

3. Prepare a cash budget for September. Indicate in the financing section any borrowing that will be needed during September. Assume that any interest will not be paid until the following month.


PROBLEM 9-17 Cash Budget with Supporting Schedules [LO 9-2, LO 9-4, LO 9-8]

Janus Products, Inc., is a merchandising company that sells binders, paper, and other school supplies. The company is planning its cash needs for the third quarter. In the past, Janus Products has had to borrow money during the third quarter to support peak sales of back-to-school materials, which occur during August. The following information has been assembled to assist in preparing a cash budget for the quarter:

- a. Budgeted monthly absorption costing income statements for July–October are as follows:

	July	August	September	October
Sales	\$40,000	\$70,000	\$50,000	\$45,000
Cost of goods sold	24,000	42,000	30,000	27,000
Gross margin	16,000	28,000	20,000	18,000
Selling and administrative expenses:				
Selling expense	7,200	11,700	8,500	7,300
Administrative expense*	5,600	7,200	6,100	5,900
Total selling and administrative expenses ...	12,800	18,900	14,600	13,200
Net operating income	\$ 3,200	\$ 9,100	\$ 5,400	\$ 4,800

*Includes \$2,000 depreciation each month.

- b. Sales are 20% for cash and 80% on credit.
- c. Credit sales are collected over a three-month period with 10% collected in the month of sale, 70% in the month following sale, and 20% in the second month following sale. May sales totaled \$30,000, and June sales totaled \$36,000.
- d. Inventory purchases are paid for within 15 days. Therefore, 50% of a month's inventory purchases are paid for in the month of purchase. The remaining 50% is paid in the following month. Accounts payable for inventory purchases at June 30 total \$11,700.
- e. The company maintains its ending inventory levels at 75% of the cost of the merchandise to be sold in the following month. The merchandise inventory at June 30 is \$18,000.
- f. Land costing \$4,500 will be purchased in July.
- g. Dividends of \$1,000 will be declared and paid in September.
- h. The cash balance on June 30 is \$8,000; the company must maintain a cash balance of at least this amount at the end of each month.
- i. The company has an agreement with a local bank that allows it to borrow in increments of \$1,000 at the beginning of each month, up to a total loan balance of \$40,000. The interest rate on these loans is 1% per month, and for simplicity, we will assume that interest is not compounded. The company would, as far as it is able, repay the loan plus accumulated interest at the end of the quarter.

Required:

1. Prepare a schedule of expected cash collections for July, August, and September and for the quarter in total.
2. Prepare the following for merchandise inventory:
 - a. A merchandise purchases budget for July, August, and September.
 - b. A schedule of expected cash disbursements for merchandise purchases for July, August, and September and for the quarter in total.
3. Prepare a cash budget for July, August, and September and for the quarter in total.


PROBLEM 9-18 Cash Budget with Supporting Schedules; Changing Assumptions [LO 9-2, LO 9-4, LO 9-8]

Refer to the data for Janus Products, Inc., in Problem 9-17. The company's president is interested in knowing how reducing inventory levels and collecting accounts receivable sooner will impact the cash budget. He revises the cash collection and ending inventory assumptions as follows:

1. Sales continue to be 20% for cash and 80% on credit. However, credit sales from July, August, and September are collected over a three-month period with 25% collected in the month of sale, 60% collected in the month following sale, and 15% in the second month following sale. Credit sales from May and June are collected during the third quarter using the collection percentages specified in Problem 9-17.
2. The company maintains its ending inventory levels for July, August, and September at 25% of the cost of merchandise to be sold in the following month. The merchandise inventory at June 30 remains \$18,000 and accounts payable for inventory purchases at June 30 remains \$11,700.

All other information from Problem 9-17 that is not referred to above remains the same.

Required:

1. Using the president's new assumptions in (1) above, prepare a schedule of expected cash collections for July, August, and September and for the quarter in total.
2. Using the president's new assumptions in (2) above, prepare the following for merchandise inventory:
 - a. A merchandise purchases budget for July, August, and September.
 - b. A schedule of expected cash disbursements for merchandise purchases for July, August, and September and for the quarter in total.
3. Using the president's new assumptions, prepare a cash budget for July, August, September, and for the quarter in total.
4. Prepare a brief memorandum for the president explaining how his revised assumptions affect the cash budget.

