

Chapter 8 Budgeting for Planning and Control

MULTIPLE CHOICE

1. The first step in planning and control is
- preparation of the budget
 - performance evaluation
 - strategic planning
 - setting long-term objectives

ANS: C DIF: 1 REF: p. 316
OBJ: 1 NAT: AACSB Reflective thinking | IMA Budget preparation

2. Which of the following is true about budgets?
- Budgets are financial plans for the future.
 - Budgets identify objectives and the actions needed to achieve them.
 - Budgets should be tightly linked to the strategic plan.
 - all of the above

ANS: D DIF: 1 REF: p. 316
OBJ: 1 NAT: AACSB Reflective thinking | IMA Budget preparation

3. Which of the following is an advantage of the budgeting process?
- Budgeting provides resource information for decision making.
 - Budgeting provides a standard for performance evaluation.
 - Budgeting improves communication and coordination within the organization.
 - all of the above

ANS: D DIF: 2 REF: p. 317
OBJ: 1 NAT: AACSB Reflective thinking | IMA Budget preparation

4. A budget is
- a planning tool
 - a control tool
 - a means of communicating goals to the firm's divisions
 - all of the above

ANS: D DIF: 1 REF: p. 316-318
OBJ: 1 NAT: AACSB Reflective thinking | IMA Budget preparation

5. A moving twelve-month budget where a future month is added as the current month expires is called a(n)
- zero-base budget
 - incremental budget
 - revolving budget
 - continuous budget

ANS: D DIF: 1 REF: p. 318
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

6. The budget that is a comprehensive financial plan for the organization as a whole is called a
- capital budget
 - master budget
 - comprehensive budget
 - continuous budget

ANS: B DIF: 1 REF: p. 318
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

7. Continuous budgeting requires managers to
- add a future month as the current month expires
 - constantly update the budget to include new information
 - continuously refer to the budget when making decisions
 - assign budgeting responsibilities to a defined group of employees

ANS: A DIF: 1 REF: p. 318-319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

8. Financial budgeting refers to
- all budgets of the firm
 - budgets for cash flows
 - budgets for sales
 - budgets for production

ANS: B DIF: 1 REF: p. 319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

9. Which of the following budgets concerns the income-generating activities of the firm?
- operating budget
 - financial budget
 - capital budget
 - all of the above

ANS: A DIF: 1 REF: p. 319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

10. Which of the following is considered an operating budget?
- budgeted balance sheet
 - sales budget
 - cash budget
 - capital budget

ANS: B DIF: 2 REF: p. 319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

11. The first step in the budgeting process is the preparation of the
- production budget
 - selling and administrative expenses budget
 - sales forecast
 - cash budget

ANS: C DIF: 1 REF: p. 319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

12. Which of the following is usually prepared before the production budget?
- a. direct materials purchases budget
 - b. direct labor budget
 - c. sales budget
 - d. cash budget

ANS: C DIF: 2 REF: p. 319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

13. Of the budgets listed below, which is usually prepared last?
- a. production budget
 - b. cash budget
 - c. sales budget
 - d. overhead budget

ANS: B DIF: 1 REF: p. 319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

14. Which of the following budgets serves as the basis for all other budgets in a manufacturing facility?
- a. direct materials purchases budget
 - b. direct labor budget
 - c. sales budget
 - d. cash budget

ANS: C DIF: 1 REF: p. 319
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

15. In the production budget, the total units to be produced is computed as
- a. expected sales - desired ending inventory - beginning inventory
 - b. expected sales + desired ending inventory + beginning inventory
 - c. expected sales - desired ending inventory + beginning inventory
 - d. expected sales + desired ending inventory - beginning inventory

ANS: D DIF: 1 REF: p. 320
OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

16. The production budget
- a. summarizes the cost of producing units for the budget period
 - b. is calculated based on the unit sales budget and the desired ending inventory and beginning inventory
 - c. specifies the required overhead
 - d. specifies the required direct labor hours

ANS: B DIF: 1 REF: p. 320
OBJ: 2 NAT: AACSB Analytic | IMA Budget preparation

17. Which budget is prepared without dollar amounts?
- a. direct materials purchases budget
 - b. overhead budget

- c. production budget
- d. all of the above

ANS: C DIF: 1 REF: p. 321
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

18. A merchandising firm does **NOT** prepare which of the following budgets?
- a. cash receipts budget
 - b. production budget
 - c. sales budget
 - d. cash payments budget

ANS: B DIF: 2 REF: p. 321
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

19. Jiggy Company plans to sell 33,000 units during the month of May. The company plans to have 2,500 units on hand at the end of the month. If 1,200 units are on hand on May 1, how many units must be produced during May?
- a. 33,000
 - b. 35,500
 - c. 34,300
 - d. 31,800

ANS: C
 SUPPORTING CALCULATIONS:

$$33,000 + 2,500 - 1,200 = \underline{34,300}$$

DIF: 2 REF: p. 321 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

20. Bronco Company sells a product for \$10. Budgeted sales for the first quarter of the current year are as follows:

	<u>Budgeted Sales</u>
January	\$600,000
February	800,000
March	900,000

The company wants to maintain an inventory of finished units equal to 30 percent of the following month's sales, and 10,000 units are on hand at the beginning of the year.

Each unit requires two pounds of raw material costing \$1 per pound. The company maintains a raw materials inventory equal to 20 percent of the following month's production needs.

- Budgeted production in units for February would be
- a. 131,000
 - b. 107,000
 - c. 83,000
 - d. 80,000

ANS: C

SUPPORTING CALCULATIONS:

February sales (\$800,000/\$10)	80,000
Ending inventory, February [30% × (\$900,000/\$10)]	<u>27,000</u>
Total needs	107,000
Less: Beginning inventory [30% × (\$800,000/\$10)]	<u>24,000</u>
Budget production for February	<u>83,000</u>

DIF: 2 REF: p. 321 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

21. Nichols Company sells a product for \$20. Budgeted sales for the first quarter of the current year are as follows:

	<u>Budgeted Sales</u>
January	\$80,000
February	50,000
March	90,000

The company wants to maintain an inventory of finished units equal to 30 percent of the following month's sales, and 1,000 units are on hand at the beginning of the year.

Each unit requires two pounds of raw material costing \$1 per pound. The company maintains a raw materials inventory equal to 10 percent of the following month's production needs.

Budgeted production in units for February would be

- a. 2,500
- b. 3,100
- c. 3,850
- d. 4,600

ANS: B

SUPPORTING CALCULATIONS:

February sales (\$50,000/\$20)	2,500
Desired ending inventory [30% × (\$90,000/\$20)]	<u>1,350</u>
Total Needs	3,850
Less: Beginning inventory [30% × (\$50,000/\$20)]	<u>750</u>
Units to be produced	<u>3,100</u>

DIF: 2 REF: p. 321 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

22. Which of the following is usually prepared before the direct materials purchases budget?

- a. production budget
- b. cash budget
- c. pro forma income statement
- d. pro forma balance sheet

ANS: A DIF: 1 REF: p. 321
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

23. Budgeted sales for the first quarter for Cullison Company, a retailer, are as follows:

	<u>Budgeted Sales (Units)</u>
January	75,000
February	100,000
March	110,000

Cullison started the year with an inventory of 7,500 units. The company likes to maintain an inventory equal to 10 percent of next month's budgeted sales.

Budgeted purchases in units for February would be

- a. 111,000
- b. 110,000
- c. 101,000
- d. 100,000

ANS: C

SUPPORTING CALCULATIONS:

February sales	100,000
Ending inventory, February (10% × 110,000)	<u>11,000</u>
Total needs	111,000
Less: Beginning inventory (10% × 100,000)	<u>10,000</u>
Units to be purchased	<u>101,000</u>

DIF: 2 REF: p. 321-322 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

24. Arlo Company uses an annual cost formula for overhead of \$72,000 + \$1.60 for each direct labor hour worked. For the upcoming month, Arlo plans to manufacture 96,000 units. Each unit requires five minutes of direct labor. Arlo's budgeted overhead for the month is

- a. \$12,800
- b. \$18,800
- c. \$84,800
- d. \$225,600

ANS: B

SUPPORTING CALCULATIONS:

96,000 units × 5 minutes per unit = 480,000 minutes or 8,000 hours

Variable costs: 8,000 hours × \$1.60 =	\$12,800
Fixed costs: \$72,000/12 months =	<u>6,000</u>
	<u>\$18,800</u>

DIF: 3 REF: p. 320-321 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

25. Feedee Company has budgeted sales and production (in units) over the next three months as follows:

	January	February	March
Sales	50,000	?	80,000
Production	52,000	64,000	78,000

There are 10,000 units on hand on January 1. A minimum of 20 percent of the next month's sales in units must be on hand at the end of each month. April sales are expected to be 70,000. Budgeted sales for February would be

- a. 64,000
- b. 78,000
- c. 60,000
- d. 52,000

ANS: C

SUPPORTING CALCULATIONS:

Budgeted sales	X
+ Ending inventory (80,000 × .20)	<u>16,000</u>
Total needs	76,000
- Beginning inventory (52,000 + 10,000 - 50,000)	<u>12,000</u>
Production	<u>64,000</u>

Budgeted sales must be 60,000.

