables c/d = b/d + credit purchases – payments – discounts received	Learn it
Closing bank balance = opening balance + receipts – payments	Learn it
Units in inventory at the end = opening inventory + units made or bought – units sold	Learn it
Flexible budget line = budgeted amount per unit × actual units	Learn it
Flexible budget profit = actual units × budgeted profit per unit	Learn it
Actual profit = flexible budget profit + favourable differences – adverse differences	Learn it
Actual cost = flexible budget cost + adverse differences – favourable differences	Learn it

How to do it

44 questions tagged for this topic, 2021–2025 (40 different, as four appeared on two papers): 14 Paper 1 multiple-choice questions and 30 structured 25-mark questions on Papers 3 and 4. 24 of the structured questions mix several types, so the counts add up to more than 44.

Question type	Questions
Advise on a business decision using budget data	17
Multiple choice on the purposes, advantages and limits of budgets	14
Prepare a cash budget (full, extract or revised)	13
State or explain benefits and purposes of budgets; define the master budget	13
Prepare a production budget, including limiting factors	10
Prepare a fixed or flexible budget statement, or explain flexible budgeting	10
Prepare a trade receivables or trade payables budget	7
Calculate the effect of a change on the cash or overdraft position	7
Prepare a purchases budget or payments to suppliers	6
Advise whether to adopt a budgeting practice	6

Question type	Questions
Prepare or explain a budgeted statement of profit or loss or financial position	4
Prepare a labour (wages) budget	1

1. Advise on a business decision using budget data (17 questions)

Usually 7 marks: up to 3 points for one option, up to 3 for the other (or up to 6 comments), and 1 for a decision supported by a comment. Shorter "comment" parts are worth 4–5 marks.

1. **Use the figures you have just prepared:** the size of the overdraft or surplus, the months it happens in, the discount cost, the effect on profit.
2. **Points for and against each option**, each tied to the case: cash, profit, risk, capacity, customers, suppliers, staff.
3. **Decide**, and give the reason. Either decision can score full marks if it follows from your points.

Good points for the scenarios seen:

- **Surplus cash:** a new product secures the future (the current one may be near the end of its life), but development is risky and slow to pay back; a deposit account is safe but earns little and ties the cash up.
- **An overdraft:** cutting the price or buying in bulk changes cash only a little; check the direction and size first, then think about inventory levels, storage cost, stock-outs and interest.
- **Discounts for customers who pay early:** cash arrives sooner and irrecoverable debts fall, but every discount reduces profit and some customers will take longer anyway.
- **Paying suppliers later:** cash stays in the business longer, but discounts received are lost and the supplier relationship suffers.
- **An extra order or a material shortage** (a limiting factor): profit on the order and use of spare capacity against capacity limits, overtime, extra finance and credit risk; for a shortage, lost sales and customers against a higher price from a new, untested supplier.
- **Promotion against research and development:** promotion boosts sales of the existing product now; R&D keeps the business competitive later but may fail.
- **Cutting a fixed cost** (such as a supervisor): look at the variances first; if the fixed overhead expenditure variance is favourable (total variance minus volume variance), the overspend isn't the problem, and redundancy costs, morale and quality may suffer.

Examiners report that many answers list points without developing them, and that some consider only one of the two options.

2. Multiple choice on the purposes, advantages and limits of budgets (14 questions)

Decide whether each statement is true for budgets **in general**. True statements say that budgets:

- are short-term, quantitative plans (money and other units), usually prepared by the managers who will use them;

- help planning, coordination, control of costs and communication, and give a **benchmark** against which actual performance is judged;
- show limiting factors and how much finance will be needed, and define areas of responsibility;
- are based on estimates, can encourage rivalry between departments, can demotivate if imposed, and can tempt managers to set easy targets.

The traps use absolute words: a budget does **not** "always" improve motivation or performance, does not "ensure" a profit, is not a long-term plan, is not prepared only by directors or approved by shareholders, and does not measure demand (it uses a forecast of it).

3. Prepare a cash budget (13 questions)

1. **Workings first:** sales and purchases in dollars for every month you need, including the one or two months **before** the budget starts (their credit receipts and payments fall inside it).
2. **Receipts:** cash sales in the month; credit sales in the month they are paid, less any discount; nothing for irrecoverable debts. Add any share issue (including the premium) or loan received.
3. **Payments:** suppliers when paid (less discount); wages and overtime when paid (overtime is sometimes paid a month late); expenses **less depreciation**, split between this month and next if part is paid later; capital items and loan repayments in the month paid.
4. **Net receipts or payments**, then **balance b/f** and **balance c/f**; each closing balance is the next month's opening one. Show overdrafts in brackets.

