CHAPTER 9

Budgetary Planning

Learning Objectives

1. State the essentials of effective budgeting and the components of the master budget.
2. Prepare budgets for sales, production, and direct materials.
3. Prepare budgets for direct labor, manufacturing overhead, and selling and administrative expenses, and a budgeted income statement.
4. Prepare a cash budget and a budgeted balance sheet.
5. Apply budgeting principles to nonmanufacturing companies.

ANSWERS TO QUESTIONS

1. (a) A budget is a formal written statement of management's plans for a specified future time period, expressed in financial terms.
(b) A budget aids management in planning because it represents the primary method of communicating agreed-upon objectives throughout the organization. Once adopted, a budget becomes an important basis for evaluating performance.

LO1 BT: C Difficulty: Easy TOT: 4 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

2. The primary benefits of budgeting are:
(1) It requires all levels of management to **plan ahead** and to formalize goals on a recurring basis.
(2) It provides **definite objectives** for evaluating performance at each level of responsibility.
(3) It creates an **early warning system** for potential problems, so that management can make changes before things get out of hand.
(4) It facilitates the **coordination of activities** within the business by correlating the goals of each segment with overall company objectives.
(5) It results in greater **management awareness** of the entity's overall operations and the impact on operations of external factors such as economic trends.
(6) It **motivates personnel** throughout the organization to meet planned objectives.

LO1 BT: C Difficulty: Easy TOT: 5 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

3. The essentials of effective budgeting are: (1) a sound organizational structure, (2) research and analysis, and (3) acceptance by all levels of management.

LO1 BT: C Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

4. (a) False. Accounting information makes major contributions to the budgeting process. Accounting provides the starting point of budgeting by providing historical data on revenues, costs, and expenses. An accountant becomes the translator of the budget and communicates the budget to all areas of responsibility. Accountants also prepare periodic budget reports that compare actual results with planned objectives and provide a basis for evaluating performance.
(b) The budget itself, and the administration of the budget, are the responsibility of management.

LO1 BT: C Difficulty: Easy TOT: 5 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

5. The budget period should be long enough to provide an attainable goal under normal business conditions. The budget period should minimize the impact of seasonal and cyclical business fluctuations, but it should not be so long that reliable estimates are impossible. The most common budget period is one year.

LO1 BT: C Difficulty: Easy TOT: 3 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

6. Not true. Long-range planning usually encompasses a period of at least five years. It involves the selection of strategies to achieve long-term goals and the development of policies and plans to implement the strategies. In addition, long-range planning reports contain considerably less detail than budget reports.

LO1 BT: C Difficulty: Easy TOT: 3 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

7. Participative budgeting involves the use of a "bottom-to-top" approach, which requires input from lower-level management during the budgeting process so as to involve employees from various levels and areas within the company. The potential benefits of this approach are lower-level managers have more detailed knowledge of the specifics of their job, and thus should be able to provide better budgetary estimates. In addition, by involving lower-level managers in the process, it is more likely that they will perceive the budget as being fair and reasonable. One disadvantage of participative budgeting is that it takes more time, and thus costs more. Another disadvantage of participative budgeting is that it may enable managers to game the system through such practices as budgetary slack.

LO1 BT: C Difficulty: Easy TOT: 5 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

8. Budgetary slack is the amount by which a manager intentionally underestimates budgeted revenues or overestimates budgeted expenses in order to make it easier to achieve budgetary goals. Managers may have an incentive to create budgetary slack in order to increase the likelihood of receiving their bonuses, or decrease the likelihood of losing their jobs.

LO1 BT: C Difficulty: Easy TOT: 3 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

9. A master budget is a set of interrelated budgets that constitutes a plan of action for a specified time period. The master budget is developed within the framework of a sales forecast.

LO1 BT: C Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

10. The sales budget is the starting point in preparing the master budget. An inaccurate sales budget may adversely affect net income. An overly optimistic sales budget may result in excessive inventories and a very conservative sales budget may lead to inventory shortages.

LO1 BT: C Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

11. The statement is false. The production budget only shows the units that must be produced to meet anticipated sales and ending inventory requirements.

LO2 BT: C Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

12. The required units of production are 155,000 (160,000 + 15,000 = 175,000 – 20,000 = 155,000).

LO2 BT: AP Difficulty: Easy TOT: 2 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
(160,000 + 15,000 – 20,000 = 155,000)
(Bud. sales + Desired end. inv. – Beg. inv. = Req. units of production)

13. The desired ending direct materials units are 21,000 (64,000 + 9,000 = 73,000 – 52,000 = 21,000).

LO2 BT: AP Difficulty: Easy TOT: 2 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
(64,000 + 9,000 – 52,000 = 21,000)
(Req. purch. + Beg. inv. – Req. for production = Desired end. inv.)

14. Total budgeted direct labor cost is $960,000 (80,000 x .75 x $16 = $960,000).

LO3 BT: AP Difficulty: Easy TOT: 2 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
(80,000 x .75 x $16 = $960,000)
(Fin. units to be produced x DLH/unit x DL rate/hr. = Tot. bud. DL cost)

15. (a) Manufacturing overhead rate based on direct labor cost is 48% [$198,000 + $162,000 = $360,000; $360,000 ÷ (150,000 x 1/3 x $15/hr.) = 48%].

[($198,000 + $162,000) ÷ (150,000 x 1/3 x $15/hr.) = 48%]
[(Tot. VOH costs + Tot. FOH casts) ÷ (Units to be produced x DLH/unit x DL rate/hr.) = Predet. OH rate]

(b) Manufacturing overhead rate per direct labor hour is $7.20 ($360,000 ÷ 50,000).

LO3 BT: AP Difficulty: Easy TOT: 4 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

16. The first quarter budgeted selling and administrative expenses are $74,000 [(12% x $200,000) + $50,000]. The second quarter total is $78,800 [(12% x $240,000) + $50,000].

LO3 BT: AP Difficulty: Easy TOT: 4 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
[1st Qtr.: (12% x $200,000) + $50,000 = $74,000]
[1st Qtr.:(Var. S&A % of sales x Bud. sales) + Fix. S&A = Tot. bud. S&A exp.]

Questions Chapter 9 (Continued)

17. The budgeted cost per unit of product is $46 ($10 + $20 + $16). Gross profit per unit is $19 ($65 – $46). Total budgeted gross profit is $475,000 (25,000 x $19).