PROBLEM 9-19 Integration of Sales, Production, and Direct Materials Budgets [LO 9-2, LO 9-3, LO 9-4]

Crydon, Inc., manufactures an advanced swim fin for scuba divers. Management is now preparing detailed budgets for the third quarter, July through September, and has assembled the following information to assist in preparing the budget:

- a. The Marketing Department has estimated sales as follows for the remainder of the year (in pairs of swim fins):
The selling price of the swim fins is \$50 per pair.

July	6,000	October	4,000
August	7,000	November	3,000
September	5,000	December	3,000

- b. All sales are on account. Based on past experience, sales are expected to be collected in the following pattern:

40% in the month of sale
50% in the month following sale
10% uncollectible

The beginning accounts receivable balance (excluding uncollectible amounts) on July 1 will be \$130,000.

- c. The company maintains finished goods inventories equal to 10% of the following month's sales. The inventory of finished goods on July 1 will be 600 pairs.
- d. Each pair of swim fins requires 2 pounds of geico compound. To prevent shortages, the company would like the inventory of geico compound on hand at the end of each month to be equal to 20% of the following month's production needs. The inventory of geico compound on hand on July 1 will be 2,440 pounds.
- e. Geico compound costs \$2.50 per pound. Crydon pays for 60% of its purchases in the month of purchase; the remainder is paid for in the following month. The accounts payable balance for geico compound purchases will be \$11,400 on July 1.

Required:

1. Prepare a sales budget, by month and in total, for the third quarter. (Show your budget in both pairs of swim fins and dollars.) Also prepare a schedule of expected cash collections, by month and in total, for the third quarter.
2. Prepare a production budget for each of the months July through October.
3. Prepare a direct materials budget for geico compound, by month and in total, for the third quarter. Also prepare a schedule of expected cash disbursements for geico compound, by month and in total, for the third quarter.

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PROBLEM 9-20 Cash Budget; Income Statement; Balance Sheet [LO 9-2, LO 9-4, LO 9-8, LO 9-9, LO 9-10]

The balance sheet of Phototec, Inc., a distributor of photographic supplies, as of May 31 is given below:

Phototec, Inc. Balance Sheet May 31	
Assets	
Cash	\$ 8,000
Accounts receivable	72,000
Inventory	30,000
Buildings and equipment, net of depreciation	500,000
Total assets	<u>\$610,000</u>
Liabilities and Stockholders' Equity	
Accounts payable	\$ 90,000
Note payable	15,000
Capital stock	420,000
Retained earnings	85,000
Total liabilities and stockholders' equity	<u>\$610,000</u>

The company is in the process of preparing a budget for June and has assembled the following data:

- a. Sales are budgeted at \$250,000 for June. Of these sales, \$60,000 will be for cash; the remainder will be credit sales. One-half of a month's credit sales are collected in the month the sales are made, and the remainder is collected the following month. All of the May 31 accounts receivable will be collected in June.
- b. Purchases of inventory are expected to total \$200,000 during June. These purchases will all be on account. Forty percent of all inventory purchases are paid for in the month of purchase; the remainder are paid in the following month. All of the May 31 accounts payable to suppliers will be paid during June.
- c. The June 30 inventory balance is budgeted at \$40,000.
- d. Selling and administrative expenses for June are budgeted at \$51,000, exclusive of depreciation. These expenses will be paid in cash. Depreciation is budgeted at \$2,000 for the month.
- e. The note payable on the May 31 balance sheet will be paid during June. The company's interest expense for June (on all borrowing) will be \$500, which will be paid in cash.
- f. New warehouse equipment costing \$9,000 will be purchased for cash during June.
- g. During June, the company will borrow \$18,000 from its bank by giving a new note payable to the bank for that amount. The new note will be due in one year.

Required:

1. Prepare a cash budget for June. Support your budget with a schedule of expected cash collections from sales and a schedule of expected cash disbursements for inventory purchases.
2. Prepare a budgeted income statement for June. Use the absorption costing income statement format as shown in Schedule 9.
3. Prepare a budgeted balance sheet as of June 30.

Cadence forecasted sales revenues based on his projections for both the market growth for the initial software and successful completion of new products. Cross used this data to construct the master budget for the company, which he then broke down into departmental budgets. Cadence and Cross met a number of times over a three-week period to hammer out the details of the budgets.