Marks are usually one per figure or per row, with own-figure marks for the totals and the closing balance.

Variants you will meet:

- **A new business** needing capital: the total capital = the sum of the monthly deficits (starting from nothing) + the balance the owner wants to have at the end. Deficits of \$21 500, \$9 800 and \$4 300, with \$11 000 wanted at the end, need $21\,500 + 9\,800 + 4\,300 + 11\,000 = 46\,600$ dollars.
- **Work backwards** to one missing figure: the change in the bank balance equals receipts less payments. If the overdraft goes from \$2 100 to \$1 450, net receipts were +650; with receipts of \$53 000 and known payments of \$49 300, the missing payment is $53\,000 - 650 - 49\,300 = 3\,050$ dollars.
- **A revised budget** under a new policy (buying half the goods for cash at a discount, an overdraft limit): rebuild only the rows that change, then carry the new balances forward.
- **An extract:** show only the rows asked for, such as payments linked to production.
- **Increases each month** (salaries up 25% a month, a price rise from May): apply them to the right months only, and to the cash part of an expense, not its depreciation.

Examiners report omitted opening balances, months treated separately instead of carried forward, and depreciation left in.

4. State or explain benefits and purposes of budgets; define the master budget (13 questions)

"State" earns one mark per point; "explain" needs the point **and** its development (why it helps). Answer the budget named in the question:

- **Budgets in general:** planning, coordination, control, responsibility, communication, motivation (see "Understand it").
- **Cash budget:** finds deficits in time to arrange finance; finds surpluses to invest; shows the timing of receipts and payments. Examiners report many candidates giving general budget benefits when the question asked about the cash budget.
- **Production budget:** makes enough to meet demand without holding too much inventory; makes sure materials, labour and machines are ready in time.
- **Motivating or demotivating:** participation motivates; imposed or unrealistic targets demotivate.
- **Master budget** (2 marks): a comprehensive financial plan for the whole business (**1**), made up of the operating budgets and the cash budget, budgeted statement of profit or loss and budgeted statement of financial position (name at least three) (**1**).
- **Which budgets are affected by ...:** follow the item through; a provision for doubtful debts, for example, changes the budgeted statement of profit or loss and the budgeted statement of financial position, but not the cash budget.
- **Advantages of variance analysis** (comparing actual with budget): it measures how far results differ, finds causes, and leads to corrective action and better future budgets.

5. Prepare a production budget, including limiting factors (10 questions)

1. **Rows:** sales, add closing inventory, less opening inventory, production. One mark per row, and an own-figure mark for production.
2. **Closing inventory** is usually a percentage of **next** month's sales, so you need one month more of sales than the budget covers.
3. **Opening inventory** is last month's closing inventory. The first month's opening figure is either given or found from the same policy. Examiners report its omission as the most common error.

Variants you will meet:

- **Production one month before sale:** this month's production is for **next** month's sales. Use next month's sales in the sales row.
- **Units in inventory at the end** of a period: opening + made or bought – sold.
- **A limiting factor.** Suppose demand is 1 750, 2 300 and 2 600 units in January to March, the factory can make at most 2 050 units a month, 200 units are in inventory at the start, and only 450 units can be stored. Make the maximum where it is needed and build inventory beforehand: January produce 2 000 (closing 450, the storage limit); February produce 2 050 (closing 200); March produce 2 050, so only 2 250 units

can be sold and 350 units of demand are lost. Without the storage limit, January could make 2 050 and only 300 units would be lost. So the **sales budget** must be based on what can be supplied, not on demand.

6. Prepare a fixed or flexible budget statement, or explain flexible budgeting (10 questions)

1. **Per unit figures** from the fixed budget: each line $\div$ budgeted units.
2. **Multiply by the actual units**; flex fixed overhead too, at the absorption rate per unit, unless the question says otherwise.
3. **Profit** = sales – costs, and check it equals actual units $\times$ budgeted profit per unit.
4. **Reconcile** if asked: flexible profit, each line's difference marked F or A, actual profit (see "Understand it").