LO3 BT: AP Difficulty: Easy TOT: 4 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
[($10 + $20 + ($20 x 80%) = $46); ($65 - $46 = $19); (25,000 x $19 = $475,000)]
[(DM/unit + DL/unit + (DL/unit x Mfg. OH as % of DL/unit) = Bud. cost /unit); (USP – Unit cost = GP/ unit); (Units sold x GP/unit = Tot. bud. GP)]

18. The supporting schedules are the budgets for sales, direct materials, direct labor, and manufacturing overhead.

LO3 BT: C Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

19. The three sections of a cash budget are: (1) cash receipts, (2) cash disbursements, and (3) financing. The cash budget also shows the beginning and ending cash balances.

LO4 BT: K Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

20. Cash collections are:

January—$600,000 x 40% = $240,000.
February—$600,000 x 50% = $300,000.
March—$600,000 x 10% = $60,000.

LO4 BT: AP Difficulty: Easy TOT: 4 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

21. The equation is: Budgeted cost of goods sold plus desired ending merchandise inventory minus beginning merchandise inventory equals required merchandise purchases.

LO5 BT: K Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

22. In a service company, expected revenues can be obtained from expected output or expected input. The former is based on anticipated billings of clients for services provided. The latter is based on expected billable time of the professional staff.

LO5 BT: K Difficulty: Easy TOT: 2 min. AACSB: None AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

SOLUTIONS TO EXERCISES

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EXERCISE 9.2

EDINGTON ELECTRONICS INC.
Sales Budget
For the Six Months Ending June 30, 2022

	Quarter 1			Quarter 2			Six Months		
Product	Units	Selling Price	Total Sales	Units	Selling Price	Total Sales	Units	Selling Price	Total Sales
XQ-103	20,000	$15	$300,000	22,000	$15	$330,000	42,000	$15	$ 630,000
XQ-104	12,000	25	300,000	15,000	25	375,000	27,000	25	675,000
Totals	32,000		$600,000	37,000		$705,000	69,000		$1,305,000

LO2 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

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EXERCISE 9.3

THOME AND CREDE, CPAs
Service Revenue Budget
For the Year Ending December 31, 2022

	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
Dept.	Billable Hours	Billable Rate	Total Rev.	Billable Hours	Billable Rate	Total Rev.	Billable Hours	Billable Rate	Total Rev.	Billable Hours	Billable Rate	Total Rev.
Auditing	2,300	$ 80	$184,000	1,600	$ 80	128,000	2,000	$ 80	$160,000	2,400	$ 80	$192,000
Tax	3,000	90	270,000	2,200	90	198,000	2,000	90	180,000	2,500	90	225,000
Consulting	1,500	110	165,000	1,500	110	165,000	1,500	110	165,000	1,500	110	165,000
Totals			$619,000			$491,000			$505,000			$582,000

	Year		
Dept.	Billable Hours	Billable Rate	Total Rev.
Auditing	8,300[a]	$ 80	$ 664,000
Tax	9,700[b]	90	873,000
Consulting	6,000[c]	110	660,000
Totals			$2,197,000

[a] 2,300 + 1,600 + 2,000 + 2,400
[b] 3,000 + 2,200 + 2,000 + 2,500
[c] 1,500 × 4

LO2 BT: AP Difficulty: Easy TOT: 12 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

EXERCISE 9.4

TURNEY COMPANY
Production Budget
For the Year Ending December 31, 2022

Product HD-240

	Quarter				
	1	2	3	4	Year
Expected unit sales	5,000	7,000	8,000	10,000	
Add: Desired ending finished goods units[1]	2,800	3,200	4,000	2,500 [2]	
Total required units	7,800	10,200	12,000	12,500	
Less: Beginning finished goods units	2,000	2,800	3,200	4,000	
Required production units	5,800	7,400	8,800	8,500	30,500

[1]40% of next quarter's sales.
[2]40% x (5,000 x 125%).

LO2 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
[(Qtr. 1: 5,000 + (7,000 x 40%) – (5,000 x 40%) = 5,800); (Qtr. 4: 10,000 + (5,000 x 125% x 40%) – (10,000 x 40%) = 8,500)]
[(Qtr. 1: Qtr. 1 exp. unit sales + (Qtr. 2 exp. unit sales x end. inv. %) – (Qtr. 1 exp. unit sales x end. inv. %) = Req. production units); (Qtr. 4: Qtr. 4 exp. unit sales + (2023 Qtr. 1 exp. unit sales x end. inv. %) – (Qtr. 4 exp. unit sales x end. inv. %) = Req. production units)]

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EXERCISE 9.5

DEWITT INDUSTRIES
Direct Materials Purchases Budget
For the Quarter Ending March 31, 2022

	January	February	March
Units to be produced	10,000	8,000	5,000
Direct materials per unit	x 2	x 2	x 2
Total pounds needed for production	20,000	16,000	10,000
Add: Desired ending direct materials (pounds)*	3,200	2,000	1,600
Total materials required	23,200	18,000	11,600
Less: Beginning direct materials (pounds)	4,000	3,200	2,000
Direct materials purchases	19,200	14,800	9,600
Cost per pound	x $3	x $3	x $3
Total cost of direct materials purchases	$57,600	$44,400	$28,800

***20% of next month's production needs.**

LO2 BT: AP Difficulty: Easy TOT: 9 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
[March: (5,000 x 2) + (4,000 x 2 x 20%) – (5,000 x 2 x 20%) = 9,600]
[March: (March units to be produced x DM/unit) + (Apr. units to be produced x DM/unit x End. inv. %) – (March units to be produced x DM/unit x End. inv. %) = DM purch.]

EXERCISE 9.6

(a)

HARDIN COMPANY
Production Budget
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Expected unit sales	5,000	6,000	
Add: Desired ending finished goods units	1,500[1]	1,750[2]	
Total required units	6,500	7,750	
Less: Beginning finished goods units	1,250[3]	1,500	
Required production units	5,250	6,250	11,500

[1]25% x 6,000. [2]25% x 7,000. [3]25% x 5,000.

EXERCISE 9.6 (Continued)

(b)

HARDIN COMPANY
Direct Materials Budget
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Units to be produced	5,250	6,250	
Direct materials per unit	x 3	x 3	
Total pounds needed for production	15,750	18,750	
Add: Desired ending direct materials (pounds)	7,500 (1)	8,640 (2)	
Total materials required	23,250	27,390	
Less: Beginning direct materials (pounds)	6,300 (3)	7,500	
Direct materials purchases	16,950	19,890	
Cost per pound	x $4	x $4	
Total cost of direct materials Purchases	$67,800	$79,560	$147,360

(1) 40% x 18,750.
(2) 7,200 x (3 x 40%).
(3) 40% x 15,750.

