Principles of Accounting, Volume 2: Managerial Accounting
1: Accounting as a Tool for Managers

Multiple Choice

1. The managers of an organization are responsible for performing several broad functions. They are _____.
   A. planning, controlling, and selling
   B. directing, controlling, and evaluating
   C. planning, evaluating, and manufacturing
   D. planning, controlling, and evaluating

Solution
D

2. Management accountants help the management of an organization in their planning function through _____.
   A. monitoring anti-theft systems
   B. strategic planning
   C. evaluating costs
   D. analyzing profits

Solution
B

3. Which of the following is a primary aspect of the evaluating function within an organization?
   A. comparing actual results against expected results for products, departments, divisions, or the company as a whole
   B. reviewing only the quantitative or financial results of the company
   C. setting goals
   D. putting controls in place for the upcoming year

Solution
A

4. During the control function, the measurements taken of the performance must be accurate enough to see _____.
   A. only positive results
   B. deviations and variances
   C. the primary focus
   D. only the negative results

Solution
B

5. Which of the following is **false** regarding strategic planning?
   A. It is the sole responsibility of supervisors.
   B. It will span many years.
   C. It should include both short-term and long-term goals.
   D. Strategic objectives will be diverse and vary from company to company.

Solution
A

6. Managerial accounting produces information:
   A. to meet the needs of external users
   B. that is often focused on the future
   C. to meet the needs of investors

D. that follows the rules of GAAP

Solution
B

7. Management accounting:
   A. emphasizes special-purpose information
   B. relates to the company as a whole
   C. is limited to strictly cost figures
   D. is controlled by GAAP

Solution
A

8. Internal users of accounting information would *not* include _____.
   A. managers
   B. employees
   C. creditors
   D. officers

Solution
C

9. External users of accounting information would include _____.
   A. employees
   B. managers
   C. investors
   D. supervisors

Solution
C

10. Which of the following statements is **incorrect**?
   A. The practice of management accounting is fairly flexible.
   B. The information gathered from management accounting is not required by law.
   C. Management accounting focuses mainly on the internal user.
   D. Reports produced using management accounting must follow GAAP.

Solution
D

11. The stockholders of a company are:
   A. the owners
   B. policy setters
   C. responsible and liable for the financial well-being of the company
   D. operating within the company as independent shareholders

Solution
A

12. The controller of a corporation:
   A. reports to the CFO and is in charge of the finance side of the business
   B. reports to the CFO and is in charge of the accounting side of the business
   C. reports to the CEO and implements all cash policies
   D. reports to the board of directors

Solution
B

13. The Certified Financial Analyst (CFA) certification:
   A. only requires a high school diploma
   B. is administered by the AICPA

C. consists of three separate exams that must be taken in succession
D. is the most popular certification among accountants in the United States

Solution
C

14. The Certified Management Accountant (CMA) certification:
A. signifies someone specializing in tax accounting
B. requires an associate's degree and four years of work experience
C. includes a two-part exam, education requirements, and a work experience requirement
D. is offered to managers who take special courses in accounting

Solution
C

15. Which of the following terms means the ability to work in cross-functional teams in order to complete a task?
A. supervisory skills
B. conceptualization
C. collaboration
D. resource planning

Solution
C

16. Which of the following terms means knowing how a business is run and how it is influenced by external forces, and knowing and understanding the overall industry?
A. commercial awareness
B. conceptualization
C. collaboration
D. imagination

Solution
A

17. What is the law that protects investors from fraudulent financial accounting activity?
A. FASB
B. SACS
C. SOX
D. CPAS

Solution
C

18. What year was the Sarbanes-Oxley Act enacted?
A. 2007
B. 1992
C. 1997
D. 2002

Solution
D

19. When a representative of an organization gives money to another business official in order to gain favor and/or manipulate a business decision, this is known as _____.
A. whistleblowing
B. bribery
C. buyer debits
D. face value

Solution

B

20. The law that specifically prohibits payments to foreign officials in order to attain business is knowns as _____.
    A. FCPA
    B. AICPA
    C. SOX
    D. IFRS

Solution
A

21. Which of the following is *not* a step in the outline for examining ethical issues?
    A. Establish the facts of the situation.
    B. Evaluate each course of action.
    C. Make a decision.
    D. Confirm decision with FASB.

Solution
D

22. Which of the following is *not* an objective used in the balanced scorecard approach?
    A. Customer
    B. Financial
    C. Vendor
    D. Learning and growth

Solution
C

23. Which of the following is *not* true regarding continuous improvement?
    A. It applies to both service and manufacturing companies.
    B. It is used to reduce performance costs.
    C. It rejects the idea of "good enough."
    D. It can be applied only to improve processes and products but not services and practices.

Solution
D

24. A company's attempts to utilize sustainable business practices with regard to its employees, the environment, and society are known as _____.
    A. a balanced scorecard
    B. corporate social responsibility
    C. total quality management
    D. value chain

Solution
B

25. A process that is often linked to Six Sigma and is designed toward continuous improvement by eliminating waste is _____.
    A. kamikaze
    B. value chain
    C. total quality management
    D. kaizen

Solution
D

26. An inventory system that organizations use to increase efficiency and decrease waste is _____.

A. corporate social responsibility
B. just-in-time manufacturing
C. total quality management
D. Lean Six Sigma

Solution
B

27. A quality control program that depends on multiple team members for removing waste and diminishing defects within products is _____.

A. kaizen
B. total quality management
C. Lean Six Sigma
D. a balanced scorecard

Solution
C

Questions

1. Carlita believes an important part of the planning process for managers is being sure to position the company to achieve its goals. She thinks that positioning is an extensive concept and can depend on the right information and that managerial accountants assist in positioning the company. Is she correct? Explain.

Solution
Answers will vary but should include that cost analysis, branding, pricing, and competition all fall under positioning, and this information comes from the managerial accounting staff. It is used to plan for future processes.

2. What are some activities and tasks a manager might perform when engaging in the controlling function of management responsibilities?

Solution
Answers will vary but may include putting in place ways to assess the company's success in meeting objectives and goals; monitoring the outcomes of objectives put into place, such as controlling theft of goods or cash; determining the appropriate controls to assess successful outcomes; deciding which ratio to use to measure inventory controls; deciding which performance measure or physical control is more appropriate; defining and administering the steps of a company's short-term and/or long-term planning to help operationalize day-to-day activities to meet corporate goals; and providing performance reports and control reports that report variances between plans and actual performance.

3. If there are deviations from the stated goals and objectives, what steps can managers take to get back on track? Provide at least two specific examples.

Solution
Answers will vary but should include the following: Managers must determine what modifications and changes need to be made to operations to get back on track to meet the stated goals and objectives. Managers need to decide if stated goals and objectives should continue to be pursued as they are, or if they should be modified or completely scrapped. Examples may include revising inventory controls to include antitheft tags that trigger an alarm when inventory is moved from an approved location in order to reduce inventory losses; installing more cameras in more strategic locations to further reduce theft from shoplifting; revising the financial metrics such as ratios or other performance measurements to provide more meaningful and timely insight to help determine how to get back on track; investigating why market share has not changed as

expected by talking to the sales force and analyzing market data; evaluating same-store sales to understand how to expand sales in accordance with goals and objectives; and investigating why a production process has experienced a bottleneck and how to relieve the pressure in that specific area, such as making sure appropriate raw materials are available in a timely manner to avoid machine shutdowns waiting on materials to arrive.

4. Explain how managerial accountants help managers plan, control, and evaluate.

Solution

Answers will vary but should include the following: Managerial accountants help managers at all levels of the organization to plan, control, and evaluate. They help determine whether plans are measurable, what controls should be implemented to carry out a plan, and what the proper means are for evaluating the controls. Feedback is very important for each step, and the managerial accountants generate the reports and information needed to assess the results of the various evaluations, and they help interpret the results.

5. How do the subject matter of reports and the verification of reports differ between financial accounting and managerial accounting?

Solution

Reports generated from financial accounting are a compilation of a company's various transactions and contain aggregated information for the entire company in the form of financial statements. For publicly traded companies, these reports follow the rules set forth by the Financial Accounting Standards Board (FASB). In addition, the financial statements are verified by external auditors. Reports generated by managerial accounting are varied in nature because they are driven by the questions that need to be addressed by management. Different companies and different questions require different reports. Managerial accounting reports are therefore on a more detailed level, such as on a product or division level. There are no specific rules guiding the creation of these reports, and they are usually unaudited.

6. What is the purpose of management accounting?

Solution

To supply financial and nonfinancial information to the organization's management and other internal decision makers.

7. Who are the primary users of the information gathered by managerial accountants?

Solution

The primary users of information gathered by managerial accountants are internal users, including management, employees, and officers.

8. What are the key differences between financial accounting and managerial accounting?

Solution

Users, types of reports, frequency of reports, purpose of reports, focus of reports, nature of reports, and verification

9. Other than accounting skills, what six qualities must be prevalent in a managerial accountant?

Solution

Six qualities a managerial accountant should exhibit are commercial awareness, collaboration, effective communication, strong technology skills, analytical skills, and ethics.

10. Explain how having more than one of the accounting credentials would be beneficial to an accounting career.

Solution

While there are numerous options from which to select, we provide five samples here: Certified Public Accountant (CPA), Certified Management Accountant (CMA), Certified Internal Auditor (CIA), Chartered Financial Analyst (CFA), and Certified Financial Planner (CFP). Currently, there seems to be a preference for broadly trained accounting/financial practitioners.

Practitioners with a broad background have more employment opportunities. In some cases, there is some overlap in preparing for the certification exams. Also, for some of the exams you get credit for other exams passed. For example, if you are a CPA, and you want to take the CFP exam, the requirements are often less rigorous.

11. Briefly discuss the chain of command for someone being hired into an organization as a staff managerial accountant.

Solution
The chain of command for someone being hired into an organization as a staff managerial accounting is: Management accounting supervisor → Controller → CFO → CEO → Board of Directors

12. According to the information available at http://www.accounting.com/careers/, what are six different areas of accounting on which you can focus your career?

Solution
Public accounting, financial accounting, auditing, government accounting, management accounting, forensic accounting

13. According to the information on management accounting available at http://www.accounting.com/careers/, what are some areas of specialization?