Variants you will meet:

- **Fixed and flexible side by side** in columns.
- **Built backwards** from actual figures and the total difference on each line: flexible cost = actual cost – adverse difference, or + favourable difference. Actual labour of \$63 250 with a difference of \$1 750 A means flexible labour of \$61 500.
- **Theory** (1–2 marks each): a fixed budget is for the planned output, a flexible budget for the actual output; flexing compares like with like, so the differences mean something; the budget prepared when output differs from plan is the flexible budget.

Examiners report candidates copying the budgeted fixed overhead into the flexible budget instead of flexing it.

7. Prepare a trade receivables or trade payables budget (7 questions)

1. **Balance b/d**: what is still owed at the start (for example 70% of the month before last plus all of last month).
2. **Add** credit sales (or credit purchases) for the month.
3. **Less** receipts (payments), each group in its own row, and discounts allowed (received) in a separate row; less returns, irrecoverable debts or contras where given.
4. **Balance c/d**, and check it independently: what is owed from the months not yet paid.

Examiners report entries on the wrong side and poor labelling; label every row.

Variants you will meet:

- **A new discount policy** from a given date: only sales **after** that date follow the new pattern. Sales made before it are still collected the old way, so rebuild month by month.
- **The percentage paying after one month**: receipts one month after sale $\div$ that month's credit sales. Receipts of \$9 450 from sales of \$37 800 is 25%.
- **Purchases from sales and a mark-up**: cost of sales = sales $\div$ (1 + mark-up).

8. Calculate the effect of a change on the cash or overdraft position (7 questions)

1. **Only the extra cash:** new receipt or payment less the old one, month by month, at the time the cash moves.
2. **Cumulate** the changes: the overdraft at the end of month 2 is affected by both months' changes.
3. **Say which way:** "the overdraft falls by ..." or "the overdraft rises by ..."; this carries a mark.

For example, a trader sells 1 000 units a month at \$40, 40% for cash and the rest paid the next month. Cutting the price to \$36 for one month raises sales to 1 150 units: 41 400 against 40 000 dollars. Cash sales rise by $0.4 \times 1\,400 = 560$ that month, and credit receipts by $0.6 \times 1\,400 = 840$ the next, so the overdraft is \$560 lower at the end of the first month and \$1 400 lower at the end of the second.

9. Prepare a purchases budget or payments to suppliers (6 questions)

1. **Materials used** = production $\times$ kilos per unit.
2. **Add closing, less opening** material inventory. If closing inventory is a percentage of next month's production needs, you need **next month's production**, which may mean working out one extra month of the production budget first.
3. **Kilos $\times$ price** for dollars; then pay them in the right month, less any discount.

Variants: a **base (minimum) inventory** that changes: if it falls from 1 150 to 900 kilos in a month, that month's purchases are 250 kilos lower. Mark schemes accept the budget in kilos, units or dollars if the final answer is in dollars. Purchases returns reduce the amount owed.

10. Advise whether to adopt a budgeting practice (6 questions)

Max 3 points each side and 1 for the decision.

- **A master budget every year for a small business:** planning, control and a basis for finance or forming a company, against the cost, time and expertise needed when the business is young.
- **Spreadsheets instead of manual budgets:** the points in "Understand it".
- **Adding trade receivables and payables budgets:** they predict cash flows, complete the master budget and give a benchmark for credit control; but they take time, and they won't make customers pay (and are pointless if all trade is in cash).
- **Stopping budgeting altogether:** saves time and cost, but loses planning, control and targets; usually better to improve how budgets are set.

11. Prepare or explain a budgeted statement of profit or loss or financial position (4 questions)

Profit or loss (starting from gross profit): add discounts received; take off expenses **including** depreciation, discounts allowed and irrecoverable debts. For example: gross profit \$96 000, discounts received \$1 150, expenses \$44 600 (cash \$41 000 plus depreciation \$3 600), discounts allowed \$2 300 and irrecoverable debts \$900 give a budgeted profit of $96\,000 + 1\,150 - 44\,600 - 2\,300 - 900 = 49\,350$ dollars.

Financial position after a policy change: update each figure the change touches (trade receivables from the revised budget, the bank by the extra cash received, retained earnings by the extra discount) and make sure both totals agree. A new discount received adds a line to the statement of profit or loss and increases profit; cost of sales and gross profit don't change.

12. Prepare a labour (wages) budget (1 question)

1. **Hours** = production × hours per unit.
2. **Basic pay** up to the limit, **overtime** above it at the overtime rate. Either layout scores:
 - basic hours at the basic rate + overtime hours at the overtime rate; or
 - all hours at the basic rate + the overtime **premium** only.