[(Qtr. 1: (5,250 x 3) + (6,250 x 3 x 40%) – (5,250 x 3 x 40%) = 16,950); (Qtr. 2: (6,250 x 3) + (7,200 x 3 x 40%) – (6,250 x 3 x 40%) = 19,890)]
[(Qtr. 1: (Qtr. 1 units to be produced x DM/unit) + (Qtr. 2 units to be produced x DM/unit x End. inv. %) - (Qtr. 1 units to be produced x DM/unit) x End. inv. % = DM purch.): (Qtr. 2: (Qtr. 2 units to be produced x DM/unit) + (Qtr. 3 units to be produced x DM/unit x End. inv. %) - (Qtr. 2 units to be produced x DM/unit x End. inv. %) = DM purch.)]
LO2 BT: AP Difficulty: Easy TOT: 12 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

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EXERCISE 9.7

Finished goods:	
Sales	**2,675**
Plus: ending inventory	**2,200**
Total required	**4,875**
Less: beginning inventory	**2,230**
Production required	**2,645**
Direct materials per unit	**x 2**
Units of direct material required for production	**5,290**
Plus: ending inventory	**2,500[(a)]**
Total required	**7,790**
Less: beginning inventory	**2,645[(b)]**
Purchases of direct material required	**5,145**
Cost per unit	**x $4**
Total cost of materials	**$20,580**

The May raw material purchases would be $20,580.

[(a)]2,390 + 2,310 – 2,200 = 2,500; 2,500 x 2 x .50 = 2,500

[(b)]2,675 + 2,200 – 2,230 = 2,645; 2,645 x 2 x .50 = 2,645

LO2 BT: AP Difficulty: Easy TOT: 8 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

[((2,675 + 2,200 – 2,230) x 2) + ((2,390 + 2,310 – 2,200) x 2 x 50%) – ((2,675 + 2,200 – 2,230) x 2 x 50%) = 5,145]

[((Sales + End. inv. – Beg. inv.) x DM/unit) + ((June sales + June end. inv. – May end. inv.) x DM/unit x DM end. inv. %) – ((May sales + May end. inv. – Apr. end. inv.) x DM/unit x DM end. inv. %) = Req. DM purch.]

EXERCISE 9.8

(a)

FUQUA COMPANY
Production Budget
For the Two Months Ending February 28, 2022

	January	February
Expected unit sales	**10,000**	**12,000**
Add: desired ending finished goods inventory	**2,400***	**2,600*****
Total required units	**12,400**	**14,600**
Less: beginning finished goods inventory	**2,000****	**2,400**
Required production units	**10,400**	**12,200**

***20% x next month's expected sales or 12,000 x 20%**
****20% x 10,000**
*****20% x 13,000**

EXERCISE 9.8 (Continued)

(b)

FUQUA COMPANY
Direct Materials Budget
For the Month Ending January 31, 2022

	January
Units to be produced	10,400
Direct material pounds per unit	x 4
Total pounds needed for production	41,600
Add: desired pounds in ending materials inventory	19,520*
Total materials required	61,120
Less: beginning direct materials (pounds)	16,640**
Direct materials purchases	44,480
Cost per pound	x $2
Total cost of direct materials purchases	$88,960

(12,200 x 4) x 40%** *(10,400 x 4) x 40%**

[(10,400 x 4) + (12,200 x 4 x 40%) – (10,400 x 4 x 40%) = 44,480]
[(Units to be produced x DM/unit) + (Feb. units to be produced x DM/unit x DM end. inv. %) – (Jan. units to be produced x DM/unit x DM end. inv. %) = DM purch.]
LO2 BT: AP Difficulty: Easy TOT: 8 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

EXERCISE 9.9

RODRIGUEZ, INC.
Direct Labor Budget
For the Year Ending December 31, 2022

	Quarter				
	1	2	3	4	Year
Units to be produced	20,000	25,000	35,000	30,000	
Direct labor time (hours) per unit	x 1.5	x 1.5	x 1.5	x 1.5	
Total required direct labor hours	30,000	37,500	52,500	45,000	
Direct labor cost per hour	x $16	x $16	x $18	x $18	
Total direct labor cost	$480,000	$600,000	$945,000	$810,000	$2,835,000

LO3 BT: AP Difficulty: Easy TOT: 4 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

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EXERCISE 9.10

LOWELL COMPANY
Production Budget
For the Quarter Ending March 31, 2022

	Jan	Feb	Mar	Total
Sales in units	12,000	14,000	13,000	39,000
Plus: desired ending inventory	19,200[1]	17,400[2]	15,400[3]	15,400
Total needs	31,200	31,400	28,400	54,400
Less: beginning inventory	17,600	19,200	17,400	17,600
Required production units	13,600	12,200	11,000	36,800

[1](14,000 x 100%) + (13,000 x 40%)
[2](13,000 x 100%) + (11,000 x 40%)
[3](11,000 x 100%) + (11,000 x 40%)

[(Jan.: 12,000 + ((14,000 x 100%) + (13,000 x 40%)) – 17,600 = 13,600); (Feb: 14,000 + ((13,000 x 100%) + (11,000 x 40%)) – 19,200 = 12,200); (Mar.: 13,000 + ((11,000 x 100%) + (11,000 x 40%)) – 17,400 = 11,000)]
[(Jan.: Jan. unit sales + ((Feb. unit sales x End. inv. %) + (Mar. unit sales x End. inv. %)) – Jan. beg. inv. = Req. production units); (Feb.: Feb. unit sales + ((Mar. unit sales x End. inv. %) + (Apr. unit sales x End. inv. %)) – Feb. beg. inv. = Req. production units); (Mar.: Mar. unit sales + ((Apr. unit sales x End. inv. %) + (May unit sales x End. inv. %)) – Mar. beg. inv. = Req. production units)]

LOWELL COMPANY
Direct Labor Budget
For the Quarter Ending March 31, 2022

	Jan	Feb	Mar	Total
Production in units	13,600	12,200	11,000	
Direct labor hours per unit	x 2.00	x 2.00	x 1.50	
Total hours needed	27,200	24,400	16,500	
Direct labor cost per hour	x $8.00	x $8.00	x $8.00	
Total direct labor	$217,600	$195,200	$132,000	$544,800