Solution
Specialization areas for management accountants includes budget analyst, financial analyst, accounting manager, controller, chief financial officer

14. Go to http://www.accounting.com/careers/ and look up your state to find projected job growth and projected salaries.

Solution
Answers will vary by state.

15. What other professional business organizations have a code of ethics?

Solution
Professional business organizations that have a code of ethics include the American Institute of Public Accountants, the Association of Certified Fraud Examiners, the Financial Executives Institute, the American Marketing Association, and National Society of Professional Engineers.

16. How can having a bonus system based purely on sales goals create an environment that encourages unethical behavior?

Solution
Answers will vary. Basing bonuses purely on sales goals gives incentive to those receiving the bonuses to be unethical in order to achieve their bonuses.

17. What led to the United States Congress passing the public accounting reform act called Sarbanes-Oxley?

Solution
Several accounting scandals involving publicly traded companies (Enron, WorldCom, and Arthur Andersen) led to the act. It was aimed particularly at public accounting organizations that performed audits of publicly traded corporations.

18. What is an enterprise resource planning (ERP) system? What are the principal benefits of such a system?

Solution
The answer will vary but should include the following: An ERP system helps companies streamline their operations and helps management respond quickly to change. While an ERP system is usually expensive to implement, the principal benefits include the alleviation of major complications that arise when business systems do not coordinate with each other and the ability

to have one system that compartmentalizes different organizational functions into working units that share with each other when it is beneficial to managing the organization.

19. Describe what is meant by the term "balanced" in the term *balanced scorecard method*.

Solution

"Balanced" refers to using financial and nonfinancial measures in evaluating all attributes of the organization's procedures balanced across four perspectives: financial, customer, internal process, and learning and growth/capacity. It also refers to considering both high-level and low-level measures using the company's own strategic plan.

20. What is corporate social responsibility, and who are the stakeholders?

Solution

Corporate social responsibility refers to an organization's programs to evaluate and take responsibility for that organization's effects on environmental and social welfare. The stakeholders include owners, investors, employees, customers, partners, communities, competitors, media, and others.

Exercise Set A

EA1. Indicate whether each statement describes financial accounting or managerial accounting.

A. The information is directed at external users who are making decisions pertaining to investing, extending credit, and other decisions.
B. The principal users are the organization's managers.
C. The key focus is on the entity as a whole.
D. The rules and principles are very flexible.
E. The information gathered is usually available after an independent audit has been completed.

Solution

A. Financial. B. Managerial. C. Financial. D. Managerial. E. Financial.

EA2. Identify the following as True or False:

A. Managerial accounting reports must comply with the rules set in place by the FASB.
B. Financial accounting reports are typically general-purpose reports.
C. Financial accounting reports pertain to the entity as a whole, whereas managerial accounting focuses more on subunits of the organization.
D. The main users of the financial accounting information are the internal users.
E. Managerial reports are prepared on an as-needed basis.
F. Financial accounting reports often must be audited at least annually by an independent auditor.

Solution

A. False. B. True. C. True. D. False. E. True. F. True.

EA3. Define each of these users of accounting information as an internal user of external user:

A. Management
B. Employees
C. Investors
D. Creditors
E. Customers
F. Tax authorities

Solution

A. Internal. B. Internal. C. External. D. External. E. External. F. External.

EA4. Discuss what information would be most useful for these users of accounting information:

A. Management
B. Employees
C. Investors
D. Creditors
E. Customers
F. Tax authorities

Solution
Answers will vary. They should mention that internal users will need more detailed information from managerial reports, while external users can only get information from the financial reports.

EA5. Taylor Speedy has prepared the following list of statements about managerial accounting, financial accounting, and the functions of management. Identify each statement as true or false.

A. Financial accounting centers on providing information to internal users.
B. Staff positions are directly involved in the company's primary revenue-generating activities.
C. Preparation of budgets is part of financial accounting.
D. Managerial accounting applies only to merchandising and manufacturing companies.
E. Both managerial accounting and financial accounting deal with many of the same economic events.

Solution
A. False. B. False. C. False. D. False. E. True.

EA6. Match the term with the description:

A. Certified Public Accountant	i. Specialist in corporate accounting management; favors financial analytics, budgeting, and strategic domains
B. Certified Financial Analyst	ii. Considered the top tier in accounting certifications; must pass a four-part exam, with education and work experience requirements
C. Certified Management Accountant	iii. Designation that is exclusively for auditors of the public sector
D. Certified Internal Auditor	iv. Credential for auditors who work within organizations and is one of a few that is accepted worldwide
E. Certified Fraud Examiner	v. Certification for those with a career in finance and investment areas
F. Certified Government Auditing Professional	vi. Designation that proves proficiency in fraud prevention, detection, and deterrence

Solution
A. ii. B. v. C. i. D. iv. E. vi. F. iii.

EA7. After the passage of the Sarbanes-Oxley Act in 2002, many new responsibilities were put into place for organizations and their management. What are the four significant issues that were addressed by the act and its provisions as presented in this chapter? How does the act and its various requirements help deter fraudulent activity?

Solution
The four include: Section 302, Section 404, Section 806, and Section 906.

- Section 302: By having the CEO and CFO review and sign the annual reports, it ensures that they are aware of what is being reported and how the accounting system is being handled.

- Section 404: Having all financials audited by an independent auditor and an internal control audit will help ensure that the accounting is being looked at by someone who is independent of the company and that their internal control policies are in place and being followed.
- Section 806: Protection to whistleblowers will encourage those with information to come forward and feel safe in doing so.
- Section 906: The increase in penalties for fraudulent behavior will act as a deterrence.]

EA8. Indicate whether each of the following statements is true or false.

A. Bribery in the world of business typically happens when an organization or representative of an organization gives financial benefits to an official to gain favor or manipulate a business decision.

B. The Foreign Corrupt Practices Act was implemented in the aftermath of disclosures that businesses were violating the IMA Code of Ethics.

C. Managers are required to follow specific rules issued by the IMA for internal financial reporting.

D. Ethics is more than obeying laws.

E. The Sarbanes-Oxley Act addressed public company accounting reform.

Solution
A. True. B. False. C. False. D. True. E. True.

EA9. Match each lean business method to the best description:

A. Just-in-time manufacturing	i. The focus is on quality throughout the entire process.
B. Continuous improvements	ii. Inventory is attained or produced only as needed.
C. Total quality management	iii. A combined effort of team members is used to eliminate waste and defects.
D. Lean Six Sigma	iv. All managers and employees are always looking for ways to improve operations.

Solution
A. ii. B. i. C. iv. D. iii.

EA10. For each of the activities listed, choose the manufacturing concept that applies: (i) just-in-time inventory, (ii) continuous improvement, or (iii) total quality management.

A. A company receives inventory daily based on customer orders.

B. Manufacturing factories have been arranged in such a fashion to reduce inefficiencies.

C. Companies organize customer focus groups in order to look at customer needs and expectations.

D. The entire production process is standardized and written down with procedures.

E. Each customer receives a survey of satisfaction with their product.

F. All orders are complete and shipped within three business days.

Solution
A. i. B. iii. C. ii. D. iii. E. ii. F. i.

EA11. Look up the definitions for the following terms:

A. Budget (https://cnx.org/contents/kg0cimBs@9.1:3i0u0m3T@9/Why-It-Matters)
B. Capital budget (https://cnx.org/contents/kg0cimBs@9.1:64v5BSLc@4/Why-It-Matters)
C. Balanced scorecard (https://cnx.org/contents/kg0cimBs@9.1:9cE4FaSo@4/Why-It-Matters)
D. Breakeven point (https://cnx.org/contents/kg0cimBs@9.1:r8wRuw9I@4/Why-It-Matters)

Provide examples of how each of these terms is used in your own life and how using these practices is useful.

Solution
Answers will vary. Examples of each: Budget: food, rent, clothing, college costs, and so forth. Capital budget: buying a house or car, paying for school, paying for vacations. Balanced scorecard: screen potential investments in companies using both profitability and their sense of "social responsibility." Breakeven point: planning vacations, budgeting, and pricing consulting or other service opportunities used to supplement college costs.

Exercise Set B

EB1. Indicate whether the statement describes reporting by the financial accounting function or the managerial accounting function of an organization.

A. The users of the report are managers who need a daily summary of work done each shift.
B. The report is a job cost sheet for jobs completed in a 24-hour period.
C. The annual report is released each year on the company's website.
D. The report is audited by the company's certified public accountant firm.
E. The report is prepared every day because the customer service manager needs information about inventory ready to be shipped to customers.

Solution
A. Managerial. B. Managerial. C. Financial. D. Financial. E. Managerial.

EB2. Identify the following as true or false:

A. Financial accounting reports are *not* released to external users.
B. Managerial accounting reports are *not* used by employees inside the organization.
C. Managerial accounting reports include only monetary information.
D. Financial accounting reports are monetary in nature.
E. If a result of a company's operations is nonmonetary in nature, it must be converted to monetary units for managerial reporting.
F. Tax authorities and government regulatory agencies are external users of financial information.

Solution
A. False. B. False. C. False. D. True. E. False. F. True.

EB3. Companies need to report both monetary and nonmonetary data and information.

A. Define these two terms and provide examples of each.
B. Discuss what sources are available that provide companies with both types of data and information.

Solution
A. Monetary: information relating to money or currency. An example is sales revenue in dollars. Nonmonetary: information not relating to money or currency, such as the quantity of material, number of employees, number of hours worked, or sales volume in number of units sold. B. Answers will vary but could include the following: Monetary sources are sales reports in dollars, income statements, balance sheets, cash flow statements, budgets for general and administrative expenses in dollars, journal entries, the general ledger, and so forth. Nonmonetary sources are sales reports in units sold, inventory reports showing units of raw materials on hand, data from human resources showing how many employees work in a plant or are assigned to each shift, payroll reports showing number of hours worked in a week, and so forth.

EB4. Marvin has been thinking about the fields of managerial and financial accounting and the functions of management within an organization. He has the following list of statements to understand. Identify them as true or false.

A. Managerial accounting reports are prepared only quarterly and annually.

B. Financial accounting reports are general-purpose reports.
C. Managerial accounting reports pertain to subunits of the business.
D. Managerial accounting reports must comply with GAAP.
E. The company treasurer reports directly to the vice president of operations.