When Cadence and Cross were satisfied with their work, the various departmental budgets were distributed to the department managers with a cover letter explaining ATC's new budgeting system. The letter requested everyone's assistance in working together to achieve the budget objectives.

Several of the department managers were displeased with how the budgeting process was undertaken. In discussing the situation among themselves, they felt that some of the budget projections were overly optimistic and not realistically attainable.

Required:

1. How does the budgeting process Cadence and Cross used at ATC differ from recommended practice?
2. What are the behavioral implications of the way Cadence and Cross went about preparing the master budget?

(CMA, adapted)



PROBLEM 9-26 Completing a Master Budget [LO 9-2, LO 9-4, LO 9-7, LO 9-8, LO 9-9, LO 9-10]

The following data relate to the operations of Picanuy Corporation, a wholesale distributor of consumer goods:

Current assets as of December 31:

Cash	\$6,000
Accounts receivable	\$36,000
Inventory	\$9,800
Buildings and equipment, net	\$110,885
Accounts payable	\$32,550
Capital stock	\$100,000
Retained earnings	\$30,135

- a. The gross margin is 30% of sales. (In other words, cost of goods sold is 70% of sales.)
- b. Actual and budgeted sales data are as follows:

December (actual)	\$60,000
January	\$70,000
February	\$80,000
March	\$85,000
April	\$55,000

- c. Sales are 40% for cash and 60% on credit. Credit sales are collected in the month following sale. The accounts receivable at December 31 are the result of December credit sales.
- d. Each month's ending inventory should equal 20% of the following month's budgeted cost of goods sold.
- e. One-quarter of a month's inventory purchases is paid for in the month of purchase; the other three-quarters is paid for in the following month. The accounts payable at December 31 are the result of December purchases of inventory.
- f. Monthly expenses are as follows: commissions, \$12,000; rent, \$1,800; other expenses (excluding depreciation), 8% of sales. Assume that these expenses are paid monthly. Depreciation is \$2,400 for the quarter and includes depreciation on new assets acquired during the quarter.
- g. Equipment will be acquired for cash: \$3,000 in January and \$8,000 in February.

- h. Management would like to maintain a minimum cash balance of \$5,000 at the end of each month. The company has an agreement with a local bank that allows the company to borrow in increments of \$1,000 at the beginning of each month, up to a total loan balance of \$50,000. The interest rate on these loans is 1% per month, and for simplicity, we will assume that interest is not compounded. The company would, as far as it is able, repay the loan plus accumulated interest at the end of the quarter.

Required:

Using the data above:

1. Complete the following schedule:

Schedule of Expected Cash Collections				
	January	February	March	Quarter
Cash sales	\$28,000			
Credit sales	36,000			
Total collections	<u>\$64,000</u>	<u> </u>	<u> </u>	<u> </u>

2. Complete the following:

Merchandise Purchases Budget				
	January	February	March	Quarter
Budgeted cost of goods sold	\$49,000*			
Add desired ending inventory	11,200 [†]			
Total needs	<u>60,200</u>	<u> </u>	<u> </u>	<u> </u>
Less beginning inventory	9,800			
Required purchases	<u>\$50,400</u>	<u> </u>	<u> </u>	<u> </u>

*\$70,000 sales × 70% = \$49,000.
[†]\$80,000 × 70% × 20% = \$11,200.

Schedule of Expected Cash Disbursements—Merchandise Purchases				
	January	February	March	Quarter
December purchases	\$32,550*			\$32,550
January purchases	12,600	\$37,800		50,400
February purchases				
March purchases				
Total disbursements	<u>\$45,150</u>	<u> </u>	<u> </u>	<u> </u>

*Beginning balance of the accounts payable.

3. Complete the following schedule:

Schedule of Expected Cash Disbursements—Selling and Administrative Expenses				
	January	February	March	Quarter
Commissions	\$12,000			
Rent	1,800			
Other expenses	5,600			
Total disbursements	<u>\$19,400</u>	<u> </u>	<u> </u>	<u> </u>

4. Complete the following cash budget:

	Cash Budget			
	January	February	March	Quarter
Cash balance, beginning	\$ 6,000			
Add cash collections	64,000	_____	_____	_____
Total cash available	70,000	_____	_____	_____
Less cash disbursements:				
For inventory	45,150			
For operating expenses	19,400			
For equipment	3,000	_____	_____	_____
Total cash disbursements	67,550			
Excess (deficiency) of cash	2,450			
Financing				
Etc.				