Or

If beginning inventory in February (ending inventory in January) is

$$52,000 + 10,000 - 50,000 = 12,000$$

And, ending inventory in January is 20% of February sales

Then, February sales = $12,000 / .20 = \underline{60,000}$

DIF: 3 REF: p. 320-321 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

26. Jiggy Company plans to sell 33,000 units during the month of May. Beginning inventory was 1,200 units. The company plans to have 2,500 units on hand at the end of the month. Each unit requires 3 pounds of raw materials. If raw material inventory on May 1 is 4,400 pounds and desired ending inventory is 2,200 pounds, how many pounds of raw materials must be purchased during May?

- a. 103,500
- b. 102,900
- c. 105,100
- d. 100,700

ANS: D

SUPPORTING CALCULATIONS:

Production (in units): $33,000 + 2,500 - 1,200 = 34,300$ Raw materials purchased: $(34,300 \times 3) + 2,200 - 4,400 = \underline{100,700}$

DIF: 3 REF: p. 322 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

27. Budgeted sales for the second quarter for Maxwell Company, a retailer, are as follows:

	<u>Budgeted Sales (Units)</u>
April	60,000
May	120,000
June	140,000

Maxwell started the quarter with an inventory of 30,000 units. The company likes to maintain an inventory equal to 10 percent of next month's budgeted sales.

Budgeted purchases in units for May would be

- a. 146,000
- b. 120,000
- c. 134,000
- d. 122,000

ANS: D

SUPPORTING CALCULATIONS:

May sales	120,000
Desired ending inventory ($10\% \times 140,000$)	<u>14,000</u>
Total needs	134,000
Less: Beginning inventory ($10\% \times 120,000$)	<u>12,000</u>
Units to be purchased	<u>122,000</u>

DIF: 2 REF: p. 323 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

28. Cal Company uses the following formula for annual overhead: $\$360,000 + \1.20 for each machine hour used. For the upcoming month, Cal plans to manufacture 6,000 units. Each unit requires 2 machine hours. Cal's budgeted overhead for the month is

- a. \$367,200
- b. \$37,200
- c. \$374,400
- d. \$44,400

ANS: D

SUPPORTING CALCULATIONS:

6,000 units \times 2 machine hours per unit = 12,000 hoursVariable costs: 12,000 hours \times $\$1.20 =$ \$14,400

Fixed costs: \$360,000/12 months =	<u>30,000</u>	
	<u>\$44,400</u>	

DIF: 2 REF: p. 323 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

29. Brown, Inc., has budgeted \$60,000 for annual fixed overhead costs for the coming year. Budgeted variable overhead is \$0.10 per unit. For the next quarter, Brown plans to manufacture 500,000 units. Brown's budgeted overhead for the quarter is

- a. \$50,000
- b. \$65,000
- c. \$110,000
- d. \$150,000

ANS: B

SUPPORTING CALCULATIONS:

Variable costs: 500,000 units × \$0.10 =	\$50,000	
Fixed costs: \$60,000/4 quarters =	<u>15,000</u>	
	<u>\$65,000</u>	

DIF: 2 REF: p. 323 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

30. Depreciation on the production equipment would appear in which of the following budgets?
- a. cash budget
 - b. production budget
 - c. selling and administrative expenses budget
 - d. manufacturing overhead budget

ANS: D DIF: 2 REF: p. 323
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

Figure 8-1

Projected sales for Sommers, Inc., for next year and beginning and ending inventory data are as follows:

Sales	50,000 units
Beginning inventory	4,000 units
Desired ending inventory	8,000 units

The selling price is \$40 per unit. Each unit requires four pounds of material which costs \$6 per pound. The beginning inventory of raw materials is 12,000 pounds. The company wants to have 3,000 pounds of material in inventory at the end of the year.

31. Refer to Figure 8-1. Sommers' budgeted sales would be
- a. \$2,160,000
 - b. \$2,320,000
 - c. \$2,480,000
 - d. \$2,000,000

ANS: D

SUPPORTING CALCULATIONS:

$$50,000 \times \$40 = \underline{\$2,000,000}$$

DIF: 2 REF: p. 320 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

32. Refer to Figure 8-1. According to Sommers' production budget, how many units should be produced?

- a. 54,000
- b. 46,000
- c. 62,000
- d. 38,000

ANS: A

SUPPORTING CALCULATIONS:

$$50,000 + 8,000 - 4,000 = \underline{54,000} \text{ units}$$

DIF: 2 REF: p. 321 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

33. Refer to Figure 8-1. How many pounds of material would Sommers need to purchase?

- a. 216,000
- b. 225,000
- c. 207,000
- d. 201,000

ANS: C

SUPPORTING CALCULATIONS:

$$50,000 + 8,000 - 4,000 = 54,000 \text{ units to be produced}$$

Production needs (54,000 × 4 pounds)	216,000
Desired ending inventory	<u>3,000</u>
Total needs	219,000
Less: Beginning inventory	<u>12,000</u>
Pounds of material to purchase	<u>207,000</u>

DIF: 2 REF: p. 322 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

34. Refer to Figure 8-1. Sommers' budgeted total purchase cost of direct materials would be

- a. \$1,350,000
- b. \$1,242,000
- c. \$1,206,000
- d. \$1,296,000

ANS: B

SUPPORTING CALCULATIONS:

$50,000 + 8,000 = 4,000 = 54,000$ units to be produced

Production needs (54,000 × 4 pounds)	216,000
Desired ending inventory	<u>3,000</u>
Total needs	219,000
Less: Beginning inventory	<u>12,000</u>
Pounds of material to purchase	<u>207,000</u>

$207,000 \times \$6 = \underline{\$1,242,000}$

DIF: 2 REF: p. 322 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

Figure 8-2

Garden Products, Inc. produces numerous gardening tools. Among their products is a heavy-duty garden hoe. The projected sales for the first quarter of the coming year and beginning and ending inventory data are as follows:

Sales	50,000 units
Sales price	\$15 per unit
Beginning inventory	15,000 units
Desired ending inventory	12,000 units

Hoes are assembled and then painted. Each hoe requires 1/2 pound of metal which costs \$2.50 per pound. The beginning inventory of metal is 2,000 pounds. Garden Products wants to have 3,000 pounds in inventory at the end of the quarter.

Each hoe requires 2 feet of lumber as well. Lumber is purchased for \$2.00 per foot. The beginning inventory of lumber is 4,000 feet of lumber. Garden Products want to have 3,000 feet of lumber on hand at the end of the quarter.

Each hoe requires 45 minutes to assemble and paint. Direct labor is billed at a rate of \$10.50 per hour.

35. Refer to figure 8-2. How many garden hoes will Garden Products need to produce during the first quarter of the year?
- a. 62,000 units
 - b. 50,000 units
 - c. 53,000 units
 - d. 47,000 units

ANS: D

SUPPORTING CALCULATIONS:

Sales (in units)	50,000
Desired ending inventory	<u>12,000</u>

Total needs	62,000
Less: beginning inventory	<u>15,000</u>
Units to be produced	<u>47,000</u>

DIF: 3 REF: p. 321 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

36. Refer to figure 8-2. How much metal direct materials should Garden Products purchase during the first quarter to meet production needs?