Solution
A. False. B. True. C. True. D. False. E. False.

EB5. Match the term with the description.

A. Chief Executive Officer	i. has responsibilities that include transferring monies between accounts and monitoring deposits
B. Chief Financial Officer	ii. the corporation officer who has the overall responsibility of the management of a company
C. Enrolled Agent	iii. a corporate officer who reports to the chief executive officer and oversees all of the accounting and finance concerns of a company
D. Cash Management Accountant	iv. the financial officer of a corporation reporting to the chief financial officer who is responsible for the accounting records and financial statements
E. Controller	v. credential focusing on a career in taxation created by the IRS to signify significant knowledge of the US tax code
F. Financial Analyst	vi. Someone who assists in preparing budgets, tracking actual costs and performs other tasks that support other management personnel in organizing forecasts and projections

Solution
A. ii. B. iii. C. v. D. i. E. iv. F. vi.

EB6. The Foreign Corrupt Practices Act (FCPA) was implemented in 1977. Why was it enacted, and what are its major provisions?

Solution
The FCPA was enacted because US corporations were bribing foreign bureaucrats. The provisions of the law include prohibiting payments to foreign government officials to aid in attaining or retaining business. All US persons and foreign firms acting within the United States must comply with the law. Any corporations listing on US stock exchanges must comply with certain accounting provisions that ensure records fairly represent the transactions of the company and that the company maintains an acceptable system of internal controls. The act is broken down into the antibribery and accounting sections.

EB7. Indicate whether each of the following statements is true or false.

A. Section 302 of Sarbanes-Oxley requires the CEO and CFO to review all financial reports and sign the reports.
B. One of the three questions put forth by the Institute of Business Ethics is “Do I mind others knowing what I have done?”
C. Ethical issues may be faced on a small scale, such as making a business decision to produce excess inventory for the sole purpose of trying to influence managers’ bonuses.
D. A manager who spends excess budgeted funds remaining at the end of a fiscal year on unnecessary expenditures thinking that it is better to “use it than lose it” is acting ethically.
E. The Foreign Corrupt Practices Act was implemented in 2001 to protect investors by enhancing the accuracy and reliability of corporate financial statements and disclosures.

Solution

A. True. B. True. C. True. D. False. E. False.

Thought Provokers

TP1. Table 1.3 shows how different areas within the business world use the information from managerial accountants. Think of the ways that the events coordinator for the United Way (a nonprofit charitable organization) would use each area (planning, controlling, and evaluation).

Solution
Answers will vary but should include creating and following a budget for the event being planned; tracking donations and guest lists for the event for controlling; after the event, evaluating whether donations and income outweigh the costs of the event, whether the event should be held elsewhere next time, whether different caterers should be used, and how it can be made better.

TP2. There are individuals who are under the impression that managerial accounting provides services mainly for manufacturing organizations. Are they correct? Explain.

Solution
Answers will vary but should indicate that the assumption that managerial accounting is only serving the manufacturing industry is incorrect. Managerial accounting is used in all industries.

TP3. Think about the organization chart in Figure 1.7. Describe ways in which each of the accounting and managerial functions might overlap and complement each other.

Solution
Answers will vary but may include comments such as the following: The board of directors relies on information provided by the CEO and CFO to help make long-term strategic decisions. The CFO relies on the controller and the managerial, financial, and tax accountants to reliably record daily activities of the organization to provide accurate historical information to the CFO. The managerial accountant will provide monetary and nonmonetary information to the controller, and the CFO will provide feedback and insight on how processes and production workflows are healthy or in need of assessment and refinement. The internal auditor will provide feedback on internal processes and assurance that the company's own policies and GAAP are being followed. The treasurer will help find ways to finance future operational projects and keep cash flows positive for day-to-day operating purposes.

TP4. Controversy tends to surround the topic of whistleblowers. For example, should they be considered heroes or traitors? Many pro-whistleblowing policies have been enacted by the federal government to allow these individuals to reap significant monetary rewards for coming forward and giving information about behaviors and actions such as corporate fraud and unethical deeds. Many corporate whistleblowers face negative consequences of their actions, such as reassignment, revenge, and hate crimes, and are seen as traitors (e.g., Edward Snowden and Gina Gray). Yet Sherron Watkins and Cynthia Cooper were celebrated as heroes. Look up the stories of Sherron Watkins and Cynthia Cooper. Why do you think that some whistleblowers are vilified and others made to be heroes?

Solution
Answers will vary.

Feature Boxes

Your Turn: Evaluating On-Campus versus Off-Campus Living

Solution
Planning:

- Creating a list of financial and nonfinancial goals to be accomplished in your next year in college
- Determining how much each alternative will cost, including utilities, food, and transportation, and creating a budget

Controlling:

- Using an expense recording app to monitor your expenses
- Monitoring the effectiveness of your study time as reflected in your grades
- Monitoring your physical health to measure if your living arrangements are conducive to staying healthy

Evaluating:

- Assessing the effectiveness of your living arrangements by measuring your grades, bank account, and general happiness

Financial:

- Cost of staying in dorm versus the cost of an apartment or house
- Estimate of differences in other costs, such as utilities, food, and additional transportation

Nonfinancial:

- Convenience of location of dorm versus apartment or house
- Quality of living experience including number of roommates, ability to have own room, study environment differences
- Length of rental term of dorm versus apartment or house

Where you plan to live in the summer, what you plan to do during that time

Think It Through: US Small Business Administration

Solution

1. Some steps to creating a small business (from the sba.gov website): conduct market research; write a business plan; fund the business; pick a business location; choose a business structure—corporation, partnership, and so on; choose your company name; register your business; get a federal and state tax ID; apply for licenses and permits; open a business bank account; open for business.
2. Top ten reasons a small business fails:[1]
    1. Starting for the wrong reason
    2. Insufficient capital
    3. Improper planning
    4. Poor management and leadership
    5. Expanding too quickly
    6. Failure to advertise and market
    7. Lack of differentiation
    8. Unwillingness to delegate
    9. Unprofitable business model
    10. Underestimating the competition

All businesses, large or small, face many decisions on a daily basis. Some of those decisions are large, such as whether to buy a building or rent one, and others are small, such as how much to spend on pens for the office in a given month. To answer those questions, and most others that a business will face, there is a need for various types of information that can be used in making

[1] Paul Chaney. "10 Reasons Small Companies Fail." *Small Business Trends*. July 28, 2016. https://smallbiztrends.com/2016/07/small-companies-fail.html

those business-type decisions. Knowledge of managerial accounting techniques will help a small business owner more properly evaluate alternatives and. therefore, potentially make better decisions.

Think It Through: Projection Error

Solution

Answers will vary. Sample answer:

- The ethical considerations are that a decision could be made based on incorrect information.
- The results of telling the president of your error include (1) the ability to correct the projections and get the corrected information to the board, (2) the ability of the board to make a well-informed decision, and (3) possibly being reprimanded by the boss.

The results of not telling the president of your error include (1) the board making an important decision based on misleading information that has a significant impact on the business in either a positive or negative manner and (2) feeling badly for not letting the appropriate people know of the error.

Your Turn: Daryn's Dairy

Solution

Answers will vary. Sample answer:

Where would you gather the information? Where would you find this information?

- Current company sales information would be obtained from internal company reports and records that detail the sale of each type of ice cream including volume, cost, price, and profit per flavor.
- Sales of ice cream from other companies may be more difficult to obtain, but the footnotes and supplemental information to the annual reports of those companies being analyzed, as well as industry trade journals, would likely be good sources of information.

What types of information would you need?

- Some of the types of information that would be needed would be the volume of sales of each flavor (number of gallons), how long each flavor has been sold, whether seasonal or limited-edition flavors are produced and sold only once or are on a rotating basis, the size of the market being examined (number of households), whether the other companies sell similar products (organic, all natural, etc.), the median income of consumers or other information to assess the consumers' willingness to pay for organic products, and so forth.

How would Daryn's Dairy determine the impact of this type of change on the business?

- Management would evaluate the cost to expand into new stores in their current market compared to the potential revenues from selling their products in those stores in order to assess the ability of the potential expansion to generate a profit for the company.

If implemented, what information would Daryn's Dairy need to assess the success of the plan?

- Management would measure the profitability of selling any new products, expanding into new stores in their current market, or both to determine if the implementation of the plan was a success. If the plan is a success and the company is generating profits, the company will continue to figure out ways to improve efficiency and profitability. If the plan is not a success, the company will determine the reasons (cost to produce too high, sales price too high, volume too low, etc.) and make a new plan.

Think It Through: Managing Cash Flow

Solution

Answers will vary. Sample answer:

