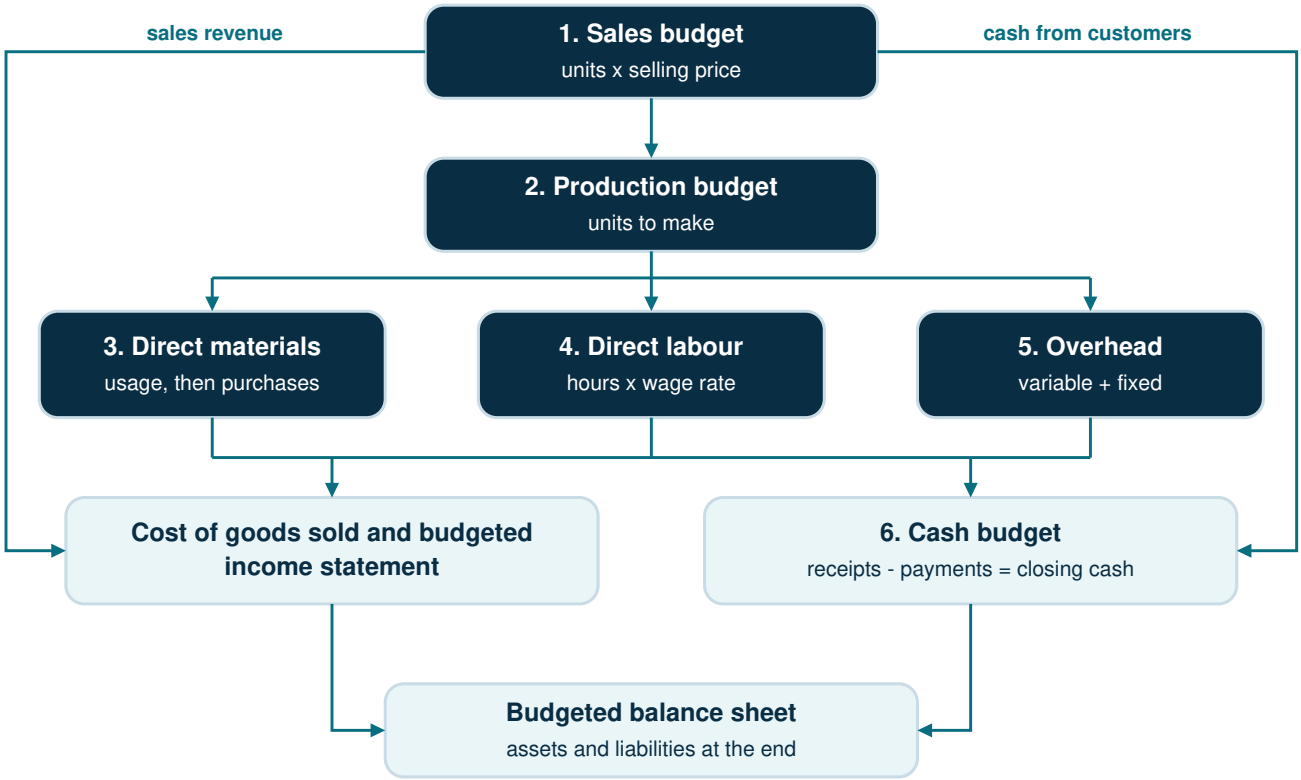
Master budget formulas guide

SMA EXAM REFERENCE PACK | MODULE 3 | PRINT AND KEEP WITH YOUR NOTES

Work in this order. Each budget uses figures from the one before it, so begin with sales and work down. An early mistake carries into every later budget. The worked example at the end follows one small imagined business, so you can watch the numbers flow through.

How the budgets link



Navy boxes are the operating budgets, prepared first. Pale boxes are the financial budgets, which pull the operating budgets together into profit, cash and the balance sheet.

Operating budgets: the formulas

Result you work out | Given, or from an earlier budget | Stock (inventory) figure

1. Sales budget

Everything else is planned around expected sales, so this comes first.

Sales revenue = Budgeted units sold x Budgeted selling price per unit

2. Production budget (units)

Units to make: expected sales, adjusted for the finished-goods stock you want to hold.

Units to produce	=	Budgeted units sold	+	Desired closing finished goods	-	Opening finished goods

3. Direct materials budget

Two steps: material used in production, then material to purchase.