- a. \$118,750
- b. \$66,250
- c. \$61,250
- d. \$58,750

ANS: C

SUPPORTING CALCULATIONS:

Sales (in units)	50,000
Desired ending inventory	<u>12,000</u>
Total needs	62,000
Less: beginning inventory	<u>15,000</u>
Units to be produced	<u>47,000</u>

Units to be produced	47,000
Direct materials per unit	<u>× 0.50</u>
Production needs (lbs)	23,500
Desired ending inventory	<u>3,000</u>
Total needs (lbs)	26,500
Less: beginning inventory (lbs)	<u>2,000</u>
Materials to be purchased (lbs)	24,500
Cost per pound	<u>× 2.50</u>
Total purchase cost	<u>\$61,250</u>

DIF: 3 REF: p. 322 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

37. Refer to figure 8-2. How much lumber direct materials should Garden Products purchase during the first quarter to meet production needs?

- a. \$94,000
- b. \$100,000
- c. \$186,000
- d. \$188,000

ANS: C

SUPPORTING CALCULATIONS:

Sales (in units)	50,000
Desired ending inventory	<u>12,000</u>
Total needs	62,000
Less: beginning inventory	<u>15,000</u>

Units to be produced	<u>47,000</u>
Units to be produced	47,000
Direct materials per unit	<u>× 2.00</u>
Production needs (ft)	94,000
Desired ending inventory	<u>3,000</u>
Total needs (ft)	97,000
Less: beginning inventory (ft)	<u>4,000</u>
Materials to be purchased (ft)	93,000
Cost per pound	<u>× 2.00</u>
Total purchase cost	<u>\$186,000</u>

DIF: 3 REF: p. 322 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

38. Refer to figure 8-2. Calculate the total direct labor cost required for Garden Products for the first quarter of the year.
- a. \$370,125
 - b. \$393,750
 - c. \$493,500
 - d. \$525,000

ANS: C

SUPPORTING CALCULATIONS:

Sales (in units)	50,000
Desired ending inventory	<u>12,000</u>
Total needs	62,000
Less: beginning inventory	<u>15,000</u>
Units to be produced	<u>47,000</u>
Units to be produced	47,000
Labor hours per unit	<u>× 0.75</u>
Total hours needed	35,250
Cost per hour	<u>× 10.50</u>
Total direct labor cost	<u>\$370,125</u>

DIF: 3 REF: p. 323 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

Figure 8-3

Noah Products sells widgets. The selling price is \$50 per unit. Each unit requires six pounds of material which costs \$6 per pound. The beginning inventory of raw materials is 10,000 pounds. The company wants to have 8,000 pounds of material in inventory at the end of the year.

39. Refer to Figure 8-3. Noah Product's budgeted sales would be
- a. \$520,000
 - b. \$512,000
 - c. \$500,000

d. \$495,000

ANS: C

SUPPORTING CALCULATIONS:

$$10,000 \times \$50 = \$500,000$$

DIF: 2 REF: p. 320 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

40. Refer to Figure 8-3. According to Noah Product's production budget, how many units should be produced?

- a. 10,400
- b. 10,100
- c. 9,900
- d. 9,600

ANS: C

SUPPORTING CALCULATIONS:

Sales	10,000
Desired ending inventory	<u>300</u>
Total needs	10,300
Less: Beginning inventory	<u>400</u>
Units to be produced	<u>9,900</u>

DIF: 2 REF: p. 321 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

41. Refer to Figure 8-3. How many pounds of material would Noah Products need to purchase?

- a. 55,400
- b. 57,400
- c. 59,400
- d. 59,800

ANS: B

SUPPORTING CALCULATIONS:

Production needs (9,900 × 6 lbs.)	59,400
Desired ending inventory	<u>8,000</u>
Total needs	67,400
Less: Beginning inventory	<u>10,000</u>
Purchases required	<u>57,400</u>

DIF: 2 REF: p. 322 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

42. Refer to Figure 8-3. Noah Product's budgeted total purchase cost of direct materials would be

- a. \$344,400
- b. \$342,400

- c. \$336,000
- d. \$332,400

ANS: A

SUPPORTING CALCULATIONS:

$$57,400 \times \$6 = \underline{\$344,400}$$

DIF: 2 REF: p. 322 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

43. Which of the following budgets would **NOT** be used to prepare the Cost of Goods Sold budget?
- a. selling and administrative expenses budget
 - b. direct materials purchases budget
 - c. direct labor budget
 - d. manufacturing overhead budget

ANS: A DIF: 1 REF: p. 324
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

44. Bad debt expense would appear in which of the following budgets?
- a. cash budget
 - b. direct materials purchases budget
 - c. selling and administrative expenses budget
 - d. manufacturing overhead budget

ANS: C DIF: 1 REF: p. 324-325
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

45. Commissions paid to salespersons would appear in which of the following budgets?
- a. direct labor budget
 - b. direct materials purchases budget
 - c. selling and administrative expenses budget
 - d. manufacturing overhead budget

ANS: C DIF: 1 REF: p. 324-325
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

46. Which of the following is considered a financial budget?
- a. selling and administrative expenses budget
 - b. direct labor budget
 - c. cash budget
 - d. sales budget

ANS: C DIF: 1 REF: p. 325
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

47. Capital budgeting refers to
- a. a budget for investments in buildings and equipment
 - b. a budget for obtaining investments of capital in the firm
 - c. a budget for investments of short-term funds in the capital markets

- d. none of the above

ANS: A DIF: 1 REF: p. 325
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

48. Which of the following appears in the cash budget?

- a. interest payments
 b. purchase of equipment on credit
 c. depreciation
 d. all of the above

ANS: A DIF: 1 REF: p. 326
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

49. A bank manager may review a company's cash budget to

- a. determine whether the firm will earn net income
 b. uncover possible employee theft
 c. evaluate the company's ability to repay a loan
 d. do all of the above

ANS: C DIF: 2 REF: p. 326
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

50. If the company's cash budget for the month shows a significant amount of cash in excess of their needs, the company should consider doing which of the following?

- a. making short-term or long-term investments
 b. pay back loans
 c. doing nothing
 d. both a and b

ANS: D DIF: 2 REF: p. 326-327
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

Figure 8-4

Budgeted sales for the second quarter of the current year are as follows:

	<u>Budgeted Sales</u>
April	\$150,000
May	200,000
June	180,000

The company collects 20 percent in the month of sale, 70 percent in the first month following the sale, and 10 percent in the second month following the sale.

51. Refer to Figure 8-4. April sales to be collected in May are

- a. \$30,000
 b. \$105,000
 c. \$104,000
 d. \$0-

ANS: B

SUPPORTING CALCULATIONS:

$$\$150,000 \times 70\% = \underline{\$105,000}$$

DIF: 2 REF: p. 326-329 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

52. Refer to Figure 8-4. Total cash collected in June will be

- a. \$180,000
- b. \$191,000
- c. \$90,000
- d. \$140,000

ANS: B

SUPPORTING CALCULATIONS:

$$\begin{array}{r} \$150,000 \times 10\% = \quad \$ 15,000 \\ \$200,000 \times 70\% = \quad 140,000 \\ \$180,000 \times 20\% = \quad \underline{36,000} \\ \quad \quad \quad \underline{\$191,000} \end{array}$$

DIF: 2 REF: p. 326-329 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

53. Refer to Figure 8-4. If the accounts receivable balance on April 1 is \$125,000, what is the budgeted accounts receivable as of June 30?

- a. \$159,000
- b. \$125,000
- c. \$164,000
- d. \$144,000

ANS: C

SUPPORTING CALCULATIONS:

June ($\$180,000 \times .80$)	\$144,000
May ($\$200,000 \times .10$)	<u>20,000</u>
Total accounts receivable, June 30	<u>\$164,000</u>

DIF: 2 REF: p. 326-329 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

Figure 8-5

Wemberly Company sells a product for \$10. Budgeted sales for the first quarter of the current year are as follows:

Budgeted Sales

January	\$170,000
February	220,000
March	300,000

The company collects 65 percent in the month of sale and 30 percent in the following month. Five percent of all sales are uncollectible and written off.