For example, 2 400 units at 1.25 hours is 3 000 hours. With 2 700 hours at \$16 and overtime at time and a half: $2\,700 \times 16 + 300 \times 24 = 43\,200 + 7\,200 = 50\,400$ dollars, or $3\,000 \times 16 + 300 \times 8 = 48\,000 + 2\,400 = 50\,400$. If overtime is paid a month later, it goes in the next month's cash budget.

Worked examples

Example 1

Northgate Limited makes cabinets. Its budgeted sales are:

	September	October	November	December	January
Sales (units)	3 140	3 460	3 300	2 980	3 220

Inventory of finished cabinets at the end of each month is 15% of the next month's sales. Each cabinet needs 5 kilos of material at \$3.50 per kilo, and material inventory at the end of each month is 20% of the next month's production needs.

(a) Prepare the production budget (in units) for each of the months September, October and November. [4]

(b) Prepare the purchases budget (in kilos and dollars) for each of the months September, October and November. [6]

(c) State two benefits to Northgate Limited of preparing a production budget. [2]

(a)

Units	September	October	November
Sales	3 140	3 460	3 300
Add closing inventory	519	495	447
Less opening inventory	(471)	(519)	(495)
Production	3 188	3 436	3 252

(1) sales row, (1) closing inventory row, (1) opening inventory row, (1) production row (own figure).

(b) First December's production, needed for November's closing material: $2\,980 + 0.15 \times 3\,220 - 0.15 \times 2\,980 = 3\,016$ units.

	September	October	November
Material used (kilos)	15 940	17 180	16 260
Add closing inventory (20% of next month's use)	3 436	3 252	3 016
Less opening inventory (20% of this month's use)	(3 188)	(3 436)	(3 252)
Purchases (kilos)	16 188	16 996	16 024
Purchases at \$3.50 (\$)	56 658	59 486	56 084

(1) December production, (1) each of the four kilo rows, (1) dollar row (all own figure). November's closing inventory is $0.2 \times 3\,016 \times 5 = 3\,016$ kilos.

(c) It makes sure enough cabinets are made to meet customers' orders without holding too much inventory (1). It shows in advance how much material and labour will be needed, so they can be arranged in time (1).

Example 2

Rosewood Traders buys and sells garden furniture. Budgeted sales are:

	August	September	October	November	December
Sales (\$)	64 000	71 000	76 000	84 000	94 000

- 30% of sales are for cash. Half of the credit sales are paid in the month after sale, less a 4% cash discount; the other half are paid two months after sale.
- Goods cost 60% of their selling price. They are bought in the month before they are sold, and suppliers are paid in the month after purchase.
- Wages are \$9 700 a month. Other expenses are \$12 000 a month, including \$1 500 depreciation. Both are paid in the month incurred.
- A van costing \$36 600 will be bought in November and paid for in two equal instalments in November and December.
- The bank balance on 1 October is \$4 200.

(a) Prepare the cash budget for each of the months October, November and December. [12]

(b) The van dealer offers three instalments of \$12 400 each, in November, December and January. Calculate the effect of accepting this offer on the bank balance at the end of November and at the end of December. [4]

(c) Advise the owner whether or not to accept the offer. Justify your answer. [7]

(a) Workings. Credit sales are 70% of sales, half paid after one month at 96%: October receives $71\,000 \times 0.7 \times 0.5 \times 0.96 = 23\,856$ from September and $64\,000 \times 0.7 \times 0.5 = 22\,400$ from August. The goods sold in a month were bought the month before and paid for this month, so the payment to suppliers in each month is 60% of **this** month's sales: October $0.6 \times 76\,000 = 45\,600$.

	October (\$)	November (\$)	December (\$)
Cash sales	22 800	25 200	28 200
Credit customers, one month (less discount)	23 856	25 536	28 224
Credit customers, two months	22 400	24 850	26 600
Total receipts	69 056	75 586	83 024
Suppliers	45 600	50 400	56 400
Wages	9 700	9 700	9 700
Other expenses (12 000 – 1 500)	10 500	10 500	10 500
Van		18 300	18 300
Total payments	65 800	88 900	94 900
Net receipts / (payments)	3 256	(13 314)	(11 876)
Balance b/f	4 200	7 456	(5 858)
Balance c/f	7 456	(5 858)	(17 734)

(1) cash sales row, **(1)** each of the six credit receipts, **(1)** suppliers row, **(1)** wages row, **(1)** other expenses row (depreciation excluded), **(1)** van row, **(1)** closing balances (own figure).