Materials needed for production	=	Units to produce	x	Material per unit (kg, metres)

Materials to buy	=	Materials needed for production	+	Desired closing materials	-	Opening materials

Multiply the quantity to buy by the price per kg or metre to get purchases in dollars.

4. Direct labour budget

Hours needed for production, then what those hours cost.

Labour hours	=	Units to produce	x	Hours per unit
Labour cost	=	Labour hours	x	Wage rate per hour

5. Manufacturing overhead budget

Split overhead into a variable part that moves with activity and a fixed lump sum.

Variable overhead	=	Budgeted driver quantity (for example, labour hours)	x	Variable overhead rate per driver unit

Fixed overhead	=	Total of the fixed costs: rent, insurance, supervision, depreciation

Cost of goods sold budget

The production cost of the units that are sold.

Cost of goods sold	=	Opening finished goods	+	Cost of goods manufactured	-	Closing finished goods

Cost of goods manufactured = direct materials used + direct labour + manufacturing overhead.

Financial budgets: the formulas

Budgeted income statement

Profit for the period, built from the operating budgets.

Gross margin	=	Sales revenue	-	Cost of goods sold
Operating profit	=	Gross margin	-	Selling and administration expenses

6a. Cash budget: cash receipts

Credit customers pay later, so split each month's sales by when the cash arrives.

Cash received this month	=	This month's sales x % collected this month	+	Last month's sales x % collected one month later	+	Older sales x % still to collect

6b. Cash budget: cash payments

Do the same for suppliers, then add every other cash payment.

Cash paid for purchases	=	This month's purchases x % paid this month	+	Last month's purchases x % paid one month later

Add wages, overhead and other expenses in the month they are paid. Leave out depreciation and other non-cash items.

6c. Cash budget: closing cash

This month's closing cash is next month's opening cash.

Closing cash	=	Opening cash	+	Cash received	-	Cash paid

Below the minimum cash balance? Show borrowing. A surplus? Show repayment or a short-term investment.

Worked example: Wattle and Pine (imagined)

Wattle and Pine makes timber stools and sells them for $200 each. Budgeted sales are 320 stools in April, 380 in May, 450 in June and 500 in July; March sales were 260 stools ($52,000). The business keeps closing stock of stools equal to 20% of next month's sales. Each stool uses 3 metres of timber at $5 a metre and half an hour of labour at $42 an hour. Desired closing timber is 300 metres in April, 350 in May and 330 in June; there are 280 metres at the start of April. Customers pay 40% in the month of sale and 60% the month after.

Sales budget

Sales budget	April	May	June
Stools sold	320	380	450
x Selling price	$200	$200	$200
= Sales revenue	**$64,000**	**$76,000**	**$90,000**

Production budget

Production budget (stools)	April	May	June
Budgeted sales	320	380	450
+ Desired closing stock (20% of next month's sales)	76	90	100
- Opening stock	(64)	(76)	(90)
= Units to produce	**332**	**394**	**460**

Link the months. April's closing stock (76) is May's opening stock, and May's closing stock (90) is June's opening stock. Check each pair before moving on.

Direct materials budget

Direct materials budget	April	May	June
Units to produce	332	394	460
x Timber per stool (metres)	3	3	3
= Timber needed (metres)	**996**	**1,182**	**1,380**
+ Desired closing timber	300	350	330
- Opening timber	(280)	(300)	(350)
= Timber to buy (metres)	**1,016**	**1,232**	**1,360**
x Price per metre	$5	$5	$5
= Purchases	**$5,080**	**$6,160**	**$6,800**

Watch out. Materials follow production: start from units to produce (332), not units sold (320).

Direct labour budget

Direct labour budget	April	May	June
Units to produce	332	394	460
x Hours per stool	0.5	0.5	0.5
= Labour hours	**166**	**197**	**230**
x Wage rate per hour	$42	$42	$42
= Labour cost	**$6,972**	**$8,274**	**$9,660**

Cash budget: receipts from customers

Cash receipts	April	May	June
40% of this month's sales	$25,600	$30,400	$36,000
60% of last month's sales (April: 60% of March's $52,000)	$31,200	$38,400	$45,600
= Cash received	**$56,800**	**$68,800**	**$81,600**