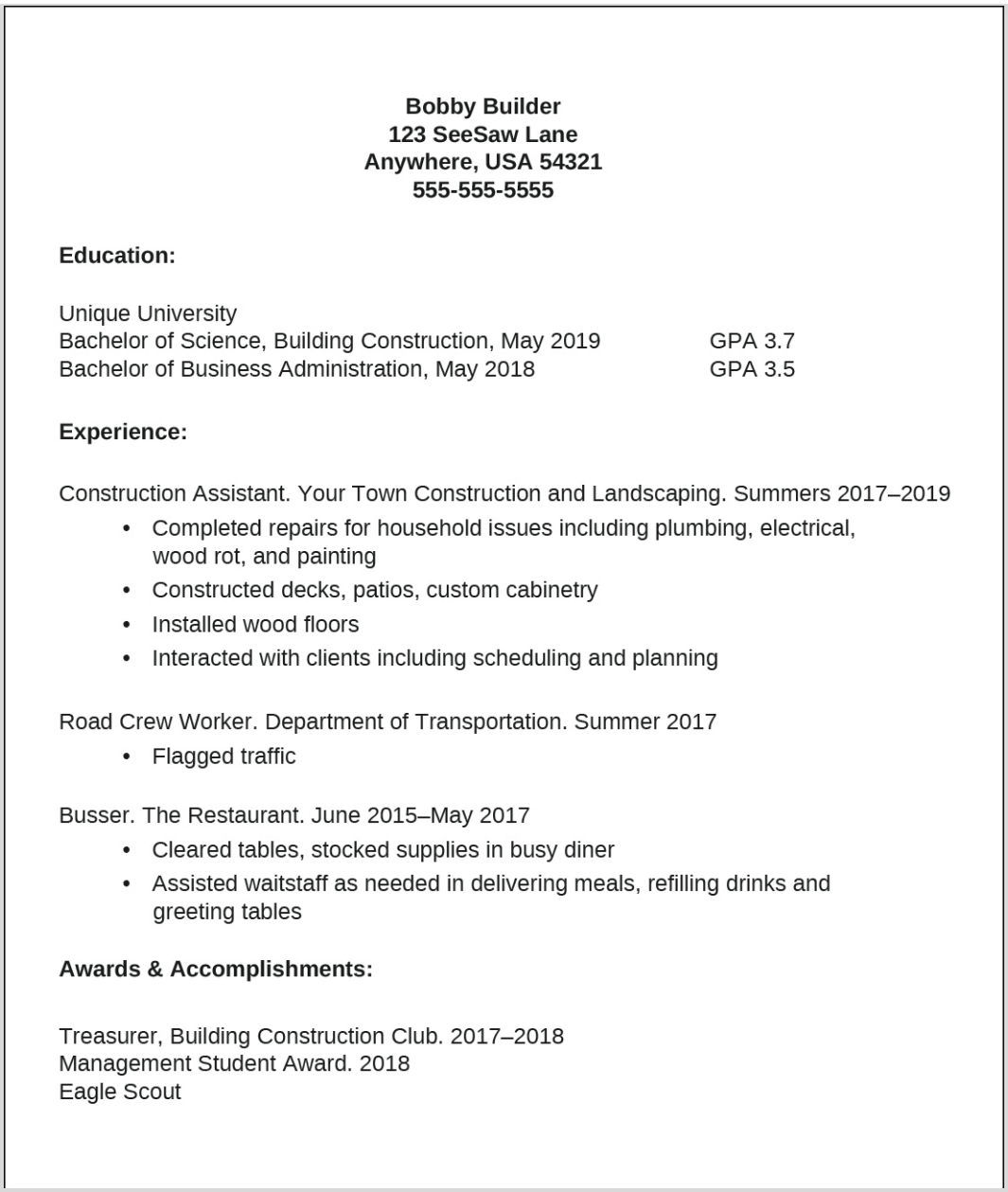
1. The hops, barley, malt, oats, and yeast should be recorded in inventory, as they are part of the inventory of materials needed to make the beer. This would properly have these ingredients as an asset, which would be expensed when the beer is sold, rather than immediately. If the ingredients are recorded as an expense immediately, this will reduce net income and therefore taxes owed. However, to record the ingredients as an expense would be improper accounting. If these ingredients were recorded as expenses rather than assets, then materials inventory is understated on the balance sheet, and expenses and, therefore, net income are understated on the income statement.
2. The way to respond to this request is to point out to the CFO that these are ingredients in making the beer and therefore are inventory when purchased and not an expense until the beer is sold. This will let the CFO know that you are aware his request is not proper accounting.
3. This request is a violation of accounting principles regarding how inventory is to be recorded and when it is to be expensed. The request should be brought to the attention of another executive officer. Willingness to purposely misrepresent transactions and thus provide false information on the financial statements is an ethical matter.

Your Turn: Career Planning

Solution

Answers will vary. Sample answer:

1. I would like to own my own home remodeling company. Steps to get there include the following:
    A. complete double major in business and building construction
    B. in the summers before graduation, work for a local handyman franchise
    C. after graduation, work for a home builder as a project manager
    D. while working, save money for five years to be used to start my own company
    E. put together a business plan
    F. start my own business six years after graduation
2. I would like to work for a national home builder such as Pulte or Toll Brothers. Ideally, I would have an internship with one of them during college. I would like to work for a national builder or a large regional builder because they already have a good business model and I could learn how that works.
3. My résumé needs to contain my education information such as the degree and my majors as well as classes that are pertinent to my career. It should also indicate all of my work experience and any particular skills or certifications I have achieved, such as Eagle Scout. An example of how this information may be presented on a résumé can be seen in Figure 1.10.



Bobby Builder
123 SeeSaw Lane
Anywhere, USA 54321
555-555-5555

Education:

Unique University
Bachelor of Science, Building Construction, May 2019 GPA 3.7
Bachelor of Business Administration, May 2018 GPA 3.5

Experience:

Construction Assistant. Your Town Construction and Landscaping. Summers 2017–2019

- Completed repairs for household issues including plumbing, electrical, wood rot, and painting
- Constructed decks, patios, custom cabinetry
- Installed wood floors
- Interacted with clients including scheduling and planning

Road Crew Worker. Department of Transportation. Summer 2017

- Flagged traffic

Busser. The Restaurant. June 2015–May 2017

- Cleared tables, stocked supplies in busy diner
- Assisted waitstaff as needed in delivering meals, refilling drinks and greeting tables

Awards & Accomplishments:

Treasurer, Building Construction Club. 2017–2018
Management Student Award. 2018
Eagle Scout

Figure 1.10 Sample Résumé. (attribution: Copyright Rice University, OpenStax, under CC-BY-NC-SA 4.0 license)

Your Turn: Logistics Analyst

Solution

Answers will vary. Sample answer:
Ways to learn about the company and industry include the company website, press or news releases, industry trade journals, company internal documents such as procedure manuals and job descriptions, and conversations or interviews with fellow employees at various levels of the organization. The more knowledge you have regarding financial and managerial accounting, the better you can link the operations of the organizations to financial results and the more easily you can ascertain both efficiencies and inefficiencies in the organization.

Think It Through: Outsourcing

Solution

Answers will vary. Sample answer:
There are several legal and economic advantages and disadvantages to outsourcing. Also, there are potential ethical issues. All of these need to be considered in making the decision to outsource.

- Potential advantages: Potential material and labor cost advantages, potential compensation advantages (since you do not need as many employees and their benefits, you can concentrate on core activities), access to raw materials and skilled labor.
- Potential disadvantages: Risk of losing control of sensitive data, privacy and intellectual property concerns, potential quality issues with the production turnaround, potential delivery problems, negative public response, and potential remaining employee morale issues.

In addition to the economic issues, you could spend several classes discussing the moral issues of firing productive workers.

Your Turn: Zaley's Machining Division

Solution
Answers will vary. Sample answer:

- Alex Freeman, technical specialist (supervises all computer programs), needs information on the hours and type of usage possibly by department or by individual to ascertain if the equipment is being used effectively or if the programs used by the company are appropriate or additions or deletions need to be made. In addition, this information is needed to address how much and what type of staffing he needs in his department.
- Emma Vlovski, sales manager (supervises all sales agents), would want information about the level and type of sales for the company as a whole as well as for the individual sales agents. She would want to know which products are selling well, which ones are not, which sales agents are being the most successful, and why they are more successful than the others. Emma would also want information on how the agents are compensated, as this may be tied to the sales agent's efforts to meet sales goals.
- Kayla McClaughley, cost accounting director (supervises all cost accountants), would want to know what tasks the cost accountants perform, how much time they spend on these tasks, and whether there are any redundancies in workload so that improvements in efficiency can be made. If any of the accountants has certifications such as CPA or CMA, she would want to know if they are keeping their certifications current through continuing professional education.
- Mwangi Kori, lead test engineer (oversees all new-product testing and design), would need information on the efficiency and effectiveness of each of the products tested, including success and failure rates. She would want information on how well the policies and procedures for design changes are being followed and if those policies and procedures need updating or rewriting.
- Torek Sanchez, production director (supervises all manufacturing employees), would want information on hours worked, pay rates, and training (past and ongoing) for the manufacturing employees. She would also want information on how each individual employee performs his or her role in the manufacturing environment. For example, are there particular employees who have fewer defects or down time in their part of the process than others?

Principles of Accounting, Volume 2: Managerial Accounting
4: Job Order Costing

Multiple Choice

1. Which of the following product situations is better suited to job order costing than to process costing?
   A. Each product batch is exactly the same as the prior batch.
   B. The costs are easily traced to a specific product.
   C. Costs are accumulated by department.
   D. The value of work in process is based on assigning standard costs.

Solution
B

2. A job order costing system is most likely used by which of the following?
   A. a pet food manufacturer
   B. a paper manufacturing company
   C. an accounting firm specializing in tax returns
   D. a stereo manufacturing company

Solution
C

3. Which of the following is a prime cost?
   A. indirect materials
   B. direct labor
   C. administrative expenses
   D. factory depreciation expenses

Solution
B

4. Which of the following is a conversion cost?
   A. raw materials
   B. direct materials
   C. administrative expenses
   D. factory depreciation expenses

Solution
D

5. During production, to what are the costs in job order costing applied?
   A. manufacturing overhead
   B. cost of goods sold
   C. each individual product
   D. each individual department

Solution
C

6. Which document lists the inventory that will be removed from the raw materials inventory?
   A. job cost sheet
   B. purchase order
   C. materials requisition form
   D. receiving document

Solution
C

7. Which document shows the cost of direct materials, direct labor, and overhead applied for each specific job?
    A. job cost sheet
    B. purchase order
    C. materials requisition form
    D. receiving document

Solution
A

8. Which document lists the total direct materials used in a specific job?
    A. job cost sheet
    B. purchase order
    C. materials requisition form
    D. receiving document

Solution
A

9. Which document lists the total direct labor used in a specific job?
    A. job cost sheet
    B. purchase order
    C. employee time ticket
    D. receiving document

Solution
A

10. Assigning indirect costs to specific jobs is completed by which of the following?
    A. applying the costs to manufacturing overhead
    B. using the predetermined overhead rate
    C. using the manufacturing costs incurred
    D. applying the indirect labor to the work in process inventory

Solution
B

11. In a job order costing system, which account shows the overhead used by the company?
    A. work in process inventory
    B. finished goods inventory
    C. cost of goods sold
    D. manufacturing overhead

Solution
D

12. In a job order cost system, raw materials purchased are debited to which account?
    A. raw materials inventory
    B. work in process inventory
    C. finished goods inventory
    D. cost of goods sold

Solution
A

13. In a job order cost system, overhead applied is debited to which account?
    A. work in process inventory
    B. finished goods inventory
    C. manufacturing overhead
    D. cost of goods sold

Solution
A

14. In a job order cost system, factory wage expense is debited to which account?
    A. raw materials inventory
    B. work in process inventory
    C. finished goods inventory
    D. cost of goods sold

Solution
B

15. In a job order cost system, utility expense incurred is debited to which account?
    A. work in process inventory
    B. finished goods inventory
    C. manufacturing overhead
    D. cost of goods sold

Solution
C

16. In a job order cost system, indirect labor incurred is debited to which account?
    A. work in process inventory
    B. finished goods inventory
    C. manufacturing overhead
    D. cost of goods sold

Solution
C

17. The activity base for service industries is most likely to be _____.
    A. machine hours
    B. administrative salaries
    C. direct labor cost
    D. direct labor hours

Solution
D

Questions

1. A printing company manufactures notebooks of various sizes. The company manufactures 3,000 notebooks each day. Should the company use process costing or job order costing?