(b) November's payment falls by $18\,300 - 12\,400 = 5\,900$, so the bank balance at the end of November is \$5 900 higher: \$42 in hand instead of a \$5 858 overdraft **(1, 1)**. December's payment falls by another \$5 900, so the balance at the end of December is $5\,900 + 5\,900 = 11\,800$ dollars better: an overdraft of \$5 934 instead of \$17 734 **(1, 1)**. The offer costs $3 \times 12\,400 - 36\,600 = 600$ dollars more in total, paid in January.

(c) For (up to 3): the overdraft at the end of November disappears and December's is much smaller, so less overdraft interest is paid **(1)**; the business may not even have an overdraft facility for \$17 734, and arranging one takes time **(1)**; \$600 spread over three months is a small price for keeping cash for suppliers and wages **(1)**.

Against (up to 3): the van costs \$600 more, which reduces profit **(1)**; January's cash budget must now carry a \$12 400 payment, when sales may be lower after December **(1)**; an overdraft of up to \$17 734 for one or two months might cost less than \$600 in interest **(1)**.

Decision: accept the offer, because it almost removes the need for an overdraft for a small, known cost, and the owner should check January's cash position first **(1)**.

Example 3

Kestrel Limited budgeted to make and sell 4 000 units in March. The fixed budget was:

	\$
Sales	264 000
Direct materials	68 000
Direct labour	92 000
Variable overhead	16 000
Fixed overhead (absorbed per unit)	40 000

Only 3 700 units were made and sold. Actual results were: sales \$247 900, direct materials \$64 750, direct labour \$84 360, variable overhead \$14 300 and fixed overhead \$38 900.

- (a) Prepare, in columns, the fixed budget and the flexible budget for March, showing the profit in each. [5]
- (b) Prepare a statement reconciling the flexible budget profit with the actual profit. [5]
- (c) Prepare a statement reconciling the flexible budgeted cost of production with the actual cost of production. [3]
- (d) The production manager says that materials were well controlled because they cost \$3 250 less than the budget. Explain why she is wrong, and suggest two possible causes of the difference on direct materials. [4]
- (a) Per unit: sales \$66, materials \$17, labour \$23, variable overhead \$4, fixed overhead \$10; profit \$12.

	Fixed budget, 4 000 units (\$)	Flexible budget, 3 700 units (\$)
Sales	264 000	244 200
Direct materials	(68 000)	(62 900)
Direct labour	(92 000)	(85 100)
Variable overhead	(16 000)	(14 800)
Fixed overhead	(40 000)	(37 000)
Profit	48 000	44 400

(1) sales row, (1) materials and labour rows, (1) variable overhead row, (1) fixed overhead row, (1) profit row (own figure). Check: $3\,700 \times 12 = 44\,400$.

(b)

	\$
Flexible budget profit	44 400
Sales 247 900 – 244 200	3 700 F

	\$
Direct materials 62 900 — 64 750	(1 850) A
Direct labour 85 100 — 84 360	740 F
Variable overhead 14 800 — 14 300	500 F
Fixed overhead 37 000 — 38 900	(1 900) A
Actual profit	45 590

(1) starting profit (own figure), (1) sales, (1) materials and labour, (1) overheads, (1) actual profit. Check: $247\,900 - 64\,750 - 84\,360 - 14\,300 - 38\,900 = 45\,590$.

(c) Flexible cost = $62\,900 + 85\,100 + 14\,800 + 37\,000 = 199\,800$ (1). Add adverse differences $1\,850 + 1\,900$, less favourable ones $740 + 500$ (1): $199\,800 + 3\,750 - 1\,240 = 202\,310$, the actual cost (1).

(d) The budget of \$68 000 was for 4 000 units, but only 3 700 were made, so materials should have cost only \$62 900 (1). Against that, materials actually cost \$1 850 more than they should have, which is adverse (1). Possible causes: the supplier raised its price or a more expensive, better material was bought (1); more material was wasted, for example by new or less skilled workers or faulty machines (1).