54. Refer to Figure 8-5. Wemberly's budgeted cash receipts for February are
- \$220,000
 - \$209,000
 - \$194,000
 - \$143,000

ANS: C

SUPPORTING CALCULATIONS:

$$\begin{array}{r} \$220,000 \times 65\% = \quad \$143,000 \\ \$170,000 \times 30\% = \quad \underline{51,000} \\ \quad \quad \quad \underline{\$194,000} \end{array}$$

DIF: 2 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

55. Refer to Figure 8-5. Wemberly's budgeted cash receipts for March are
- \$300,000
 - \$335,000
 - \$195,000
 - \$261,000

ANS: D

SUPPORTING CALCULATIONS:

$$\begin{array}{r} \$300,000 \times 65\% = \quad \$195,000 \\ \$220,000 \times 30\% = \quad \underline{66,000} \\ \quad \quad \quad \underline{\$261,000} \end{array}$$

DIF: 2 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

Figure 8-6

Budgeted purchases for Kelsey Company for the first quarter of the current year are as follows:

	<u>Budgeted Purchases</u>	<u>Direct Labor Costs</u>
January	\$325,000	\$23,000
February	250,000	32,000
March	300,000	27,500

The company pays for 60 percent of its purchases in the month of purchase and 40 percent in the following month. Each month, overhead costs amount to \$25,000 (including depreciation of \$5,000) and selling and administrative costs amount to \$34,000.

56. Refer to Figure 8-6. Kelsey's budgeted cash payments on accounts payable for February are
- a. \$250,000
 - b. \$280,000
 - c. \$345,000
 - d. \$230,000

ANS: B

SUPPORTING CALCULATIONS:

$$\begin{array}{r} \$250,000 \times 60\% = \quad \$150,000 \\ \$325,000 \times 40\% = \quad \underline{130,000} \\ \quad \quad \quad \underline{\$280,000} \end{array}$$

DIF: 2 REF: p. 326-329 OBJ: 2
NAT: AACSB Analytic | IMA Budget preparation

57. Refer to Figure 8-6. Kelsey's budgeted cash payments on accounts payable for March are
- a. \$220,000
 - b. \$330,000
 - c. \$280,000
 - d. \$300,000

ANS: C

SUPPORTING CALCULATIONS:

$$\begin{array}{r} \$300,000 \times 60\% = \quad \$180,000 \\ \$250,000 \times 40\% = \quad \underline{100,000} \\ \quad \quad \quad \underline{\$280,000} \end{array}$$

DIF: 2 REF: p. 326-329 OBJ: 2
NAT: AACSB Analytic | IMA Budget preparation

58. Refer to Figure 8-6. If a balance sheet were prepared at the end of the first quarter, the balance in accounts payable would be
- a. \$120,000
 - b. \$300,000
 - c. \$180,000
 - d. \$220,000

ANS: A

SUPPORTING CALCULATIONS:

$$\$300,000 \times 40\% = \underline{\$120,000}$$

DIF: 2 REF: p. 326-329 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

59. Refer to Figure 8-6. Kelsey's total budgeted cash payments for February are

- a. \$280,000
- b. \$366,000
- c. \$371,000
- d. \$312,000

ANS: B

SUPPORTING CALCULATIONS:

$\$250,000 \times 60\% =$	\$150,000	
$\$325,000 \times 40\% =$	<u>130,000</u>	
Payments on accounts payable		\$280,000
Direct labor		32,000
Overhead		20,000
Selling and administrative		<u>34,000</u>
Total cash payments		<u>\$366,000</u>

DIF: 3 REF: p. 326-329 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

Figure 8-7

	<u>Cash Receipts</u>	<u>Cash Payments</u>
January	\$30,000	\$20,000
February	12,500	18,000
March	25,000	30,000

The cash balance on January 1 was \$5,000.

60. Refer to Figure 8-7. The cash balance at the end of February would be

- a. \$9,500
- b. \$15,000
- c. \$5,500
- d. \$10,000

ANS: A

SUPPORTING CALCULATIONS:

Balance, January 1	\$ 5,000
January receipts	30,000
January payments	<u>(20,000)</u>
Balance, February 1	\$ 15,000

February receipts	12,500
February payments	<u>(18,000)</u>
Balance, February 28	<u>\$ 9,500</u>

DIF: 3 REF: p. 328 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

61. Refer to Figure 8-7. The cash balance at the end of March would be

- a. \$500
- b. \$5,000
- c. \$4,500
- d. \$9,500

ANS: C

SUPPORTING CALCULATIONS:

Balance, January 1	\$ 5,000
January receipts	30,000
January payments	<u>(20,000)</u>
Balance, February 1	\$ 15,000
February receipts	12,500
February payments	<u>(18,000)</u>
Balance, March 1	\$ 9,500
March receipts	25,000
March payments	<u>(30,000)</u>
Balance, March 31	<u>\$ 4,500</u>

DIF: 3 REF: p. 328 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

Figure 8-8

Andrews Company sells a product for \$10. Budgeted sales for the first quarter of the current year are as follows:

	<u>Budgeted Sales</u>
January	\$160,000
February	100,000
March	180,000

The company collects 70 percent in the month of sale and 25 percent in the following month. Five percent of all sales are uncollectible and written off.

62. Refer to Figure 8-8. Andrews Company's budgeted cash receipts for February are

- a. \$110,000
- b. \$100,000
- c. \$70,000
- d. \$48,000

ANS: A

SUPPORTING CALCULATIONS:

$$\begin{array}{r}
 \$100,000 \times 70\% = \quad \$ 70,000 \\
 \$160,000 \times 25\% = \quad \underline{40,000} \\
 \quad \quad \quad \underline{\$110,000}
 \end{array}$$

DIF: 2 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

63. Refer to Figure 8-8. Andrews Company's budgeted cash receipts for March are
- \$126,000
 - \$151,000
 - \$156,000
 - \$205,000

ANS: B

SUPPORTING CALCULATIONS:

$$\begin{array}{r}
 \$180,000 \times 70\% = \quad \$126,000 \\
 \$100,000 \times 25\% = \quad \underline{25,000} \\
 \quad \quad \quad \underline{\$151,000}
 \end{array}$$

DIF: 2 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

Figure 8-9

Budgeted purchases for Katie Company for the fourth quarter of the current year are as follows:

	<u>Budgeted Purchases</u>
October	\$100,000
November	50,000
December	120,000

The company pays for 40 percent of its purchases in the month of purchase and 60 percent in the following month.

64. Refer to Figure 8-9. Katie Company's budgeted cash payments on accounts payable for November are
- \$80,000
 - \$50,000
 - \$30,000
 - \$20,000

ANS: A

SUPPORTING CALCULATIONS:

$$\$ 50,000 \times 40\% = \quad \$20,000$$

$$\begin{aligned} \$100,000 \times 60\% &= \underline{60,000} \\ &\underline{\underline{\$80,000}} \end{aligned}$$

DIF: 2 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

65. Refer to Figure 8-9. Katie Company's budgeted cash payments on accounts payable for December are

- a. \$120,000
- b. \$102,000
- c. \$98,000
- d. \$78,000

ANS: D

SUPPORTING CALCULATIONS:

$$\begin{aligned} \$120,000 \times 40\% &= \quad \$48,000 \\ \$ 50,000 \times 60\% &= \quad \underline{30,000} \\ &\underline{\underline{\$78,000}} \end{aligned}$$

DIF: 2 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

Figure 8-10

	<u>Cash Receipts</u>	<u>Cash Payments</u>
July	\$60,000	\$52,500
August	80,000	85,000
September	70,000	55,000

The cash balance on July 1 was \$17,500.

66. Refer to Figure 8-10. The cash balance at the end of August would be

- a. \$25,000
- b. \$20,000
- c. \$12,500
- d. \$2,500

ANS: B

SUPPORTING CALCULATIONS:

Balance, July 1	\$ 17,500
July receipts	60,000
July payments	<u>(52,500)</u>
Balance, August 1	\$ 25,000
August receipts	80,000
August payments	<u>(85,000)</u>
Balance, August 31	<u>\$ 20,000</u>

DIF: 3 REF: p. 328 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

67. Refer to Figure 8-10. The cash balance at the end of September would be
- \$35,000
 - \$20,000
 - \$17,500
 - \$10,000

ANS: A

SUPPORTING CALCULATIONS:

Balance, July 1	\$ 17,500
July receipts	60,000
July payments	<u>(52,500)</u>
Balance, August 1	\$ 25,000
August receipts	80,000
August payments	<u>(85,000)</u>
Balance, September 1	\$ 20,000
September receipts	70,000
September payments	<u>(55,000)</u>
Balance, September 30	<u>\$ 35,000</u>

DIF: 3 REF: p. 328 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

68. At the beginning of the current month, Melrose had \$10,000. Cash disbursements were \$260,000 and cash collections were \$235,000. Melrose invests all excess cash in a money market fund and has a line of credit to cover cash deficiencies.