Solution
The company should use process costing. Since there are many similar items, process costing is a better fit than job order costing.

2. Burnham Industries incurs the following costs for the month:

Direct materials	$2,000
Direct labor	3,000
Factory depreciation expense	3,500
Factory utilities expense	750
CEO's salary	4,000

What is the prime cost?

Solution
The prime cost is $5,000: the sum of direct materials plus direct labor.

3. Choco’s Chocolates incurs the following costs for the month:

Direct materials	$15,000
Direct labor	25,000
Factory depreciation expense	45,000
Factory utilities expense	2,000
Payroll staff's salary	15,000

What is the conversion cost?

Solution

The conversion cost is $72,000: the sum of direct labor, factory depreciation expense, and utility expense.

4. How do job order costing and process costing differ with respect to recording direct materials and direct labor?

Solution

Job order costing assigns direct materials and direct labor directly to the product, whereas process costing assigns direct materials and direct labor to the process or department in which it is incurred.

5. Why are product costs assigned to the product and period costs immediately expensed?

Solution

The expense recognition principle requires that expenses follow the revenue. Product costs are assigned to the product because they are associated with the revenue from the sale of the product. The cost is transferred from inventory to cost of goods sold when the item is sold. This matches the revenue from the sale with the cost of the item being sold. Period costs are expensed when incurred because they are not related to a specific product but are instead related to the time period in which revenue is earned.

6. Is the cost of goods manufactured the same as the cost of goods sold?

Solution

No, the cost of goods manufactured is the cost of the goods transferred to the finished goods department. When those items are sold, the cost is transferred to the cost of goods sold. If the inventory does not sell, the cost does not become a cost of goods sold.

7. From beginning to end, place the following in the order of the flow of goods.

A. cost of goods sold
B. raw materials inventory
C. finished goods inventory
D. work in process inventory

Solution

B. D. C. A.

8. How is the predetermined overhead rate determined?

Solution

Management estimates the amount of manufacturing overhead and divides that amount by the activity base, which is considered to be the cost driver. The result is a rate per dollar or hour, depending on the base.

9. How is the predetermined overhead rate applied?

Solution

Management uses the activity considered to be the cost driver and multiplies that rate by the activity for each specific job. The result is the amount of overhead applied to that specific job.

10. Why are the overhead costs first accumulated in the manufacturing overhead account instead of in the work in process inventory account?

Solution

The costs of work in process include all the costs directly associated with the jobs currently in production. Job order cost sheets are effectively subsidiary ledgers to the work in process inventory account, and the total of the jobs on the cost sheet equals the total work in process. As overhead is assigned to the jobs, it is removed from the manufacturing overhead account and placed in the work in process inventory. If the overhead were accumulated in work in process inventory, the costs would not be assigned to jobs in a systematic and rational manner, but assigned to the jobs in process when the overhead expenses were incurred. This does not agree with the expense recognition principle.

11. Why is the manufacturing overhead account debited as expenses are recognized and then credited when overhead is applied?

Solution

Expenses normally have a debit balance, and the manufacturing overhead account is debited when expenses are incurred to recognize the incurrence. When the expenses are allocated to the asset, the work in process inventory, the expense account manufacturing overhead is credited. This is in accordance with the expense recognition principle. The timing of the expense follows the revenue, and when the costs are allocated to inventory, they become a part of the product's cost and are recognized when the asset is sold.

12. Match the concept on the left to its correct description.

A. job order costing	i. computes the overhead applied to each job
B. materials requisition sheet	ii. source document indicating the number of hours an employee worked on specific jobs
C. overapplied overhead	iii. source document indicating the raw materials assigned to a specific production job
D. predetermined overhead rate	iv. the cost accounting system used by pet food manufacturers
E. process costing	v. the cost accounting system used by law firms
F. time ticket	vi. the result when the actual overhead is less than the amount assigned to each specific job
G. underapplied overhead	vii. the result when the actual overhead is more than the amount assigned to each specific job

Solution

A. v. B. iii. C. vi. D. i. E. iv. F. ii. G. vii.

13. When compared to manufacturing companies, service industries do not generally use _____ as a component of product cost.

Solution

Direct materials

Exercise Set A

EA1. Little Things manufactures toys. For each item listed, identify whether it is a product cost, a period cost, or not an expense.

A. internet provider services
B. material expense
C. raw materials inventory
D. production equipment rental
E. showroom rental
F. factory employee salary
G. Human Resource Director salary

Solution
A. Period cost. B. Product cost. C. Not an expense. D. Product cost. E. Period cost. F. Product cost. G. Period cost.

EA2. Table 4.3 shows a list of expenses involved in the production of custom, professional lacrosse sticks.

A. For each item listed, state whether the cost should be applied to manufacturing or sales and administration.
B. If the cost is a manufacturing cost, state whether it is direct materials, direct labor, or manufacturing overhead.
C. If the cost is a manufacturing overhead cost, state whether it is indirect materials, indirect labor, or another type of manufacturing overhead.

Expenses Involved in Lacrosse Stick Production

Lacrosse Stick Production Costs	Manufacturing or Sales & Administration Cost?	If Manufacturing: Direct Materials, Direct Labor, or Overhead?	If Overhead: Indirect Materials, Indirect Labor, or Other?
Carbon, fiberglass			
Administrative building rent			
Accountant salary			
Factory building depreciation			
Strings for the pocket			
Advertising			
Production supervisor salary			
Paint for sticks			
Research and development costs			
Wages of person who strings the sticks			
Cutting machine depreciation			
Human resources salaries			
Factory maintenance			

Table 4.3

Solution

Expenses Involved in Lacrosse Stick Production

Lacrosse Stick Production Costs	Manufacturing or Sales & Administration Cost?	If Manufacturing: Direct Materials, Direct Labor, or Overhead?	If Overhead: Indirect Materials, Indirect Labor, or Other?
Carbon, fiberglass	Manufacturing	Direct materials	—
Administrative building rent	Sales and administration	—	—
Accountant salary	Sales and administration	—	—

Factory building depreciation	Manufacturing	Overhead	Other
Strings for the pocket	Manufacturing	Direct materials	—
Advertising	Sales and administration	—	—
Production supervisor salary	Manufacturing	Overhead	Indirect labor
Paint for sticks	Manufacturing	Direct materials	—
Research and development costs	Sales and administration	—	—
Wages of person who strings the sticks	Manufacturing	Direct labor	—
Cutting machine depreciation	Manufacturing	Overhead	Overhead
Human resources salaries	Sales and administration	—	—
Factory maintenance	Manufacturing	Overhead	Overhead

EA3.Burnham Industries incurs the following costs for the month:

Direct materials	$2,000
Direct labor	3,000
Factory depreciation expense	3,500
Factory utilities expense	750
CEO's salary	4,000

A. What is the prime cost?
B. What is the conversion cost?

Solution
A. $5,000: direct materials plus direct labor. B. $7,250: direct labor plus factory depreciation expense plus factory utility expense.

EA4. Marzoni's records show raw materials inventory had a beginning balance of $200 and an ending balance of $300. If the cost of materials used during the month was $900, what were the purchases made during the month?

Solution

Raw Materials	
Beginning inventory	$200
Purchases	1,000
Materials available for use	1,200
Ending inventory	300
Materials used in production	$900

Or

Materials used in production	$900
Ending inventory	300
Materials available for use	1,200
Beginning inventory	(200)
Purchases	$1,000

EA5. Sterling's records show the work in process inventory had a beginning balance of $4,000 and an ending balance of $3,000. How much direct labor was incurred if the records also show:

Materials used	$1,500
Overhead applied	500
Cost of goods manufactured	7,500

Solution

Work in Process Inventory	
Beginning inventory	$4,000
Materials used in production	1,500
Direct labor	4,500
Overhead applied	500
Manufacturing costs incurred	10,500
Ending inventory	3,000
Cost of goods manufactured	$7,500

Or

Cost of goods manufactured	$7,500
Ending inventory	3,000
Manufacturing costs incurred	10,500
Beginning inventory	(4,000)
Materials used	1,500
Overhead applied	500
Direct labor	$4,500]

EA6. Logo Gear purchased $2,250 worth of merchandise during the month, and its monthly income statement shows cost of goods sold of $2,000. What was the beginning inventory if the ending inventory was $1,000?

Solution

Beginning merchandise inventory	$750
Purchases	2,250
Cost of goods available	3,000
Ending inventory	(1,000)
Cost of goods sold	$2,000

Or

Cost of goods sold	$2,000
Ending inventory	1,000
Cost of goods available	3,000
Purchases	(2,250)
Beginning inventory	$750

EA7. A company estimates its manufacturing overhead will be $750,000 for the next year. What is the predetermined overhead rate given the following independent allocation bases?

A. Budgeted direct labor hours: 60,000
B. Budgeted direct labor expense: $1,500,000
C. Estimated machine hours: 100,000

Solution
A. $12.50 per direct labor hour. B. $0.50 per direct labor dollar. C. $7.50 per machine hour.

EA8. Job order cost sheets show the following costs assigned to each job:

	Job 13	Job 14	Job 15
Direct materials	$7,560	$1,525	$3,290
Direct labor	3,760	3,824	3,796

The company assigns overhead at $1.25 for each direct labor dollar spent. What is the total cost for each of the jobs?