LO2, 3 BT: AP Difficulty: Easy TOT: 8 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

EXERCISE 9.11

ATLANTA COMPANY
Manufacturing Overhead Budget
For the Year Ending December 31, 2022

	Quarter				
	1	2	3	4	Year
Variable costs					
Indirect materials ($.80/hour)	$12,000	$ 14,400	$ 16,800	$ 19,200	$ 62,400
Indirect labor ($1.20/hour)	18,000	21,600	25,200	28,800	93,600
Maintenance ($.50/hour)	7,500	9,000	10,500	12,000	39,000
Total variable	37,500	45,000	52,500	60,000	195,000
Fixed costs					
Supervisory salaries	41,250	41,250	41,250	41,250	165,000
Depreciation	15,000	15,000	15,000	15,000	60,000
Maintenance	12,000	12,000	12,000	12,000	48,000
Total fixed	68,250	68,250	68,250	68,250	273,000
Total manufacturing overhead	$105,750	$113,250	$120,750	$128,250	$468,000
Direct labor hours	15,000*	18,000	21,000	24,000	78,000
Manufacturing overhead rate per direct labor hour ($468,000 ÷ 78,000)					$6.00

***(10,000 x 1.5)**

LO3 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

[Qtr. 1: (10,000 x 1.5 = 15,000); ((15,000 x $.80) + (15,000 x $1.20) + (15,000 x $.50) = $37,500); ($41,250 + $15,000 + $12,000 = $68,250)]

[Qtr. 1: (Units produced x DLH/unit = DLHs); ((DLHs x Ind. Mat/hr.) + (DLHs x Ind. Labor/hr.) + (DLHs x Maint./hr.) = Tot. VC); (Super. sal. + Depr. + Maint. = Tot. FC)]

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EXERCISE 9.12

KIRKLAND COMPANY
Selling and Administrative Expense Budget
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Budgeted sales in units	20,000	22,000	
Variable expenses (1)			
Sales commissions	$20,000*	$22,000	$ 42,000
Delivery expense	8,000	8,800	16,800
Advertising	12,000	13,200	25,200
Total variable	40,000	44,000	84,000
Fixed expenses			
Sales salaries	12,000	12,000	24,000
Office salaries	8,000	8,000	16,000
Depreciation	4,200	4,200	8,400
Insurance	1,500	1,500	3,000
Utilities	800	800	1,600
Repairs expense	500	500	1,000
Total fixed	27,000	27,000	54,000
Total selling and administrative expenses	$67,000	$71,000	$138,000

(1) Variable costs per dollar of sales are: Sales commissions (5%), Delivery expense (2%), and Advertising (3%).

***(20,000 x $20 x 5%)**

LO3 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

[Qtr. 1: ((20,000 x $20 x 5%) + (20,000 x $20 x 2%) + (20,000 x $20 x 3%) = $40,000); ($12,000 + $8,000 + $4,200 + $1,500 + $800 + $500 = $27,000)]

[Qtr. 1: ((Units sold x USP x Sales comm. %) + (Units sold x USP x Del. exp. %) + (Units sold x USP x Advert. %) = Tot. VC); (Sales sal. + Off. sal. + Depr. + Ins. + Util. + Repairs exp. = Tot. FC)]

EXERCISE 9.13

(a)

FULTZ COMPANY
Computation of Cost of Goods Sold
For the Year Ending December 31, 2022

Cost of one unit of finished goods:	
Direct materials (1 x $5)	**$ 5**
Direct labor (3 x $15)	**45**
Manufacturing overhead (3 x $5)	**15**
Total	**$65**

Cost of goods sold = 30,000 units x $65 = $1,950,000.

(b)

FULTZ COMPANY
Budgeted Income Statement
For the Year Ending December 31, 2022

Sales (30,000 x $85)	**$2,550,000**
Cost of goods sold (see part (a))	**1,950,000**
Gross profit	**600,000**
Selling and administrative expenses	**170,000**
Income from operations	**430,000**
Interest expense	**30,000**
Income before income taxes	**400,000**
Income tax expense ($400,000 x 20%)	**80,000**
Net income	**$ 320,000**

LO3 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
[(30,000 x $85) – (30,000 x ($5 + $45 + $15)) - $170,000 - $30,000 – ($400,000 x 20%) = $320,000]
[(Units sold x USP) – (Units sold x (DM/unit + DL/unit + Mfg. OH/unit)) – Sell. & admin. exp. – Int. exp. – (Inc. before inc. tax. x tax rate) = Net inc.]

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EXERCISE 9.14

DANNER COMPANY
Cash Budget
For the Two Months Ending February 28, 2022

	January	February
Beginning cash balance	$ 45,000	$ 27,500
Add: Receipts		
Collections from customers	85,000	150,000
Sale of marketable securities	12,000	0
Total receipts	97,000	150,000
Total available cash	142,000	177,500
Less: Disbursements		
Direct materials	50,000	75,000
Direct labor	30,000	45,000
Manufacturing overhead*	19,500	23,500
Selling and administrative expenses	15,000	20,000
Total disbursements	114,500	163,500
Excess (deficiency) of available cash over cash disbursements	27,500	14,000
Financing		
Add: Borrowings	0	6,000
Less: Repayments	0	0
Ending cash balance	$ 27,500	$ 20,000

***Jan: $21,000 - $1,500 depreciation Feb: $25,000 - $1,500 depreciation**

LO4 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

[Feb.: ($27,500 + $150,000 = $177,500) – ($75,000 + $45,000 + ($25,000 - $1,500) + $20,000 = $163,500); ($177,500 - $163,500 = $14,000); ($14,000 + $6,000 = $20,000)]

[Feb.: (Beg. cash bal. + Collect. from cust. = Tot. avail. cash); (DM + DL + (Mfg. OH – Depr.) + Sell. & admin. exp. = Tot. disb.); (Tot. avail. cash – Tot. disb. = Excess of avail. cash over cash disb.); (Excess of avail. cash over cash disb. + Borrow. = End. cash bal.)]