If Melrose wishes to start the next month with \$15,000, Melrose must

- borrow \$15,000
- borrow \$30,000
- borrow \$45,000
- do nothing

ANS: B

SUPPORTING CALCULATIONS:

Beginning cash balance	\$ 10,000
Add: Cash receipts	<u>235,000</u>
Cash available	\$ 245,000
Less: Cash disbursements	<u>(260,000)</u>
Cash surplus (deficiency)	\$ (15,000)
Add: Cash from loans	<u>30,000</u>
Ending cash balance	<u>\$ 15,000</u>

DIF: 2 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

69. Diely Company has the following sales budget:

	<u>July</u>	<u>August</u>	<u>September</u>
Budgeted Sales	\$105,000	\$211,000	\$134,000

Credit sales represent 80 percent of budgeted sales. Of the credit sales, 20 percent is collected in the month of the sale, 60 percent in the month after the sale, and the remaining 15 percent is collected two months after the sale. Five percent of all sales are uncollectible and written-off. Cash receipts from sales in September amounted to

- a. \$169,150
- b. \$135,320
- c. \$107,200
- d. \$162,120

ANS: D

SUPPORTING CALCULATIONS:

September:

Cash sales ($\$134,000 \times .20$)	\$ 26,800
Credit sales:	
July ($\$105,000 \times .80 \times .15$)	12,600
August ($\$211,000 \times .80 \times .60$)	101,280
September ($\$134,000 \times .80 \times .20$)	<u>21,440</u>
Total cash receipts	<u>\$162,120</u>

DIF: 3 REF: p. 326-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

70. The cash budget must be prepared before you can complete the
- a. schedule of cash receipts
 - b. sales budget
 - c. production budget
 - d. budgeted balance sheet

ANS: D DIF: 2 REF: p. 330
 OBJ: 2 NAT: AACSB Reflective thinking | IMA Budget preparation

71. A budget prepared for a particular level of activity is a(n)
- a. static budget
 - b. flexible budget
 - c. operational budget
 - d. financial budget

ANS: A DIF: 1 REF: p. 331
 OBJ: 3 NAT: AACSB Reflective thinking | IMA Budget preparation

72. A budget prepared for a particular range of activity is a(n)
- static budget
 - flexible budget
 - operational budget
 - financial budget

ANS: B DIF: 1 REF: p. 332
 OBJ: 3 NAT: AACSB Reflective thinking | IMA Budget preparation

73. Which budget should be used to determine how efficiently managers controlled costs?
- master budget
 - flexible budget
 - static budget
 - cash budget

ANS: B DIF: 1 REF: p. 332-333
 OBJ: 3 NAT: AACSB Reflective thinking | IMA Budget preparation

74. Which of the following must be addressed if budgets are to be used in performance evaluation?
- determine how budgeted amounts should be compared with actual results
 - consider the impact of budgets on human behavior
 - both a and b
 - neither a nor b

ANS: C DIF: 2 REF: p. 332-334
 OBJ: 3 NAT: AACSB Reflective thinking | IMA Budget preparation

Figure 8-11

Torino, Inc., manufactures machine parts. Torino has developed a static budget for its plant at an activity level of 10,000 direct labor hours for the month of March. The actual level of activity was 11,000 hours. The following table summarizes the static budget and the actual costs for March:

	Static Budget (10,000 DLH)	Actual Costs (11,000 DLH)	Variance
Variable costs	\$21,000	\$22,000	\$1,000 U
Fixed costs	<u>7,800</u>	<u>7,700</u>	<u>100 F</u>
Total	<u>\$28,800</u>	<u>\$29,700</u>	<u>\$ 900 U</u>

75. Refer to Figure 8-11. Which of the following describes how well the plant manager performed for the month of March?
- The manager performed a good job in controlling costs.
 - The manager performed a poor job in controlling costs.
 - The manager exceeded his goals.
 - both a and c

ANS: D DIF: 2 REF: p. 332
 OBJ: 3 NAT: AACSB Analytic | IMA Budget preparation

76. Refer to Figure 8-11. What is the flexible budget for March?
- \$28,800

- b. \$29,800
- c. \$30,900
- d. \$31,680

ANS: C

SUPPORTING CALCULATIONS:

Variable costs (11,000 × \$2.10)	\$23,100
Fixed costs	<u>7,800</u>
Total flexible budget	<u>\$30,900</u>

DIF: 2 REF: p. 332 OBJ: 3

NAT: AACSB Analytic | IMA Budget preparation

77. Refer to Figure 8-11. What is the flexible budget variance for March?

- a. \$-0-
- b. \$1,200 F
- c. \$900 U
- d. \$1,100 F

ANS: B

SUPPORTING CALCULATIONS:

	Flexible Budget (11,000 DLH)	Actual Costs (11,000 DLH)	Variance
Variable costs	\$23,100	\$22,000	\$1,100 F
Fixed costs	<u>7,800</u>	<u>7,700</u>	<u>100 F</u>
Total	<u>\$30,900</u>	<u>\$29,700</u>	<u>\$1,200 F</u>

DIF: 2 REF: p. 332-333 OBJ: 3

NAT: AACSB Analytic | IMA Budget preparation

78. Refer to Figure 8-11. Which of the following describes the flexible budget variance for March?

- a. The fixed overhead variance is \$100 F.
- b. The variable overhead variance is \$1,000 U.
- c. The variable overhead variance is \$1,100 F.
- d. both a and c

ANS: D

SUPPORTING CALCULATIONS:

	Flexible Budget (11,000 DLH)	Actual Costs (11,000 DLH)	Variance
Variable costs	\$23,100	\$22,000	\$1,100 F
Fixed costs	<u>7,800</u>	<u>7,700</u>	<u>100 F</u>
Total	<u>\$30,900</u>	<u>\$29,700</u>	<u>\$1,200 F</u>

DIF: 2 REF: p. 322-333 OBJ: 3

NAT: AACSB Analytic | IMA Budget preparation

79. Participative budgeting offers which of the following advantages?
- It offers nonmonetary incentives to employees that may lead to higher levels of employee performance.
 - It involves individuals whose knowledge of local conditions may enhance the budgeting process.
 - It communicates a sense of employee responsibility.
 - All of the above are advantages of participative budgeting.

ANS: D DIF: 1 REF: p. 335-336
 OBJ: 3 NAT: AACSB Reflective thinking | IMA Budget preparation

80. Which of the following is **NOT** a key feature of a budgetary system that promotes positive managerial performance?
- frequent feedback on performance
 - a single measure of performance
 - monetary and nonmonetary incentives
 - participative budgeting

ANS: B DIF: 1 REF: p. 335-336
 OBJ: 3 NAT: AACSB Reflective thinking | IMA Budget preparation

81. When top management assumes total control of the budgeting process and seeks only superficial participation from lower-level managers, this practice is called
- pseudoparticipation
 - false participation
 - participative budgeting
 - none of the above

ANS: A DIF: 1 REF: p. 336
 OBJ: 3 NAT: AACSB Reflective thinking | IMA Budget preparation

82. Activity-based budgeting
- is a more powerful planning and control tool than a functional-based budget system
 - starts with sales and production budgets similar to a functional-based budget system
 - is simpler to construct than a functional-based budget system
 - Both a and b above are correct.

ANS: D DIF: 2 REF: p. 337
 OBJ: 4 NAT: AACSB Reflective thinking | IMA Budget preparation

Figure 8-12

Adams Company uses an activity-based costing system. Four activities were identified. The inspection activity uses the number of setups as its cost driver. The following budget information is available for this activity:

Fixed costs per month	\$80,000
Variable cost per setup	\$1,800

The company expects to have 25 setups in March.

83. Refer to Figure 8-12. If the company expects the 25 setups in the month of March, what would be the total budgeted costs of the inspection activity?

- a. \$80,000
- b. \$125,000
- c. \$45,000
- d. \$132,500

ANS: B

SUPPORTING CALCULATIONS:

Fixed costs	\$ 80,000
Variable costs (\$1,800 × 25)	<u>45,000</u>
Total	<u>\$125,000</u>

DIF: 1 REF: p. 338 OBJ: 4
 NAT: AACSB Analytic | IMA Budget preparation

84. Refer to Figure 8-12. Actual costs incurred were \$82,000 fixed and \$48,000 variable. If the actual number of setups in March was 30, what is the activity-based flexible budget variance?