Solution

	Job 13	Job 14	Job 15
Direct materials	$ 7,560	$ 1,525	$ 3,290
Direct labor	3,760	3,824	3,796
Overhead	4,700	4,780	4,745
Total	$ 16,020	$10,129	$11,831

EA9. A new company started production. Job 10 was completed, and Job 20 remains in production. Here is the information from job cost sheets from their first and only jobs so far:

Job 10	Hours	Total Cost
Direct materials		$ 765
Direct labor	75	1,575
Manufacturing overhead		60
Total cost		$2,400

Job 20	Hours	Total Cost
Direct materials		$ 145
Direct labor	113	2,373
Manufacturing overhead		90
Total cost		$2,608

Using the information provided,

A. What is the balance in work in process?
B. What is the balance in the finished goods inventory?
C. If manufacturing overhead is applied on the basis of direct labor hours, what is the predetermined overhead rate?

Solution
A. $2,608. B. 2,400. C. $0.80 per direct labor hour.

EA10. K company production was working on Job 1 and Job 2 during the month. Of the $780 in direct materials, $375 in materials was requested for Job 1. Direct labor cost, including payroll taxes, are $23 per hour, and employees worked 18 hours on Job 1 and 29 hours on Job 2. Overhead is applied at the rate of $20 per direct labor hours. Prepare job order cost sheets for each job.

Solution

Job 1	Hours	Total Cost
Direct materials		$375
Direct labor	18	414
Manufacturing overhead	18	360
Total cost		1,149

Job 2	Hours	Total Cost
Direct materials		$405
Direct labor	29	667

Manufacturing overhead	29	580
Total cost		1,652

EA11. A company has the following transactions during the week.

- Purchase of $1,000 raw materials inventory
- Assignment of $500 of raw materials inventory to Job 5
- Payroll for 20 hours with $1,000 assigned to Job 5
- Factory utility bills of $750
- Overhead applied at the rate of $10 per hour

What is the cost assigned to Job 5 at the end of the week?

Solution

	Job 5
Raw materials assigned	$500
Payroll assigned	1,000
Overhead applied ($10/hour × 20 hours)	200
Total	$1,700

EA12. During the month, Job AB2 used specialized machinery for 450 hours and incurred $500 in utilities on account, $300 in factory depreciation expense, and $100 in property tax on the factory. Prepare journal entries for the following:

A. Record the expenses incurred.
B. Record the allocation of overhead at the predetermined rate of $1.50 per machine hour.

Solution

A.

Manufacturing overhead	900	
Accounts payable		500
Accumulated depreciation		300
Property taxes payable		100

B.

Work in process inventory	675	
Manufacturing overhead		675

EA13. Job 113 was completed at a cost of $5,000, and Job 85 was completed at a cost of $3,000 and sold on account for $4,500. Prepare journal entries for the following:

A. Completion of Job 113.
B. Completion and sale of Job 85.

Solution

A.

Finished goods inventory	5,000	
Work in process inventory		5,000
To transfer Job 113 to finished goods inventory		

B.

Finished goods inventory	3,000	
Work in process inventory		3,000
To transfer Job 85 to finished goods inventory		
Cost of goods sold	3,000	

	Finished goods inventory		3,000
	Cost of finished goods inventory sold		
Accounts receivable		4,500	
	Sales		4,500
	To record sale of Job 85		

EA14. A company's individual job sheets show the following costs:

	Job 131	Job 132	Job 133
Direct material	$4,585	$8,723	$1,575
Direct labor	2,385	2,498	2,874

Overhead is applied at 1.25 times the direct labor cost. Use the data on the cost sheets to perform these tasks:

A. Apply overhead to each of the jobs.
B. Prepare an entry to record the assignment of direct materials to work in process.
C. Prepare an entry to record the assignment of direct labor to work in process.
D. Prepare an entry to record the assignment of manufacturing overhead to work in process.

Solution

A.

	Job 131	Job 132	Job 133	Total
Direct materials	$4,585	$8,723	$1,575	$14,883
Direct labor	2,385	2,498	2,874	7,757
Overhead	2,981	3,123	3,593	9,697
Total	9,951	14,344	8,042	32,337

B.

Work in process inventory		14,883	
	Raw materials inventory		14,883
	To transfer raw materials to the work in process inventory		

C.

Work in process inventory		7,757	
	Factory wages payable		7,757
	To apply labor to the correct job		

D.

Work in process inventory		9,697	
	Manufacturing overhead		9,697
	To apply manufacturing overhead to the respective jobs		

EA15. A summary of material requisition slips and time tickets, along with the overhead allocation, show the following costs:

Job No.	Material Requisition Slips	Factory Labor Time Tickets	Overhead Applied
131	$ 505	$ 200	$ 70
132	251	260	91
133	393	180	63
134	340	300	105
Not job specific	76	145	0
	$1,565	$1,085	$329

A. Prepare an entry to record the assignment of direct material to work in process.
B. Prepare an entry to record the assignment of direct labor to work in process.
C. Prepare an entry to record the assignment of manufacturing overhead to work in process.

Solution

A.

Work in process inventory	1,489	
Raw materials inventory		1,489
To record materials used in production		

B.

Work in process inventory	940	
Factory wages payable		940
To record labor used in production		

C.

Work in process inventory	329	
Manufacturing overhead		329
To apply overhead to the work in process		

Exercise Set B

EB1. Abuah Goods manufactures clothing. For each item listed, identify whether it is a product cost, a period cost, or not an expense.

A. pins to keep materials together while garment is being manufactured
B. real estate taxes on store
C. advertising expense
D. product inspector wages
E. shirts for sale
F. Chief Financial Officer salary
G. cost of goods sold

Solution

A. Product cost. B. Period cost. C. Period cost. D. Product cost. E. Not an expense. F. Period cost. G. Product cost.

EB2. Choco's Chocolates incurs the following costs for the month:

Direct materials	$15,000
Direct labor	25,000
Factory depreciation expense	45,000
Factory utilities expense	2,000
Payroll staff's salary	15,000

A. What is the prime cost?

B. What is the conversion cost?

Solution

A. $40,000: direct materials plus direct labor. B. $72,000: direct labor plus factory depreciation expense plus utility expense.

EB3. Following is a list of expenses involved in the production of custom snowboard bindings.

A. For each item listed, state if the cost is manufacturing or sales and administration.
B. If the cost is a manufacturing cost, state if it is direct materials, direct labor, or manufacturing overhead.
C. If the cost is a manufacturing overhead cost, state if it is indirect materials, indirect labor, or another type of manufacturing overhead.

Snowboard Binding Production Costs

Snowboard Bindings Production Costs	Manufacturing or Sales & Administration Cost?	If Manufacturing: Direct Materials, Direct Labor, or Overhead?	If Overhead: Indirect Materials, Indirect Labor, or Other?
Aluminum			
Factory building rent			
Fiberglass framework for each pair of bindings			
Accountant salary			
Administration building depreciation			
Straps			
Advertising			
Production supervisor salary			
Glue			
Research and development costs			
Inspector wages			
Metal shaping machine depreciation			
Human resources salaries			
Factory repair			

Table 4.4

Solution

Snowboard Binding Production Costs

Snowboard Bindings Production Costs	Manufacturing or Sales & Administration Cost?	If Manufacturing: Direct Materials, Direct Labor, or Overhead?	If Overhead: Indirect Materials, Indirect Labor, or Other?
Aluminum	Manufacturing	Direct materials	—
Factory building rent	Manufacturing	Overhead	Other
Fiberglass framework for each pair of bindings	Manufacturing	Direct materials	—
Accountant salary	Sales and administration	—	—

Administration building depreciation	Sales and administration	—	—
Straps	Manufacturing	Direct materials	—
Advertising	Sales and administration	—	—
Production supervisor salary	Manufacturing	Overhead	Indirect labor
Glue	Manufacturing	Overhead	Indirect materials
Research and development costs	Sales and administration	—	—
Inspector wages	Manufacturing	Overhead	Indirect labor
Metal shaping machine depreciation	Manufacturing	Overhead	Other
Human resources salaries	Sales and administration	—	—
Factory repair	Manufacturing	Overhead	Other

EB4. Masonry's records show the raw materials inventory had purchases of $1,000 and an ending raw materials inventory balance of $200. If the cost of materials used during the month was $900, what was the beginning inventory?

Solution

Beginning raw materials inventory	$100
Purchases	1,000
Materials available for use	1,100
Ending inventory	200
Materials used in production	$900

Or

Materials used in production	$900
Ending inventory	200
Materials available for use	1,100
Purchases	1,000
Beginning inventory	$100

EB5. Steinway's records show their work in process inventory had a beginning balance of $3,000 and an ending balance of $3,500. How much overhead was applied if the records also show the following:

Materials used	$2,500
Direct labor	5,000
Cost of goods manufactured	7,700

Solution

Beginning work in process inventory	$3,000
Materials used in production	2,500
Direct labor	5,000
Overhead applied	700
Manufacturing costs incurred	11,200

Ending inventory	3,500
Cost of goods manufactured	$7,700

Or

Cost of goods manufactured	$7,700
Ending inventory	3,500
Manufacturing costs incurred	11,200
Beginning inventory	(3,000)
Materials used	2,500
Direct labor	5,000
Overhead applied	$700

EB6. Langston's purchased $3,100 of merchandise during the month, and its monthly income statement shows a cost of goods sold of $3,000. What was the beginning inventory if the ending inventory was $1,250?

Solution

Finished goods inventory	$1,150
Purchases	3,100
Cost of goods available	4250
Ending inventory	1,250
Cost of goods sold	$3,000

Or

Cost of goods sold	$3,000
Ending inventory	1,250
Cost of goods available	4,250
Beginning inventory	1,150
Purchases	($3,100)

EB7. A company estimates its manufacturing overhead will be $840,000 for the next year. What is the predetermined overhead rate given each of the following independent allocation bases?

A. Budgeted direct labor hours: 90,615
B. Budgeted direct labor expense: $750,000
C. Estimated machine hours: 150,000

Solution

A. $9.27 per direct labor hour. B. $1.12 per direct labor dollar. C. $5.60 per machine hour.

EB8. Job order cost sheets show the following costs assigned to each job:

	Job 131	Job 132	Job 133	Total
Direct materials	$3,485	$39,853	$2,301	$45,639
Direct labor	2,353	34,245	2,037	38,635

The company assigns overhead at twice the direct labor cost. What is the total cost for each job?