EXERCISE 9.15

DEITZ CORPORATION
Cash Budget
For the Quarter Ended March 31, 2022

Beginning cash balance	**$ 30,000**
Add: Receipts	
Collections from customers	**185,000**
Sale of equipment	**3,000**
Total receipts	**188,000**
Total available cash	**218,000**
Less: Disbursements	
Direct materials	**43,000**
Direct labor	**70,000**
Manufacturing overhead	**35,000**
Selling and administrative expenses	**45,000**
Purchase of securities	**14,000**
Total disbursements	**207,000**
Excess of available cash over disbursements	**11,000**
Financing	
Add: Borrowings ($25,000 - $11,000)	**14,000**
Less: Repayments	**–0–**
Ending cash balance	**$ 25,000**

LO4 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

[($30,000 + ($185,000 + $3,000) = $218,000); ($43,000 + $70,000 + $35,000 + $45,000 + $14,000 = $207,000); ($218,000 - $207,000 = $11,000); ($11,000 + $14,000 = $25,000)]

[(Beg. cash bal. + (Collect. from cust. + Sale of equip.) = Tot. avail. cash); (DM + DL + Mfg. OH + Sell. & admin. exp. + Purch. of sec. = Tot. disb.); (Tot. avail. cash – Tot. disb. = Excess of avail. cash over disb.); (Excess of avail. cash over disb. + Borrow. = End. cash bal.)]

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EXERCISE 9.16

(a)

TRENSHAW COMPANY
Cash Budget
For the Month Ended July 31, 2022

Beginning cash balance	$45,000	
Add: Cash collections	90,000	
Total cash available		$135,000
Less: Cash disbursements		
Merchandise purchases	$56,200	
Operating expenses	40,800	
Equipment purchase	20,000	
Total cash disbursements		117,000
Excess of available cash over disbursements		18,000
Add: Borrowings ($25,000 - $18,000)		7,000
Ending cash balance		$ 25,000

Cash disbursements of $117,000 plus the desired ending cash balance of $25,000 exceeds the $135,000 total cash available by $7,000. Therefore, Trenshaw Company will have to borrow $7,000.

[($45,000 + $90,000 = $135,000); ($56,200 + $40,800 + $20,000 = $117,000); ($135,000 - $117,000 = $18,000); ($18,000 + $7,000 = $25,000)]
[(Beg. cash bal. + Cash collect. = Tot. cash avail.); (Merch purch. + Oper. exp. + Equip. purch. = Tot. cash disb.); (Tot. cash avail. – Tot. cash disb. = Excess of avail. cash over disb.); (Excess of avail. cash over disb. + Borrow. = End. cash bal.)]

(b) An advantage of cash budgeting is that it allows cash shortfalls to be predicted. If the timing of future cash shortfalls is known, arrangements to borrow funds can be made well in advance, which often means that interest rates may be more favorable than if the funds are needed on short notice.

LO4 BT: AN Difficulty: Easy TOT: 8 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

EXERCISE 9.17

(a)

NIETO COMPANY
Schedule of Expected Collections from Customers - March

	March
March cash sales (30% x $250,000)	$ 75,000
Collection of March credit sales [(70% x $250,000) x 10%]	17,500
Collection of February credit sales [(70% x $220,000) x 50%]	77,000
Collection of January credit sales [(70% x $200,000) x 36%]	50,400
Total collections	$219,900

[($250,000 x 30%) + ($250,000 x 70% x 10%) + ($220,000 x 70% x 50%) + ($200,000 x 70% x 36%) = $219,900]
[(Mar. sales x Cash %) + (Mar. sales x Credit sales % x Collect. % in mo. of sale) + (Feb. sales x Credit sales % x Collect. % in mo. after sale) + (Jan. sales x Credit sales % x Collect. % in 2nd mo. after sale) = Tot. collect.]

(b)

NIETO COMPANY
Schedule of Expected Payments for Direct Materials - March

	March
March cash purchases (50% x $38,000)	$19,000
Payment of March credit purchases [(50% x $38,000) x 40%]	7,600
Payment of February credit purchases [(50% x $36,000) x 60%]	10,800
Total payments	$37,400

LO4 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

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EXERCISE 9.18

(a) (1)

GREEN LANDSCAPING INC.
Schedule of Expected Collections From Clients
For the Quarter Ending March 31, 2022

	January	February	March	Quarter
November ($80,000).....	$ 8,000			$ 8,000
December ($90,000).....	27,000	$ 9,000		36,000
January ($100,000)	60,000	30,000	$ 10,000	100,000
February ($120,000).....		72,000	36,000	108,000
March ($140,000).....			84,000	84,000
Total collections.....	$95,000	$111,000	$130,000	$336,000

(2)

GREEN LANDSCAPING INC.
Schedule of Expected Payments for Landscaping Supplies
For the Quarter Ending March 31, 2022

	January	February	March	Quarter
December ($14,000).....	$ 5,600			$ 5,600
January ($12,000)	7,200	$ 4,800		12,000
February ($15,000).....		9,000	$ 6,000	15,000
March ($18,000).....			10,800	10,800
Total payments.....	$12,800	$13,800	$16,800	$43,400

(b) (1) Accounts receivable at March 31, 2022: ($120,000 x 10%) + ($140,000 x 40%) = $68,000

[($120,000 x 10%) + ($140,000 x 40%) = $68,000]
[(Feb serv. rev. x Uncollect. %) + (Mar. serv. rev. x Uncollect. %) = Mar. end. accts. rec. bal.]

(2) Accounts payable at March 31, 2022: ($18,000 x 40%) = $7,200

LO4, 5 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

EXERCISE 9.19

PLETCHER DENTAL CLINIC
Cash Budget
For the Two Quarters Ending June 30, 2022

	1st Quarter	2nd Quarter
Beginning cash balance	$ 30,000	$ 25,000
Add: Receipts		
Collections from patients	235,000	380,000
Sale of equipment	12,000	0
Investment interest	0	7,000
Total receipts	247,000	387,000
Total cash available	277,000	412,000
Less: Disbursements		
Professional salaries	140,000	140,000
Overhead costs	77,000	100,000
Selling and administrative costs	48,000[a]	68,000[b]
Equipment purchase	0	50,000
Payment of income taxes	0	4,000
Total disbursements	265,000	362,000
Excess (deficiency) of cash available over cash disbursements	12,000	50,000
Financing		
Add: Borrowings ($25,000 - $12,000)	13,000	0
Less: Repayments	0	13,200[c]
Ending cash balance	$ 25,000	$ 36,800

[a]$50,000 – $2,000 [c]$13,000 principal + $200 interest
[b]$70,000 – $2,000

LO4, 5 BT: AP Difficulty: Easy TOT: 6 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation
[Qtr. 2: ($25,000 + ($380,000 + $7,000) = $412,000); ($140,000 + $100,000 + ($70,000 - $2,000) + $50,000 + $4,000 = $362,000); ($412,000 - $362,000 = $50,000); ($50,000 – ($13,000 + $200) = $36,800)]
[Qtr. 2: (Beg. cash bal. + (Collect. from patients + Invest. int.) = Tot. cash avail.); (Prof. sal. + OH costs + (Sell. & admin. costs – Depr.) + Equip. purch. + Pmt. of inc. tax. = Tot. disb.); (Tot. cash avail. – Tot. disb. = Excess of cash avail. over cash disb.); (Excess of cash avail. over cash disb. – (Loan repmt. + Int. pmt.) = End. cash bal.)]