5. Prepare an absorption costing income statement, similar to the one shown in Schedule 9 in the chapter, for the quarter ended March 31.
6. Prepare a balance sheet as of March 31.



PROBLEM 9-27 Completing a Master Budget [LO 9-2, LO 9-4, LO 9-7, LO 9-8, LO 9-9, LO 9-10]

Nordic Company, a merchandising company, prepares its master budget on a quarterly basis. The following data have been assembled to assist in preparation of the master budget for the second quarter.

- a. As of March 31 (the end of the prior quarter), the company's balance sheet showed the following account balances:

Cash	\$ 9,000	
Accounts receivable	48,000	
Inventory	12,600	
Buildings and equipment (net)	214,100	
Accounts payable		\$ 18,300
Capital stock		190,000
Retained earnings		75,400
	<u>\$283,700</u>	<u>\$283,700</u>

- b. Actual sales for March and budgeted sales for April–July are as follows:

March (actual)	\$60,000
April	\$70,000
May	\$85,000
June	\$90,000
July	\$50,000

- c. Sales are 20% for cash and 80% on credit. All payments on credit sales are collected in the month following the sale. The accounts receivable at March 31 are a result of March credit sales.
- d. The company's gross margin percentage is 40% of sales. (In other words, cost of goods sold is 60% of sales.)
- e. Monthly selling and administrative expenses are budgeted as follows: salaries and wages, \$7,500 per month; shipping, 6% of sales; advertising, \$6,000 per month; other expenses, 4% of sales. Depreciation, including depreciation on new assets acquired during the quarter, will be \$6,000 for the quarter.

Direct labor	\$16.30q
Indirect labor	\$4,300 + \$1.80q
Utilities	\$5,600 + \$0.70q
Supplies	\$1,400 + \$0.30q
Equipment depreciation	\$18,600 + \$2.80q
Factory rent	\$8,300
Property taxes	\$2,800
Factory administration	\$13,400 + \$0.90q

The actual costs incurred in November in the Production Department are listed below:

	Actual Cost Incurred in November
Direct labor	\$63,520
Indirect labor	\$10,680
Utilities	\$8,790
Supplies	\$2,810
Equipment depreciation	\$29,240
Factory rent	\$8,700
Property taxes	\$2,800
Factory administration	\$16,230

Required:

1. The company had budgeted for an activity level of 4,000 labor-hours in November. Prepare the Production Department's planning budget for the month.
2. The company actually worked 3,800 labor-hours in November. Prepare the Production Department's flexible budget for the month.
3. Prepare the Production Department's flexible budget performance report for November, including both the activity and spending variances.
4. What aspects of the flexible budget performance report should be brought to management's attention? Explain.

All applicable problems are available with McGraw-Hill's *Connect™ Accounting*.



Problems

PROBLEM 10-20 Activity and Spending Variances [LO 10-1, LO 10-2, LO 10-3]

You have just been hired by SecuriDoor Corporation, the manufacturer of a revolutionary new garage door opening device. The president has asked that you review the company's costing system and "do what you can to help us get better control of our manufacturing overhead costs." You find that the company has never used a flexible budget, and you suggest that preparing such a budget would be an excellent first step in overhead planning and control.

After much effort and analysis, you determined the following cost formulas and gathered the following actual cost data for April:

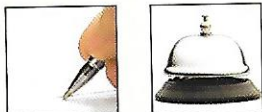


	Cost Formula	Actual Cost in April
Utilities	\$16,500 plus \$0.15 per machine-hour	\$21,300
Maintenance	\$38,600 plus \$1.80 per machine-hour	\$68,400
Supplies	\$0.50 per machine-hour	\$9,800
Indirect labor	\$94,300 plus \$1.20 per machine-hour	\$119,200
Depreciation	\$68,000	\$69,700

During April, the company worked 18,000 machine-hours and produced 12,000 units. The company had originally planned to work 20,000 machine-hours during April.

Required:

1. Prepare a report showing the activity variances for April. Explain what these variances mean.
2. Prepare a report showing the spending variances for April. Explain what these variances mean.