Solution

	Job 131	Job 132	Job 133	Total
Direct materials	$3,485	$39,853	$2,301	$45,639
Direct labor	2,353	34,245	2,037	38,635
Overhead	4,706	68,490	4,074	77,270

Total	$10,544	$142,588	$8,412	$161,544

EB9. A new company started production. Job 1 was completed, and Job 2 remains in production. Here is the information from the job cost sheets from their first and only jobs so far:

Job 1	Hours	Total Cost
Direct materials		$ 375
Direct labor	231	5,313
Manufacturing overhead		4,620
Total cost		$10,308

Job 2	Hours	Total Cost
Direct materials		$ 405
Direct labor	85	1,955
Manufacturing overhead		1,700
Direct materials		$4,060

Using the information provided,

A. What is the balance in work in process?
B. What is the balance in finished goods inventory?
C. If manufacturing overhead is applied on the basis of direct labor hours, what is the predetermined overhead rate?

Solution

A. $4,060. B. 10,308. C. $20 per direct labor hour.

EB10. Inez has the following information relating to Job AA5. Direct material cost was $200,000, direct labor was $36,550, and overhead applied on the basis of direct labor hours was $73,100. What was the predetermined overhead rate using the labor rate of $17 per hour?

Solution

The number of direct labor hours is 2,150 ($36,550/$17 per hour). The predetermined overhead rate is $34 per hour ($73,100/2,150 hours).

EB11. A company has the following information relating to its production costs:

Machine hours	25,000
Direct labor cost	$550,000
Indirect labor	45,000
Plant maintenance	259,300
Plant supervision	90,000
Plant depreciation	150,000
Plant utilities	48,000
Indirect materials	5,000

Compute the actual and applied overhead using the company's predetermined overhead rate of $23.92 per machine hour. Was the overhead overapplied or underapplied, and by how much?

Solution

The total overhead is:

Indirect labor	$45,000
Plant maintenance	259,300
Plant supervision	90,000
Depreciation	150,000
Utilities	48,000
Indirect material	5,000
Total overhead	597,300

The overhead applied is $598,000 ($23.92 × 25,000 machine hours). Overhead was overapplied by $700 ($598,000 – $597,300).

EB12. A company has the following transactions during the week.

- Purchase of $3,000 raw materials inventory

- Assignment of $700 of raw materials inventory to Job 7
- Payroll for 10 hours and $3,000 is assigned to Job 7
- Factory depreciation of $1,750
- Overhead applied at the rate of $200 per hour

What is the cost assigned to Job 7 at the end of the week?

Solution

	Job 5
Raw materials assigned	$700
Payroll assigned	3,000
Overhead applied ($10/hour × 200 hours)	2,000
Total	$5,700

EB13. During the month, Job Arch2 used specialized machinery for 350 hours and incurred $700 in utilities on account, $400 in factory depreciation expense, and $200 in property tax on the factory. Prepare journal entries for the following:

A. Record the expenses incurred.
B. Record the allocation of overhead at the predetermined rate of $1.50 per machine hour.

Solution

A.

Manufacturing overhead	1,300	
Accounts payable		700
Accumulated depreciation		400
Property taxes payable		200

B.

Work in process inventory	525	
Manufacturing overhead		525

EB14. Job 113 was completed at a cost of $7,500, and Job 85 was completed at a cost of $2,300 and sold on account for $4,500. Prepare journal entries for the following:

A. Completion of Job 113.
B. Completion and sale of Job 85.

Solution

A.

Finished goods inventory	7,500	
Work in process inventory		7,500
To transfer Job 113 to finished goods inventory		

B.

Finished goods inventory	2,300	
Work in process inventory		2,300
To transfer Job 85 to finished goods inventory		
Cost of goods sold	2,300	
Finished goods inventory		2,300
Cost of finished goods inventory sold		
Accounts receivable	4,500	

Sales	4,500
To record sale of Job 85	

EB15. A company's individual job sheets show the following costs:

	Job 298	Job 299	Job 300
Direct material	$2,228	$23,945	$ 4,231
Direct labor	2,391	23,492	3,413
Overhead	?	?	?
Total	$8,803	$88,548	$13,617

Overhead is applied at 1.75 times the direct labor cost. Use the data on the cost sheets to perform these tasks:

A. Apply overhead to each of the jobs.
B. Prepare an entry to record the assignment of direct material to work in process.
C. Prepare an entry to record the assignment of direct labor to work in process.
D. Prepare an entry to record the assignment of manufacturing overhead to work in process.

Solution

A.

	Job 298	Job 299	Job 300	Total
Direct materials	$2,228	$23,945	$4,231	$30,404
Direct labor	2,391	23,492	3,413	29,296
Overhead	4,184	41,111	5,973	51,268
Total	$8,803	$88,548	$13,617	$110,968

B.

Work in process inventory	30,404	
Raw materials inventory		30,404
To transfer raw materials to work in process		

C.

Work in process inventory	29,296	
Factory wages payable		29,296
To apply labor to the correct job		

D.

Work in process inventory	51,268	
Manufacturing overhead		51,268
To apply manufacturing to the respective jobs		

EB16. A summary of materials requisition slips and time tickets, along with the overhead allocation, show the following costs:

Job Number	Material Requisition Slips	Factory Labor Time Tickets	Overhead Applied
AA001	$ 3,423	$ 5,004	$1,750
AA002	4,342	4,530	1,568
AA003	3,431	5,345	1,813
AA004	3,421	2,423	840
Not specific to one job	570	3,353	
	$15,187	$20,655	$5,971

A. Prepare an entry to record the assignment of direct material to work in process.

B. Prepare an entry to record the assignment of direct labor to work in process.
C. Prepare an entry to record the assignment of manufacturing overhead to work in process.

Solution

A.

Work in process inventory	14,617	
Raw materials inventory		14,617
To record materials used in production		

B.

Work in process inventory	17,302	
Factory wages payable		17,302
To record labor used in production		

C.

Work in process inventory	5,971	
Manufacturing overhead		5,971
To apply overhead to the work in process		

Problem Set A

PA1. For each item listed, state whether a job order costing system or process costing system would be best.

A. cereal
B. team uniforms
C. houses
D. beach chairs
E. plastic
F. restaurant-specific pizza boxes
G. sneakers customized with number and colors

Solution

A. Process. B. Job order. C. Job order. D. Process. E. Process. F. Job order. G. Job order.

PA2. York Company is a machine shop that estimated overhead will be $50,000, consisting of 5,000 hours of direct labor. The cost to make Job 0325 is $70 in aluminum and two hours of labor at $20 per hour. During the month, York incurs $50 in indirect material cost, $150 in administrative labor, $300 in utilities, and $250 in depreciation expense.

A. What is the predetermined overhead rate if direct labor hours are considered the cost driver?
B. What is the cost of Job 0325?
C. What is the overhead incurred during the month?

Solution

A. $10 per direct labor hour: $50,000/5,000 direct labor hours. B. $130: direct materials $70, direct labor $40, and applied overhead $20. C. $750: indirect materials $50, administrative labor $150, utilities $300, and depreciation expense $250.

PA3. Pocono Cement Forms expects $900,000 in overhead during the next year. It does not know whether it should apply overhead on the basis of its anticipated direct labor hours of 60,000 or its expected machine hours of 30,000. Determine the product cost under each predetermined allocation rate if the last job incurred $1,550 in direct material cost, 90 direct labor hours, and 75 machine hours. Wages are paid at $16 per hour.

Solution

The predetermined overhead rate with labor as the cost driver is $15 per hour. If machine hours are the cost driver, the rate is $30 per machine hour.

Based on	Labor Hours	Machine Hours
Materials	$1,550	$1,550
Labor	1,440	1,440
Overhead	1,350	2,250
Cost of the job	$ 4,340	$ 5,240

PA4. Job cost sheets show the following information:

Job	January	February	March	Completed	Sold
AA2	$2,500	$1,200		February	Not sold
AA4	4,838			January	February
AA5		3,250		February	March
AA3		3,409	$2,319	April	Not sold
Total	7,338	7,859	2,319		

What are the balances in the work in process inventory, finished goods inventory, and cost of goods sold for January, February, and March?

Solution

	Work in Process	Finished Goods	CGS
January	$2,500	$4,838	
February	3,409	6,950	$4,838
March	5,728	3,700	3,250

PA5. Complete the information in the cost computations shown here:

Raw Materials	
Beginning inventory	$ 342
Purchases	1,533
Materials available for use	?
Ending inventory	321
Materials used in production	?

Work in Process Inventory	
Beginning inventory	$ 932
Materials used in production	?
Direct labor	1,535
Overhead applied	?
Manufacturing costs incurred	22,441
Ending inventory	935
Cost of Goods Manufactured	?

Finished Goods Inventory	
Beginning inventory	?
Cost of Goods Manufactured	?
Goods Available for Sale	$25,002
Ending inventory	?
Cost of Goods Sold	21,788

Solution

Raw Materials	
Beginning inventory	$342
Purchases	1,533
Material available for use	1,875

Ending inventory	321
Materials used in production	1,554
Work in Process Inventory	
Beginning inventory	$932
Materials used in production	1,554
Direct labor	1,535
Overhead applied	18,420
Manufacturing costs incurred	22,441
Ending inventory	935
Cost of goods manufactured	21,506
Finished Goods Inventory	
Beginning inventory	$3,496
Cost of goods manufactured	21,506
Goods available for sale	25,002
Ending inventory	3,214
Cost of goods sold	21,788

PA6. During the year, a company purchased raw materials of $77,321, and incurred direct labor costs of $125,900. Overhead is applied at the rate of 75% of the direct labor cost. These are the inventory balances:

	Beginning	Ending
Raw materials inventory	$ 17,433	$ 16,428
Work in process inventory	241,439	234,423
Finished goods inventory	312,842	342,384

Compute the cost of materials used in production, the cost of goods manufactured, and the cost of goods sold.