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EXERCISE 9.20

(a)

GRAND STORES
Merchandise Purchases Budget
For the Month Ending June 30, 2022

Budgeted cost of goods sold ($500,000 x 75%)	$375,000
Add: Desired ending merchandise inventory ($600,000 x 75% x 30%)	135,000
Total	510,000
Less: Beginning merchandise inventory ($375,000 x 30%)	112,500
Required merchandise purchases	$397,500

[($500,000 x 75%) + ($600,000 x 75% x 30%) – ($375,000 x 30%) = $397,500]
[(June sales x CGS %) + (Jul. sales x CGS % x End. merch. Inv. %) – (June CGS x End. merch. Inv. %) = Req. merch purch.]

(b)

GRAND STORES
Budgeted Income Statement (Partial)
For the Month Ending June 30, 2022

Sales	$500,000
Cost of goods sold (75% x $500,000)	375,000
Gross profit	$125,000

LO5 BT: AP Difficulty: Easy TOT: 5 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

EXERCISE 9.21

EMERIC AND ELLIE'S PAINTING SERVICE
Direct Labor Budget
For the Month Ending June 30, 2022

	Small	Medium	Large	Total
Home to be painted	10	5	2	
Direct labor time (hours) per house	x 40	x 70	x 120	
Total required direct labor hours	400	350	240	
Direct labor cost per hour	x $18	x $18	x $18	
Total direct labor cost	$7,200	$6,300	$4,320	$17,820

LO5 BT: AP Difficulty: Easy TOT: 4 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

SOLUTIONS TO PROBLEMS

PROBLEM 9.1

COOK FARM SUPPLY COMPANY
Sales Budget
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Expected unit sales	40,000	56,000	96,000
Unit selling price	x $60	x $60	x $60
Total sales	$2,400,000	$3,360,000	$5,760,000

COOK FARM SUPPLY COMPANY
Production Budget
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Expected unit sales	40,000	56,000	
Add: Desired ending finished goods units	15,000	18,000	
Total required units	55,000	74,000	
Less: Beginning finished goods units	8,000	15,000	
Required production units	47,000	59,000	106,000

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PROBLEM 9.1 (Continued)

COOK FARM SUPPLY COMPANY
Direct Materials Budget—Gumm
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Units to be produced	47,000	59,000	
Direct materials per unit	x 4	x 4	
Total pounds needed for production	188,000	236,000	
Add: Desired ending direct materials (pounds)	10,000	13,000	
Total materials required	198,000	249,000	
Less: Beginning direct materials (pounds)	9,000	10,000	
Direct materials purchases	189,000	239,000	
Cost per pound	x $3.80	x $3.80	
Total cost of direct materials purchases	$718,200	$908,200	$1,626,400

[Qtr. 1: ((47,000 x 4) + 10,000 – 9,000) x $3.80 = $718,200]
[Qtr. 1: ((Units to be produced x DM/unit) + DM end. inv. – DM beg. inv.) x Cost/DM lb. = Tot. cost of DM purch.]

COOK FARM SUPPLY COMPANY
Direct Labor Budget
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Units to be produced	47,000	59,000	
Direct labor time (hours) per unit	x 1/4	x 1/4	
Total required direct labor hours	11,750	14,750	
Direct labor cost per hour	x $16	x $16	
Total direct labor cost	$188,000	$236,000	$424,000

PROBLEM 9.1 (Continued)

COOK FARM SUPPLY COMPANY
Selling and Administrative Expense Budget
For the Six Months Ending June 30, 2022

	Quarter		Six
	1	2	Months
Budgeted sales in units	40,000	56,000	96,000
Variable (15% x sales dollars)	$360,000	$504,000	$864,000
Fixed	175,000	175,000	350,000
Total	$535,000	$679,000	$1,214,000

COOK FARM SUPPLY COMPANY
Budgeted Income Statement
For the Six Months Ending June 30, 2022

Sales	$5,760,000
Cost of goods sold (96,000 x $33.20)*	3,187,200
Gross profit	2,572,800
Selling and administrative expenses	1,214,000
Income from operations	1,358,800
Interest expense	100,000
Income before income tax	1,258,800
Income tax expense (20% x $1,258,800)	251,760
Net income	$1,007,040

***Cost Per Bag**

Cost Element	Quantity	Unit Cost	Total
Direct materials			
Gumm	4 pounds	$ 3.80	$15.20
Tarr	6 pounds	1.50	9.00
Direct labor	1/4 hour	16.00	4.00
Manufacturing overhead (125% of direct labor cost)			5.00
Total			$33.20

[(4 x $3.80) + (6 x $1.50) + (1/4hr. x $16) + (1/4 hr. x $16 x 125%) = $33.20]
[(Gumm lbs./unit x Cost/lb.) + (Tarr lbs./unit x Cost/lb.) + (Hrs./unit x Hrly. rate) + (Hrs./unit x Hrly. rate x MOH rate) = Tot. cost/unit]
LO2, 3 BT: AP Difficulty: Easy TOT: 40 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

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PROBLEM 9.2

(a)

DELEON INC.
Sales Budget
For the Year Ending December 31, 2022

	JB 50	JB 60	Total
Expected unit sales	400,000	200,000	
Unit selling price	x $20	x $25	
Total sales	$8,000,000	$5,000,000	$13,000,000

(b)

DELEON INC.
Production Budget
For the Year Ending December 31, 2022

	JB 50	JB 60
Expected unit sales	400,000	200,000
Add: Desired ending finished goods units	30,000	15,000
Total required units	430,000	215,000
Less: Beginning finished goods units	25,000	10,000
Required production units	405,000	205,000

PROBLEM 9.2 (Continued)