- a. \$5,000 U
- b. \$5,000 F
- c. \$4,000 F
- d. \$4,000 U

ANS: C

SUPPORTING CALCULATIONS:

	Flexible Budget (30 Setups)	<u>Actual Costs</u>	<u>Variance</u>
Fixed costs	\$ 80,000	\$ 82,000	\$2,000 U
Variable costs	<u>54,000</u>	<u>48,000</u>	<u>6,000 F</u>
Total	<u>\$134,000</u>	<u>\$130,000</u>	<u>\$4,000 F</u>

DIF: 2 REF: p. 339 OBJ: 4
 NAT: AACSB Analytic | IMA Budget preparation

PROBLEM

1. The Good As Old Company manufactures antique-looking, oak rocking chairs. Budgeted sales for the first five months of the year are as follows:

	<u>Budgeted Sales (Units)</u>
January	200
February	240
March	180
April	160
May	240

Each rocking chair requires 10 square feet of oak, at a cost of \$20 per square foot.

The company wants to maintain an inventory of chairs equal to 25 percent of the following month's sales. At the beginning of the year, 40 chairs are on hand.

Assume the company maintains an inventory of oak equal to 10 percent of the next month's needs. At the beginning of the year, 240 square feet of oak are on hand. Inventory of oak at March 31 is estimated to be 180 square feet.

Required:

- Prepare a production budget, in units, for each of the first four months of the year.
- Prepare a purchases budget, in dollars, for each of the first three months of the year.

ANS:

a.

PRODUCTION BUDGET IN UNITS

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>
Budgeted sales in units	200	240	180	160
Desired ending inventory (25% of next month's sales)	<u>60</u>	<u>45</u>	<u>40</u>	<u>60</u>
Total needs	260	285	220	220
Less: Beginning inventory	<u>40</u>	<u>60</u>	<u>45</u>	<u>40</u>
Units to be produced	<u>220</u>	<u>225</u>	<u>175</u>	<u>180</u>

b.

PURCHASES BUDGET IN DOLLARS

	<u>January</u>	<u>February</u>	<u>March</u>
Units to be produced	220	225	175
Multiplied by:			
Sq. ft. of oak per unit	<u>× 10</u>	<u>× 10</u>	<u>× 10</u>
Sq. ft. of material needed for production	2,200	2,250	1,750
Desired ending inventory (10% of next month's needs)	<u>225</u>	<u>175</u>	<u>180</u>
Total sq. ft. needed	2,425	2,425	1,930
Less: Beginning inventory	<u>240</u>	<u>225</u>	<u>175</u>
Sq. ft. to be purchased	2,185	2,200	1,755
Multiplied by:			
Cost per sq. ft.	<u>× \$20</u>	<u>× \$20</u>	<u>× \$20</u>
Cost of raw material purchases	<u>\$43,700</u>	<u>\$44,000</u>	<u>\$35,100</u>

DIF: 3 REF: p. 321-322 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

2. Dusty Company manufactures oak porch swings. Budgeted sales for the first four months of the year are as follows:

	<u>Budgeted Sales (Units)</u>
January	320
February	280
March	340
April	240

Each porch swing requires 15 square feet of oak, at a cost of \$20 per square foot.

The company wants to maintain an inventory of swings equal to 20 percent of the following month's sales. At the beginning of the year, 40 swings are on hand.

Assume the company maintains an inventory of oak equal to 10 percent of the next month's needs. At the beginning of the year, 500 square feet of oak are on hand. Inventory of oak at March 31 is estimated to be 400 square feet.

Required:

- a. Prepare a production budget, in units, for each of the first three months of the year.
- b. Prepare a purchases budget, in dollars, for direct materials for each of the first three months of the year.

ANS:

	<u>PRODUCTION BUDGET IN UNITS</u>		
	<u>January</u>	<u>February</u>	<u>March</u>
Budgeted sales, in units	320	280	340
Desired ending inventory (20% of next month's sales)	<u>56</u>	<u>68</u>	<u>48</u>
Total needs	376	348	388
Less: Beginning inventory	<u>40</u>	<u>56</u>	<u>68</u>
Units to be produced	<u>336</u>	<u>292</u>	<u>320</u>
	<u>PRODUCTION BUDGET IN UNITS</u>		
	<u>PURCHASES BUDGET IN DOLLARS</u>		
	<u>January</u>	<u>February</u>	<u>March</u>
Units to be produced	336	292	320
Multiplied by:			
Sq. ft. of oak per unit	<u>× 15</u>	<u>× 15</u>	<u>× 15</u>
Sq. ft. of material needed for production	5,040	4,380	4,800
Desired ending inventory (10% of next month's needs)	<u>438</u>	<u>480</u>	<u>400</u>
Total sq. ft. needed	5,478	4,860	5,200
Less: Beginning inventory	<u>500</u>	<u>438</u>	<u>480</u>
Sq. ft. to be purchased	4,978	4,422	4,720
Multiplied by:			
Cost per sq. ft.	<u>× \$20</u>	<u>× \$20</u>	<u>× \$20</u>
Cost of raw material purchases	<u>\$99,560</u>	<u>\$88,440</u>	<u>\$94,400</u>

DIF: 2 REF: p. 321-322 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

3. Retro, Inc., produces a single product. The projected sales for the first month of the coming year and the beginning and ending inventory data are as follows:

Sales	80,000 units
Unit price	\$12
Beginning inventory	6,000 units
Desired ending inventory	9,000 units

Each unit requires three pounds of material costing \$2 per pound. The beginning inventory of raw materials is 2,500 pounds, and the company wants to have 4,500 pounds of material in inventory at the end of the month. Each unit requires one hour of direct labor time, which is billed at \$8 per hour.

Required:

- a. Prepare a production budget for the first month.
- b. Prepare a direct materials purchases budget for the first month.

ANS:

a.	Production budget:		
	Sales (in units)		80,000
	Desired ending inventory		<u>9,000</u>
	Total needs		89,000
	Less: Beginning inventory		<u>6,000</u>
	Units to be produced		<u>83,000</u>
b.	Purchases budget:		
	Units to be produced		83,000
	Direct materials per unit (pounds)	× 3	
	Production needs (pounds)		249,000
	Desired ending inventory (pounds)		<u>4,500</u>
	Total needs		253,500
	Less: Beginning inventory (pounds)		<u>2,500</u>
	Direct materials to be purchased (pounds)		251,000
	Cost per pound	× \$2	
	Total purchase cost		<u>\$502,000</u>

DIF: 2 REF: p. 321-322 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

4. Classics, Inc., uses a flexible budget for overhead costs. The company expects to produce 20,000 units of the product it manufactures. Half of the units require 0.50 direct labor hours per unit. The remainder requires 0.75 direct labor hours per unit. The cost formulas for each of the four overhead items is as follows:

	Fixed Cost	Variable Cost
Power	\$ 1,000	\$0.25
Maintenance	\$ 5,000	\$0.40

Indirect labor	\$ 8,000	\$2.00
Rent	\$12,000	

Required:

- a. Prepare an overhead budget for the expected activity level for the coming year.
- b. Prepare an overhead budget that reflects production that is 10 percent higher than expected.

ANS:

- a. Projected activity level:

$$(20,000 \text{ units}/2) \times 0.50 \text{ hours} = 5,000 \text{ hours}$$

$$(20,000 \text{ units}/2) \times 0.75 \text{ hours} = 7,500 \text{ hours}$$

$$\underline{12,500 \text{ hours}}$$

Overhead budget:

Power [$\$1,000 + (\$0.25 \times 12,500)$]	\$ 4,125
Maintenance [$\$5,000 + (\$0.40 \times 12,500)$]	10,000
Indirect labor [$\$8,000 + (\$2 \times 12,500)$]	33,000
Rent	<u>12,000</u>
Total overhead	<u>\$59,125</u>

- b. High activity level: $12,500 \times 1.10 = 13,750$

Overhead budget:

Power [$\$1,000 + (\$0.25 \times 13,750)$]	\$ 4,438
Maintenance [$\$5,000 + (\$0.40 \times 13,750)$]	10,500
Indirect labor [$\$8,000 + (\$2 \times 13,750)$]	35,500
Rent	<u>12,000</u>
Total overhead	<u>\$62,438</u>

DIF: 2 REF: p. 323 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

5. Timothy, Inc., uses a flexible budget for overhead costs. The company expects to produce 40,000 units of the product it manufactures. Each unit requires 0.40 direct labor hours. The cost formulas for each of the four overhead items (where X is measured in direct labor hours) is as follows:

	<u>Cost Formula</u>
Power	0.40X
Maintenance	$\$15,000 + 0.60X$
Indirect labor	$\$18,000 + 2.50X$
Rent	\$20,000

Required:

- a. Prepare an overhead budget for the expected activity level for the coming year.
- b. Prepare an overhead budget that reflects production that is 25 percent lower than expected.