Common mistakes

- **Leaving out the opening inventory**, or using this month's sales for the closing inventory when the policy says next month's. Examiners report the missing opening inventory as the most common production budget error.
- **Not running the production budget one month further**, so the last month's closing material inventory can't be found.
- **Stopping at kilos** when the purchases budget asks for dollars. Examiners report many candidates not converting kilos to a money value.
- **Depreciation in the cash budget**. It is not a cash payment; take it out of any expense figure that includes it.
- **Receipts in the wrong month**, or the cash discount applied to the wrong group of customers. Draw up a small timing table first.
- **Months treated separately**: each closing balance must be carried forward as the next month's opening balance, and the first opening balance must be included.
- **General budget benefits when the question asks about a cash budget** (or a production budget). Answer the budget named.
- **Receivables and payables budgets with entries on the wrong side or unlabelled**, and discounts left out. Examiners report both as common.
- **Not flexing the fixed overhead** in a flexible budget, or flexing the budget to the planned output instead of the actual output.

- **Advice with undeveloped points** or only one option discussed. Each point needs a reason tied to the case.

How to get the marks

- **Label every row and column** of a budget (month names, "Balance b/f", "Receipts – one month after sale"). Marks are often given per row, and unlabelled figures may not earn them.
 - **Show workings for every calculated figure**, such as $180\,000 \times 0.55 \times 0.3 \times 0.98$. Most totals and closing balances are marked own figure, so a wrong earlier number used correctly still scores.
 - **Brackets for deductions and overdrafts**, and a clear closing balance each month.
 - **"Prepare"**: set out the budget in the proper format, not just the figures. **"Calculate"**: the figure with its working; for an effect on the overdraft, say whether it rises or falls.
 - **"State"**: one short point per mark. **"Explain"**: the point and why it matters, one developed point per 2 marks. **"Define"**: a precise meaning with the key words (for a master budget: comprehensive plan, and name its parts).
 - **"Advise ... justify your answer"** (usually 7 marks): points on both sides, tied to the case and to your figures, then a clear decision with a reason. A decision alone earns one mark at most.
 - **Reconciliations** start with the figure the question names (flexible budget profit or cost) and end at the actual figure; check that figure against the actual results given.
-

Quick check

- Which statements about budgets are correct?
 - A budget guarantees that the business will make a profit.
 - A budget can show when extra finance will be needed.
 - A budget imposed on staff will always improve their motivation.
 - A budget is a short-term plan expressed mainly in numbers.

A 1 and 3 · B 2 and 4 · C 1 and 4 · D 2 and 3
- Sales are budgeted at 940 units in May and 1 160 units in June. Inventory at the end of each month is 10% of the next month's sales, and there are 90 units in inventory on 1 May. Calculate May's production.
- Credit sales in March are \$48 000. 30% of them are paid in April with a 3% cash discount. Calculate the April receipt from these customers and the discount allowed.
- A business plans to make 1 350 units in a month, each taking 3 hours. Up to 3 700 hours are paid at \$15 per hour; any extra hours are paid at time and a half. Calculate the labour cost for the month.
- A fixed budget for 5 000 units shows sales of \$300 000 and direct materials of \$85 000. Actual output was 4 600 units. Calculate the flexible budget figures for sales and direct materials, and state why they are better for control than the fixed budget figures.

Answers

1. **B.** A budget is only a plan, so it can't guarantee a profit, and imposed budgets often demotivate.
2. $940 + 0.1 \times 1\,160 - 90 = 940 + 116 - 90 = 966$ units.
3. Receipt = $48\,000 \times 0.3 \times 0.97 = 13\,968$ dollars; discount allowed = $48\,000 \times 0.3 \times 0.03 = 432$ dollars.
4. Hours = $1\,350 \times 3 = 4\,050$; overtime = 350 hours at $15 \times 1.5 = 22.50$. Cost = $3\,700 \times 15 + 350 \times 22.50 = 55\,500 + 7\,875 = 63\,375$ dollars.
5. Sales = $300\,000 \div 5\,000 \times 4\,600 = 276\,000$; materials = $85\,000 \div 5\,000 \times 4\,600 = 78\,200$. They show what 4 600 units should have earned and cost, so actual results are compared like with like.

Past questions to try

- **9706/42/O/N/23 Q2:** trade receivables, production and purchases budgets, then advice on promotion or research.
- **9706/41/O/N/23 Q1:** a full cash budget with discounts and irrecoverable debts, and a budgeted statement of profit or loss.
- **9706/43/M/J/23 Q2:** a production budget with a production limit, then a trade payables budget.
- **9706/42/F/M/24 Q2:** fixed and flexible budgets side by side.