(c)

DELEON INC.
Direct Materials Budget
For the Year Ending December 31, 2022

	JB 50	JB 60	Total
Units to be produced	405,000	205,000	
Direct materials per unit	x 2	x 3	
Total pounds needed for production	810,000	615,000	
Add: Desired ending direct materials (pounds)	30,000	10,000	
Total materials required	840,000	625,000	
Less: Beginning direct materials (pounds)	40,000	15,000	
Direct materials purchases	800,000	610,000	
Cost per pound	x $3	x $4	
Total cost of direct materials purchases	$2,400,000	$2,440,000	$4,840,000

[(JB 50: ((405,000 x 2) + 30,000 – 40,000) x $3 = $2,400,000); (JB 60: ((205,000 x 3) + 10,000 – 15,000) x $4 = $2,440,000)]
[(JB 50: ((Units to be produced x DM/unit) + DM end. inv. – DM beg. inv.) x Cost/lb. = Tot. cost of DM purch.); (JB 60: ((Units to be produced x DM/unit) + DM end. inv. – DM beg. inv.) x Cost/lb. = Tot. cost of DM purch.)]

(d)

DELEON INC.
Direct Labor Budget
For the Year Ending December 31, 2022

	JB 50	JB 60	Total
Units to be produced	405,000	205,000	
Direct labor time (hours) per unit	x .4	x .6	
Total required direct labor hours	162,000	123,000	
Direct labor cost per hour	x $12	x $12	
Total direct labor cost	$1,944,000	$1,476,000	$3,420,000

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PROBLEM 9.2 (Continued)

(e)

DELEON INC.
Budgeted Income Statement
For the Year Ending December 31, 2022

	JB 50	JB 60	Total
Sales	$8,000,000	$5,000,000	$13,000,000
Cost of goods sold	5,200,000 (1)	4,000,000 (2)	9,200,000
Gross profit	2,800,000	1,000,000	3,800,000
Operating expenses			
Selling expenses	560,000	360,000	920,000
Administrative expenses	540,000	340,000	880,000
Total operating expenses	1,100,000	700,000	1,800,000
Income from operations	$1,700,000	$ 300,000	2,000,000
Interest expense			150,000
Income before income taxes			1,850,000
Income tax expense (20% x $1,850,000)			370,000
Net income			$ 1,480,000

(1) 400,000 x $13.
(2) 200,000 x $20.

[(JB 50: $8,000,000 – (400,000 x $13) – ($560,000 + $540,000) = $1,700,000); (JB 60: $5,000,000 – (200,000 x $20) – ($360,000 + $340,000) = $300,000)]
[(JB 50: Sales – (Units sold x Unit cost) – (Sell. exp. + Admin. exp.) = Inc. from oper.); (JB 60: Sales – (Units sold x Unit cost) – (Sell. exp. + Admin. exp.) = Inc. from oper.)]
LO2, 3 BT: AP Difficulty: Easy TOT: 50 min. AACSB: Analytic AICPA FC: Measurement, Analysis and Interpretation IMA: Budget Preparation

PROBLEM 9.4

(a) (1)

COLTER COMPANY
Schedule of Expected Collections from Customers
For the Two Months Ending February 28, 2022

	January	February
November ($250,000)	$ 50,000	$ 0
December ($320,000)	96,000	64,000
January ($360,000)	180,000	108,000
February ($400,000)		200,000
Total collections	$326,000	$372,000

[(Jan.: ($250,000 x 20%) + ($320,000 x 30%) + ($360,000 x 50%) = $326,000); (Feb.: ($320,000 x 20%) + ($360,000 x 30%) + ($400,000 x 50%) = $372,000)]
[(Jan.: (Nov. sales x 2nd mo. after sale %) + (Dec. sales x 1st mo. after sale %) + (Jan. sales x Mo. of sale %) = Tot. collect.); (Feb.: Dec. sales x 2nd mo. after sale %) + (Jan. sales x 1st mo. after sale %) + (Feb. sales x Mo. of sale %) = Tot. collect.)]

(2)

COLTER COMPANY
Schedule of Expected Payments for Direct Materials
For the Two Months Ending February 28, 2022

	January	February
December ($100,000)	$ 40,000	$ 0
January ($120,000)	72,000	48,000
February ($125,000)		75,000
Total payments	$112,000	$123,000

[(Jan.: ($100,000 x 40%) + ($120,000 x 60%) = $112,000); (Feb.: ($120,000 x 40%) + ($125,000 x 60%) = $123,000)]
[(Jan.: (Dec. DM purch. x Mo. after purch. %) + (Jan. DM purch. x Mo. of purch. %) = Tot. pmts.); (Feb.: Jan. DM purch. x Mo. after purch. %) + (Feb. DM purch. x Mo. of purch. %) = Tot. pmts.)]

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PROBLEM 9.4 (Continued)

(b)

COLTER COMPANY
Cash Budget
For the Two Months Ending February 28, 2022

	January	February
Beginning cash balance	$ 60,000	$ 51,000
Add: Receipts		
Collections from customers [See Schedule 1]	326,000	372,000
Notes receivable	15,000	
Sale of securities		6,000
Total receipts	341,000	378,000
Total available cash	401,000	429,000
Less: Disbursements		
Direct materials [See Schedule 2]	112,000	123,000
Direct labor	90,000	100,000
Manufacturing overhead	70,000	75,000
Selling and administrative expenses*	78,000	84,000
Cash dividend		6,000
Total disbursements	350,000	388,000
Excess (deficiency) of available cash over cash disbursements	51,000	41,000
Financing		
Add: Borrowings ($50,000 - $41,000)	0	9,000
Less: Repayments	0	0
Ending cash balance	$ 51,000	$ 50,000

***Selling and administrative expenses less $1,000 depreciation.**

LO4 BT: AP Difficulty: Moderate TOT: 40 min. AACSB: Analytic AICPA FC: Reporting IMA: Budget Preparation

PROBLEM 9.5

(a)

SUPPAR COMPANY
San Miguel Store
Merchandise Purchases Budget
For the Months of May and June, 2022

	May	June
Budgeted cost of goods sold	$600,000	$630,000[1]
Add: Desired ending merchandise inventory	63,000[2]	66,150[3]
Total	663,000	696,150
Less: Beginning merchandise inventory	60,000[4]	63,000
Required merchandise purchases	$603,000	$633,150

[1] $800,000 x 105% = $840,000; $840,000 x 75% = $630,000.
[2] $630,000 x 10% = $63,000.
[3] $840,000 x 105% = $882,000; $882,000 x 75% = $661,500; $661,500 x 10% = $66,150.
[4] $600,000 x 10% = $60,000.