ANS:

a.	Overhead budget:		
	Power ($\$0.40 \times 40,000 \times 0.4$)		\$ 6,400
	Maintenance [$\$15,000 + (\$0.60 \times 40,000 \times 0.4)$]		24,600
	Indirect labor [$\$18,000 + (\$2.50 \times 40,000 \times 0.4)$]		58,000
	Rent		<u>20,000</u>
	Total overhead		<u>\$109,000</u>
b.	Overhead budget:		
	Power ($\$0.40 \times 30,000 \times 0.40$)		\$ 4,800
	Maintenance [$\$15,000 + (\$0.60 \times 30,000 \times 0.40)$]		22,200
	Indirect labor [$\$18,000 + (\$2.50 \times 30,000 \times 0.40)$]		48,000
	Rent		<u>20,000</u>
	Total overhead		<u>\$ 95,000</u>

DIF: 2 REF: p. 323 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

6. Mattingly Corporation sells a single product for \$150 per unit. Total sales were 6,000 units. The company is considering a 10 percent price reduction in order to stay competitive. It is estimated that such a reduction will increase sales volume by 10 percent. Assume a 40 percent tax rate. Costs are budgeted as follows:

Direct material	\$30 per unit
Direct labor	\$20 per unit
Variable manufacturing overhead	\$15 per unit
Variable selling and administrative	\$10 per unit
Fixed manufacturing overhead	\$100,000
Fixed selling and administrative	\$80,000

Required:

Prepare a budgeted income statement for next year assuming that the company reduces prices as planned.

ANS:

BUDGETED INCOME STATEMENT

Sales ($6,600 \times \$135$)	\$ 891,000
Less: Cost of goods sold	<u>(529,000)*</u>
Gross margin	\$ 362,000
Less: Selling and administrative expenses	<u>(146,000)**</u>
Income before taxes	\$ 216,000
Less: Income taxes ($\$216,000 \times 40\%$)	<u>(86,400)</u>
Net income	<u>\$ 129,600</u>

* $[(\$30/\text{unit} + \$20/\text{unit} + \$15/\text{unit}) \times 6,600 \text{ units}] + \$100,000 = \$529,000$

** $(\$10/\text{unit} \times 6,600 \text{ units}) + \$80,000 = \$146,000$

DIF: 3 REF: p. 321-325 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

7. The following budget estimates have been prepared by Clifton Company:

	<u>Cash Receipts</u>	<u>Cash Payments</u>
May	\$120,000	\$150,000
June	110,300	150,000

The company likes to maintain a minimum cash balance of \$40,000.

Any excess cash is invested in a money market account earning 9 percent compounded monthly. Interest is reinvested in the money market account. Any cash deficiencies are covered by a withdrawal from the money market account. If additional cash is needed, the company has a line of credit at 12 percent interest with the local bank. Interest is paid monthly.

Assume a cash balance on May 1 of \$40,000, a money market account balance of \$0, and a credit line loan balance of \$0.

Required:

Prepare a cash budget for May and June.

ANS:

	<u>May</u>	<u>June</u>
Beginning cash balance	\$ 40,000	\$ 40,000
Add: Cash receipts	<u>120,000</u>	<u>110,300</u>
Cash available	\$ 160,000	\$ 150,300
Less: Cash disbursements	<u>(150,000)</u>	<u>(150,300)*</u>
Cash surplus (deficiency)	\$ 10,000	\$ 0
Add: Cash from loans	<u>30,000</u>	<u>40,000</u>
Ending cash balance	<u>\$ 40,000</u>	<u>\$ 40,000</u>

*Includes interest on the May loan of \$300 ($\$30,000 \times .12 \times 1/12$)

DIF: 3 REF: p. 328 OBJ: 2

NAT: AACSB Analytic | IMA Budget preparation

8. The following budget estimates have been prepared by Flowers Company:

	<u>Cash Receipts</u>	<u>Cash Payments</u>
January	\$220,000	\$220,000
February	380,000	400,000
March	320,000	319,800

The company likes to maintain a minimum cash balance of \$50,000.

Any excess cash is invested in a money market account earning 8 percent compounded monthly. Interest is reinvested in the money market account. Any cash deficiencies are covered by a withdrawal from the money market account. If additional cash is needed, the company has a line of credit at 12 percent interest with the local bank.

Assume a cash balance on January 1 of \$50,000, a money market account balance of \$0, and a credit line loan balance of \$0.

Required:

Prepare a cash budget for each of the first three months of the year.

ANS:

	<u>January</u>	<u>February</u>	<u>March</u>
Beginning cash balance	\$ 50,000	\$ 50,000	\$ 50,000
Add: Cash receipts	<u>220,000</u>	<u>380,000</u>	<u>320,000</u>
Cash available	\$ 270,000	\$ 430,000	\$ 370,000
Less: Cash disbursements	<u>(220,000)</u>	<u>(400,000)</u>	<u>(320,000)*</u>
Cash surplus (deficiency)	\$ 50,000	\$ 30,000	\$ 50,000
Add: Cash from loans	<u>-0-</u>	<u>20,000</u>	<u>-0-</u>
Ending cash balance	<u>\$ 50,000</u>	<u>\$ 50,000</u>	<u>\$ 50,000</u>

*Includes \$200 of interest expense ($\$20,000 \times .12 \times 1/12$)

DIF: 3 REF: p. 328 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

9. Budgeted sales for the third quarter of the year for Brown Company are as follows:

	<u>Budgeted Sales</u>
July	\$300,000
August	375,000
September	450,000

The company normally collects 30 percent in the month of sale and 65 percent in the month following the sale. Five percent of all sales are uncollectible and are written off in the following month.

The balance in accounts receivable at July 1 was \$245,000, which represents 70 percent of June sales.

Required:

Prepare a schedule of cash collections on accounts receivable for the third quarter.

ANS:

	<u>July</u>	<u>August</u>	<u>September</u>
Cash collections:			
30% of sales for current month	\$ 90,000	\$112,500	\$135,000

65% of sales for previous month	<u>227,500*</u>	<u>195,000</u>	<u>243,750</u>
Total cash collections	<u>\$317,500</u>	<u>\$307,500</u>	<u>\$378,750</u>

*\$245,000 = .70 X
 June sales = X = \$245,000/.7
 X = \$350,000
 .65 × \$350,000 = \$227,500

DIF: 2 REF: p. 328-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

10. Budgeted sales for the second quarter of the year for Reuben Company are as follows:

	<u>Budgeted Sales</u>
April	\$400,000
May	200,000
June	600,000

The company normally collects 60 percent in the month of sale and 30 percent in the month following the sale. Ten percent of all sales are uncollectible and are written off in the following month.

The balance in accounts receivable at April 1 was \$200,000, which represents 40 percent of March sales.

Required:

Prepare a schedule of cash collections on accounts receivable for the second quarter.