PROBLEM 10-21 More Than One Cost Driver [LO 10-4, LO 10-5]

Verona Pizza is a small neighborhood pizzeria that has a small area for in-store dining as well offering takeout and free home delivery services. The pizzeria's owner has determined that the shop has two major cost drivers—the number of pizzas sold and the number of deliveries made. Data concerning the pizzeria's costs appear below:

	Fixed Cost per Month	Cost per Pizza	Cost per Delivery
Pizza ingredients		\$4.20	
Kitchen staff	\$5,870		
Utilities	\$590	\$0.10	
Delivery person			\$2.90
Delivery vehicle	\$610		\$1.30
Equipment depreciation	\$384		
Rent	\$1,790		
Miscellaneous	\$710	\$0.05	

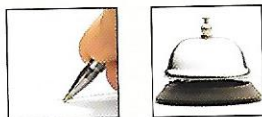
In October, the pizzeria budgeted for 1,500 pizzas at an average selling price of \$13.00 per pizza and for 200 deliveries.

Data concerning the pizzeria's operations in October appear below:

	Actual Results
Pizzas	1,600
Deliveries	180
Revenue	\$21,340
Pizza ingredients	\$6,850
Kitchen staff	\$5,810
Utilities	\$875
Delivery person	\$522
Delivery vehicle	\$982
Equipment depreciation	\$384
Rent	\$1,790
Miscellaneous	\$778

Required:

1. Prepare a flexible budget performance report that shows both activity variances and revenue and spending variances for the pizzeria for October.
2. Explain the activity variances.



PROBLEM 10-22 Performance Report for a Nonprofit Organization [LO 10-1, LO 10-4, LO 10-6]

The KGV Blood Bank, a private charity partly supported by government grants, is located on the Caribbean island of St. Lucia. The blood bank has just finished its operations for September, which was a particularly busy month due to a powerful hurricane that hit neighboring islands causing many injuries. The hurricane largely bypassed St. Lucia, but residents of St. Lucia willingly donated their blood to help people on other islands. As a consequence, the blood bank collected and processed over 20% more blood than had been originally planned for the month.

A report prepared by a government official comparing actual costs to budgeted costs for the blood bank appears on the following page. (The currency on St. Lucia is the East Caribbean dollar.) Continued support from the government depends on the blood bank's ability to demonstrate control over its costs.

KGV Blood Bank Cost Control Report For the Month Ended September 30			
	Planning Budget	Actual Results	Variances
<i>Liters of blood collected</i>	600	780	
Medical supplies	\$ 7,110	\$ 9,252	\$2,142 U
Lab tests	8,610	10,782	2,172 U
Equipment depreciation	1,900	2,100	200 U
Rent	1,500	1,500	0
Utilities	300	324	24 U
Administration	14,310	14,575	265 U
Total expense	<u>\$33,730</u>	<u>\$38,533</u>	<u>\$4,803 U</u>

The managing director of the blood bank was very unhappy with this report, claiming that his costs were higher than expected due to the emergency on the neighboring islands. He also pointed out that the additional costs had been fully covered by payments from grateful recipients on the other islands. The government official who prepared the report countered that all of the figures had been submitted by the blood bank to the government; he was just pointing out that actual costs were a lot higher than promised in the budget.

The following cost formulas were used to construct the planning budget:

Medical supplies	\$11.85 <i>q</i>
Lab tests	\$14.35 <i>q</i>
Equipment depreciation	\$1,900
Rent	\$1,500
Utilities	\$300
Administration	\$13,200 + \$1.85 <i>q</i>

Required:

1. Prepare a new performance report for September using the flexible budget approach.
2. Do you think any of the variances in the report you prepared should be investigated? Why?

PROBLEM 10-23 Critiquing a Variance Report; Preparing a Performance Report [LO 10-1, LO 10-4, LO 10-6]

Several years ago, Shipley Corporation developed a comprehensive budgeting system for profit planning and control purposes. While departmental supervisors have been happy with the system, the factory manager has expressed considerable dissatisfaction with the information being generated by the system.

A typical departmental cost report for a recent period follows:

Assembly Department Cost Report For the Month Ended March 31			
	Planning Budget	Actual Results	Variances
Machine-hours	30,000	25,000	
Variable Costs:			
Supplies	\$ 6,000	\$ 5,400	\$ 600 F
Scrap	15,000	14,000	1,000 F
Indirect materials	52,500	47,000	5,500 F
Fixed costs:			
Wages and salaries	60,000	61,900	1,900 U
Equipment depreciation	90,000	90,000	
Total cost	<u>\$223,500</u>	<u>\$218,300</u>	<u>\$5,200 F</u>



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