[(May: ($800,000 x 75%) + ($800,000 x 105% x 75% x 10%) – ($800,000 x 75% x 10%) = $603,000); (Jun.: ($800,000 x 105% x 75%) + ($800,000 x 105% x 105% x 75% x 10%) – ($800,000 x 105% x 75% x 10%) = $633,150)]
[(May: (May sales x CGS %) + (May sales x monthly % incr. x CGS % x End. inv. %) – (May sales x CGS % x End. inv. %) = Req. merch. purch.); (Jun.: (May sales x Monthly % incr. x CGS %) + (May sales x Monthly % incr. x Monthly % incr. x CGS % x End. inv. %) – (May sales x Monthly % incr. x CGS % x End. inv. %) = Req. merch. purch.)]

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PROBLEM 9.5 (Continued)

(b)

SUPPAR COMPANY
San Miguel Store
Budgeted Income Statement
For the Months of May and June, 2022

	May	June
Sales	$800,000	$840,000
Cost of goods sold		
Beginning inventory	60,000	63,000
Purchases	603,000	633,150
Cost of goods available for sale	663,000	696,150
Less: Ending inventory	63,000	66,150
Cost of goods sold	600,000	630,000
Gross profit	200,000	210,000
Operating expenses		
Sales salaries	35,000	35,000
Advertising*	48,000	50,400
Delivery**	16,000	16,800
Sales commissions***	40,000	42,000
Rent	5,000	5,000
Depreciation	800	800
Utilities	600	600
Insurance	500	500
Total	145,900	151,100
Income from operations	54,100	58,900
Interest expense	2,000	2,000
Income before income taxes	52,100	56,900
Income tax expense (20%)	10,420	11,380
Net income	$ 41,680	$ 45,520

*6% of sales.
**2% of sales.
***5% of sales.

LO5 BT: AP Difficulty: Easy TOT: 40 min. AACSB: Analytic AICPA FC: Reporting IMA: Budget Preparation

PROBLEM 9.6

KRAUSE INDUSTRIES
Budgeted Cost of Goods Sold
For the Year Ending December 31, 2022

Finished goods inventory, 1/1/22		$ 24,000
Cost of goods manufactured		
Direct materials used	$62,500	
Direct labor	50,900	
Manufacturing overhead applied	48,600	162,000
Cost of goods available for sale		186,000
Finished goods inventory 12/31/22 (2,500 × $18)		45,000
Cost of goods sold		$141,000

[(($62,500 + $50,900 + $48,600) ÷ 9,000 units = $18/unit); ($24,000 + ($62,500 + $50,900 + $48,600) – (2,500 x $18) = $141,000)]
[((DM used + DL + MOH app.) ÷ No. units produced = Cost/unit); (Beg. fin. gds. inv. + (DM used + DL + MOH app.) – (Units in end. fin. gds. inv. x Cost/unit) = CGS)]

KRAUSE INDUSTRIES
Budgeted Income Statement
For the Year Ending December 31, 2022

Sales revenue (8,000 x $32)	$256,000
Cost of goods sold	141,000
Gross profit	115,000
Selling and administrative expenses	75,000
Income from operations	40,000
Interest expense	3,500
Income before income taxes	36,500
Income tax expense (20% x $36,500)	7,300
Net income	$ 29,200

KRAUSE INDUSTRIES
Budgeted Retained Earnings Statement
For the Year Ending December 31, 2022

Retained earnings, 1/1/22	$25,000
Add: Net income	29,200
	54,200
Deduct: Dividends	8,000
Retained earnings 12/31/22	$46,200

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PROBLEM 9.6 (Continued)

KRAUSE INDUSTRIES
Budgeted Balance Sheet
December 31, 2022

Assets		
Current assets		
Cash	$ 13,180	
Accounts receivable ($76,800 x 40%)	30,720	
Finished goods inventory (2,500 x $18)	45,000	
Total current assets		$88,900
Property, plant, and equipment		
Equipment ($40,000 + $9,000)	49,000	
Less: Accumulated depreciation ($10,000 + $4,000)	14,000	35,000
Total assets		$123,900
Liabilities and Stockholders' Equity		
Liabilities		
Notes payable ($25,000 – $8,000)	$17,000	
Accounts payable ($8,500* + $7,200)	15,700	
Income taxes payable	5,000	
Total liabilities		$ 37,700
Stockholders' equity		
Common stock	40,000	
Retained earnings	46,200	
Total stockholders' equity		86,200
Total liabilities and stockholders' equity		$123,900

*$17,000 x 50%

PROBLEM 9.6 (Continued)

Proof of budgeted cash balance December 31, 2022 (Optional)

Beginning Cash		**$ 7,500**
Collections		
Beginning accounts receivable	**$ 73,500**	
2022 sales less ending accounts receivable ($256,000 – $30,720)	**225,280**	**298,780**
		306,280
Payments		
Beginning accounts payable	**45,000**	
Note payment	**8,000**	
Equipment purchase	**9,000**	
Dividends	**8,000**	
Direct materials purchases ($62,500 – $8,500)	**54,000**	
Direct labor	**50,900**	
Manufacturing overhead and selling and admin exp. less depreciation and ending other accts. payable $48,600 + $75,000 – $4,000 – $7,200	**112,400**	
Interest expense	**3,500**	
Income taxes ($7,300 – $5,000)	**2,300**	**293,100**
Ending cash		**$ 13,180**

[$7,500 + ($73,500 + ($256,000 - $30,720)) – ($45,000 + $8,000 + $9,000 + $8,000 + ($62,500 - $8,500) + $50,900 + ($48,600 + $75,000 - $4,000 - $7,200) + $3,500 + ($7,300 - $5,000) = $13,180]
[Beg. cash bal. + (Beg. accts. rec. + (2022 sales – end. accts rec.)) – (Beg. accts. pay. + Note pmt. + Equip. purch. + Div. + (DM purch. – Unpd. bal.) + DL + (MOH + Sell. & admin. exp. – Depr. – End. accts. pay.) + Int. exp. + (Inc. tax exp. – Unpd. bal.) = End. cash bal.]
LO3, 4 BT: AP Difficulty: Hard TOT: 50

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