ANS:

	<u>April</u>	<u>May</u>	<u>June</u>
Cash collections:			
60% of sales for current month	\$240,000	\$120,000	\$360,000
30% of sales for previous month	<u>150,000*</u>	<u>120,000</u>	<u>60,000</u>
Total cash collections	<u>\$390,000</u>	<u>\$240,000</u>	<u>\$420,000</u>

*March sales = \$200,000/.4 = \$500,000
 \$500,000 × .3 = \$150,000

DIF: 2 REF: p. 328-329 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

11. Mancini, Inc. a retailer of specialty wall papers, prepares a monthly master budget. Data for the September master budget are given below:

a. The August 31st balance sheet:

cash	\$25,500	accounts payable	\$53,760
accounts receivable	90,000		
inventory	28,800	capital stock	265,000
building and	200,000	retained earnings	25,540

equipment (net)			
-----------------	--	--	--

- b. Actual sales for August and budgeted sales for September, October, and November are given below:

August	\$120,000
September	360,000
October	200,000
November	180,000

- c. Sales are 25% for cash and 75% on credit. All credit sales are collected in the month following the sale. There are no bad debts.
- d. The gross margin percentage is 60% of sales. The desired ending inventory is equal to 20% of the following month's sales. One fifth of the purchases are paid for in the month of the purchase and the others are purchased on account and paid in full the following month.
- e. The monthly cash operating expenses are \$80,000 including the monthly depreciation of \$7,000
- f. During September, Mancini Company will purchase new office equipment for \$17,000 cash.
- g. Dividends of \$13,500 were declared and paid in September.
- h. The company must maintain a minimum cash balance of \$25,000. A line of credit is used to maintain this balance. Borrowing will be made in increments of \$1,000. All borrowing is done at the beginning of the month and repayments are made at the end of the month. The annual interest rate is 12%, paid when the loan is repaid (ignore the accrual of interest).

Required:

Prepare a balance sheet, income statement, and cash budget for the month of September.

ANS:

BALANCE SHEET			
cash	\$ 25,000	accounts payable	\$ 104,960
accounts receivable	270,000	loans payable	3,000
inventory	16,000	capital stock	265,000
building and equipment(net)	210,000	retained earnings	148,040
	521,000		521,000
INCOME STATEMENT		CASH	BUDGET
revenue	\$360,000	beginning cash	\$ 25,500
COGS	144,000		
gross margin	216,000	cash receipts	
operating expenses	80,000	Sept	90,000
net income	136,000	Aug	90,000
		cash available	205,500
		cash disbursements	
		Aug. purchases	53,760

	Sept. purchases	26,240
	cash expenses	73,000
	equipment purchase	17,000
	dividends	13,500
	total disbursements	183,500
	excess of cash	\$ 22,000
	borrow	3,000
	repay	0
	interest	0
	ending cash	\$ 25,000

DIF: 3 REF: p. 325-331 OBJ: 2
 NAT: AACSB Analytic | IMA Budget preparation

12. Hottzer, Inc. is looking for feedback on performance. The company compares the budget for the year with the actual costs.

Holtzer had the following budgeted:

Budgeted unit sales for 2007 10,000
 Budgeted unit production for 2007 10,000

Budgeted fixed overhead for 2007
 Supervision \$18,000
 Depreciation 20,000
 Rent 10,000

Budgeted variable overhead for 2007
 Direct materials \$18.00
 Direct labor 25.00
 Supplies 0.20
 Indirect labor 1.00
 Power 0.10

The following actually occurred

Actual unit sales for 2007 11,000
 Actual unit production for 2007 12,000

Actual fixed overhead for 2007
 Supervision \$17,850
 Depreciation 20,000
 Rent 10,000

Actual variable overhead for 2007
 Direct materials \$ 214,000
 Direct labor 320,000
 Supplies 2,500
 Indirect labor 10,000

Power

1,500

Required:

- Prepare a performance report for manufacturing costs showing static budget variances.
- Prepare a performance report showing flexible budget variances.

ANS:

a.

	Actual	Budget for 10,000	Variance
Fixed costs:			
Supervision	\$ 17,850	\$18,000	\$150 F
Depreciation	20,000	20,000	0
Rent	10,000	10,000	0
Variable costs:			
Direct materials	\$214,000	\$180,000	\$34,00 U
Direct labor	320,000	250,000	70,000 U
Supplies	2,500	2,000	500U
Indirect labor	10,000	10,000	0
Power	1,500	1,000	500U
Total costs	\$595,850	\$491,000	\$104,850 U

a.

	Actual	Budget for 12,000	Variance
Fixed costs:			
Supervision	\$ 17,850	18,000	\$150 F
Depreciation	20,000	20,000	0
Rent	10,000	10,000	0
Variable costs:			
Direct materials	\$214,000	\$ 216,000	2,000 F
Direct labor	320,000	300,000	20,000 U
Supplies	2,500	2,400	100 U
Indirect labor	10,000	12,000	2,000 F
Power	1,500	1,200	300 U
Total costs	\$595,850	\$ 579,600	\$16,250 U

DIF: 2 REF: p. 331-339 OBJ: 3 | 4
 NAT: AACSB Analytic | IMA Budget preparation

ESSAY

1. Discuss the role of budgeting in planning, control, and decision making.

ANS:

Budgets are a key component of planning because they are the financial plans for the future. Control means looking backward, determining what actually happened, and comparing it with the previously planned outcomes (the budget). Budgets improve decision making by providing useful information.

DIF: 2 REF: p. 316-318 OBJ: 1
 NAT: AACSB Reflective thinking | IMA Budget preparation

2. Describe the master budget and the components of the operating budget and financial budgets of a manufacturing firm. Describe the order in which the budgets are prepared.

ANS:

The master budget is the comprehensive financial plan for the company, as a whole. The operating budgets are prepared first beginning with the sales budget, then the production budget, followed by the direct materials purchases budget, direct labor budget, overhead budget, selling and administrative budget, ending finished goods inventory budget, cost of goods sold budget and concludes with the income statement.

The financial budgets are prepared by beginning with the cash budget followed by the budgeted balance sheet.

DIF: 2 REF: p. 318-319 OBJ: 2
 NAT: AACSB Reflective thinking | IMA Budget preparation

3. If budget performance is overemphasized, myopic behavior can occur where a manager takes actions that improve budgetary performance in the short run but cause long-run harm to the firm.

Required:

- a. Give at least two examples of myopic behavior that might be encouraged if there is an overemphasis on budgets as a performance measure.
- b. Discuss ways to discourage or prevent myopic behavior in managers.

ANS:

- a. To meet budgeted cost objectives or profits, managers can reduce expenditures for preventive maintenance, for advertising, and for new product development. Managers can also fail to promote employees in order to keep the cost of labor low, perhaps damaging employee morale. Managers may use lower quality materials to reduce the cost of raw materials. In the short run, these actions will lead to improved budgetary performance; but in the long run, productivity will fall, market share will decline, and valuable employees will leave for more attractive opportunities.
- b. The best way to prevent myopic behavior is to measure the performance of managers on several dimensions, including some long-run attributes. Market share, productivity, quality, and personnel development are examples of other areas of performance that could be evaluated. Financial measures of performance are important, but overemphasis on them can be counterproductive.

DIF: 2 REF: p. 334-336 OBJ: 3
NAT: AACSB Reflective thinking | IMA Budget preparation

4. Identify and discuss the key features that a budgetary system should have to encourage managerial, goal-congruent behavior.

ANS:

These features include the following:

Frequent Feedback on Performance. Managers need to know how they are doing as the year unfolds so they can take corrective actions, as necessary.

Monetary and Nonmonetary Incentives. Managers are believed to be primarily motivated by monetary incentives; however, nonmonetary incentives such as job enrichment and increased responsibility can also be used to enhance the budgetary control system.

Participative Budgeting. A sense of responsibility can be communicated to subordinate managers and creativity can be fostered by participative budgeting.

Realistic Standards. Managers are evaluated based on budgeted objectives; therefore, these standards should be based on realistic conditions and expectations.

Controllability of Costs. Managers should be held accountable only for costs over which they have control.

Multiple Measures of Performance. The performance of managers should be measured on several dimensions, including some long-run attributes as well as the budget.

DIF: 2 REF: p. 321-336 OBJ: 3
NAT: AACSB Reflective thinking | IMA Budget preparation

5. Describe activity-based budgeting.

ANS:

Activity-based budgeting identifies activities, demands for activity output, and the cost of resources needed to support the activity demanded. The principal difference in an activity-based approach is a detailed listing of activities expenses and their expected costs within the overhead, selling, and administrative expenses categories. Activity-based budgeting has the potential of being more accurate than traditional budgeting because it focuses on output measures for each activity and thus allows a manager to understand cost behavior at a much more detailed level. Activity flexible budgeting is also more accurate because it uses cost formulas that depend on each activity's output measure.

DIF: 2 REF: p. 337-339 OBJ: 4
NAT: AACSB Reflective thinking | IMA Budget preparation