Solution

Raw Materials	
Beginning inventory	$17,433
Purchases	77,321
Material available for use	94,754
Ending inventory	16,428
Materials used in production	78,326
Work in Process Inventory	
Beginning inventory	$241,439
Materials used in production	78,326
Direct labor	125,900
Overhead applied	94,425
Manufacturing costs incurred	540,090

Ending inventory	234,423
Cost of goods manufactured	305,667
Finished Goods Inventory	
Beginning inventory	$312,842
Cost of goods manufactured	305,667
Goods available for sale	618,509
Ending inventory	342,384
Cost of goods sold	276,125

PA7. Freeman Furnishings has summarized its data as shown:

Depreciation of factory building	$100,000
Factory real estate taxes	15,000
Factory utility expenses	85,000
Indirect materials	32,000
Indirect labor	25,000
Direct labor cost	85,000
Direct labor hours incurred	23,500
Estimated direct labor hours	24,000
Raw materials purchased	$350,000
Raw materials, beginning inventory	30,000
Raw materials, ending inventory	28,000
Work in process, beginning inventory	51,000
Work in process, ending inventory	67,000
Estimated overhead	270,000

Compute the cost of goods manufactured, assuming that the overhead is allocated based on direct labor hours.

Solution

Predetermined overhead rate	$11.25
Overhead applied	264,375
Raw Materials	
Beginning inventory	$30,000
Purchases	350,000
Material available for use	380,000
Ending inventory	28,000
Materials used in production	352,000
Work in Process Inventory	
Beginning inventory	$51,000
Materials used in production	352,000
Direct labor	85,000
Overhead applied	264,375
Manufacturing costs incurred	752,375
Ending inventory	67,000
Cost of goods manufactured	685,375

PA8. Coop's Stoops estimated its annual overhead to be $85,000 and based its predetermined overhead rate on 24,286 direct labor hours. At the end of the year, actual overhead was $90,000 and the total direct labor hours were 24,100. What is the entry to dispose of the overapplied or underapplied overhead?

Solution

The predetermined overhead rate is $3.50/direct labor hour, calculated as $85,000/24,286 direct labor hours. The overhead applied is $84,350, calculated as $3.50/direct labor hour × 24,100 direct labor hours. Overhead is underapplied by $5,650 ($90,000 – $84,350). The adjusting journal entry is:

Cost of goods sold	5,650	
Manufacturing overhead		5,650

PA9. Mountain Peaks applies overhead on the basis of machine hours and reports the following information:

	Budget	Actual
Overhead	$350,000	$352,000
Machine hours	50,000	49,000
Direct materials		$210,000
Direct labor		$350,000

A. What is the predetermined overhead rate?
B. How much overhead was applied during the year?
C. Was overhead over- or underapplied, and by what amount?
D. What is the journal entry to dispose of the over- or underapplied overhead?

Solution

A. $7 per machine hour: $350,000/50,000 machine hours. B. $343,000: $7/hour times 49,000 machine hours. C. Underapplied by $9,000 since actual overhead was $352,000 and applied overhead was $343,000. D.

Cost of goods sold	9,000	
Manufacturing overhead		9,000

PA10. The actual overhead for a company is $74,539. Overhead was based on 6,000 direct labor hours and was $2,539 underapplied for the year.

A. What is the overhead application rate per direct labor hour?
B. What is the journal entry to dispose of the underapplied overhead?

Solution

A.

Actual overhead	$74,539
Underapplied overhead	(2,539)
= Applied overhead	$72,000
Divided by direct labor hours	6,000
= predetermined overhead rate per direct labor hour	$12

B.

Cost of goods sold	2,539	
Manufacturing overhead		2,539

PA11. When setting its predetermined overhead application rate, Tasty Box Meals estimated its overhead would be $100,000 and would require 25,000 machine hours in the next year. At the end of the year, it found that actual overhead was $102,000 and required 26,000 machine hours.

A. Determine the predetermined overhead rate.
B. What is the overhead applied during the year?
C. Prepare the journal entry to eliminate the underapplied or overapplied overhead.

Solution

A. $4 per machine hour ($100,000/25,000 machine hours). B. $104,000 ($4 times 26,000 machine hours). C.

Manufacturing overhead	2,000	
Cost of goods sold		2,000

PA12. The following data summarize the operations during the year. Prepare a journal entry for each transaction.

A. Purchase of raw materials on account: $3,000
B. Raw materials used by Job 1: $500
C. Raw materials used as indirect materials: $100
D. Direct labor for Job 1: $300
E. Indirect labor incurred: $50
F. Factory utilities incurred on account: $700
G. Adjusting entry for factory depreciation: $250
H. Manufacturing overhead applied as % of direct labor: 200%
I. Job 1 is transferred to finished goods
J. Job 1 is sold: $3,000
K. Manufacturing overhead is overapplied: $100

Solution

A.

Raw materials inventory	3,000	
Accounts payable		3,000
To record purchase of materials		

B.

Work in process inventory	500	
Raw materials inventory		500
To record assignment of material to Job 1		

C.

Manufacturing overhead	100	
Raw materials inventory		100
To record the assignment of indirect materials to manufacturing overhead		

D.

Work in process inventory	300	
Factory wages payable		300
To assign the factory labor to Job 1		

E.

Manufacturing overhead	50	
Factor labor payable		50
To assign the indirect labor to manufacturing overhead		

F.

Manufacturing overhead	700	
Accounts payable		700
To record utilities for the year		

G.

Manufacturing overhead	250	
Accumulated depreciation		250
To record depreciation for the year		

H.

Work in process inventory	600	
Manufacturing overhead		600
To apply overhead at 200% of direct labor cost		

I.

Direct materials	500
Direct labor	300
Manufacturing overhead	600
Total	1,400

Finished goods inventory	1,400	
Work in process inventory		1,400
To transfer Job 1 to finished goods inventory 1		

J.

Cost of goods sold	1,400	
Finished goods inventory		1,400
To record sale of Job 1		

Accounts receivable	3,000	
Sales		3,000
To record sale of Job 1		

K.

Manufacturing overhead	100	
Cost of goods sold		100
To eliminate the overapplied manufacturing overhead		

PA13. The following events occurred during March for Ajax Company. Prepare a journal entry for each transaction.

A. Materials were purchased on account for $35,429.
B. Materials were requisitioned to begin work on Job C15 in the amount of $25,259.
C. Direct labor expense for Job C15 was $24,129.
D. Actual overhead was incurred on account of $32,852.
E. Factory overhead was charged to Job C15 at the rate of 200% of direct labor.
F. Job C15 was transferred to finished goods at $97,646.
G. Job C15 was sold on account for $401,000.

Solution

A.

Raw materials	35,429	
Accounts payable		35,429

B.

Work in process inventory	25,259	
Raw materials		25,259

C.

Work in process	24,129	
Factory wages payable		24,129

D.

Manufacturing overhead	32,852	
Accounts payable		32,852

E.

Work in process	48,258	
Manufacturing overhead		48,258

F.

Finished goods inventory	97,646	
Work in process		97,646

G.

Cost of goods sold	97,646	
Finished goods inventory		97,646
Accounts receivable	401,000	
Sales		401,000

PA14. A movie production studio incurred the following costs related to its current movie:

A. Purchased office supplies on account: $33,000
B. Issued direct supplies: $22,512
C. Issued indirect supplies: $7,535
D. Time tickets showing direct labor: $32,503,230
E. Time tickets showing indirect labor: $574,326
F. Utilities expense on account: $957,323
G. Overhead applied: 10% of direct labor cost

Create journal entries for the listed transactions.

Solution

A.

Supplies	33,000	
Accounts payable		33,000

B.

Movie in process	22,512	
Supplies		22,512

C.

Operating overhead	7,535	
Supplies		7,535

D.

Movie in process	32,503,230	
Salary payable		32,503,230

E.

Operating overhead	574,326	
Salary payable		574,326

F.

Movie overhead	957,323	
Accounts payable		957,323

G.

Movie in process	3,250,323	
Movie overhead		3,250,323

Problem Set B

PB1. For each item listed, state whether a job order costing system or process costing system would be best.

A. television repair
B. cell phone charge cords
C. glassware with company logo
D. dog food
E. golf balls
F. hotel signs to welcome guests
G. highlighters and pens

Solution

A. Job order. B. Process. C. Job order. D. Process, E. Process. F. Job order. G. Process.

PB2. Rulers Company is a neon sign company that estimated overhead will be $60,000, consisting of 1,500 machine hours. The cost to make Job 416 is $95 in neon, 15 hours of labor at $13 per hour, and five machine hours. During the month, it incurs $95 in indirect material cost, $130 in administrative labor, $320 in utilities, and $350 in depreciation expense.

A. What is the predetermined overhead rate if machine hours are considered the cost driver?
B. What is the cost of Job 416?
C. What is the overhead incurred during the month?

Solution

A. $40 per direct labor hour: $60,000/1,500 machine hours. B. $490: direct materials $95, direct labor $195 (15 hours × $13 per hour) and applied overhead $200 ($40 per machine hour × five machine hours). C. $895: indirect material $95, administrative labor $130, utilities $320, and depreciation expense $350.

PB3. Event Forms expects $120,000 in overhead during the next year. It doesn't know whether it should apply overhead on the basis of its anticipated direct labor hours of 6,000 or its expected machine hours of 5,000. What would be the product cost under each predetermined allocation rate if the last job incurred $3,500 in direct material cost, 55 direct labor hours, and 55 machine hours? Wages are paid at $17 per hour.

Solution

The predetermined overhead rate with labor as the cost driver is $20 per hour. If machine hours is the cost driver, the rate is $24 per machine hour.

Based on	**Labor Hours**	**Machine Hours**
Materials	$ 3,500	$ 3,500
Labor	935	935
Overhead	1,100	1,320
	$ 5,535	$5,755

PB4. Summary information from a company's job cost sheets shows the following information:

Job	April	May	June	Completed	Sold
BB3	$3,500	$1,500		May	Not sold
BB4	9,231			April	May
BB5		2,540		May	June
BB6		3,230	$1,434	July	Not sold

What are the balances in the work in process inventory, finished goods inventory, and cost of goods sold for April, May, and June?

Solution

	Work in Process	Finished Goods	Cost of Goods Sold
April	$3,500	$9,231	
May	3,230	7,540	$9,231
June	4,664	5,000	2,540

PB5. Complete the information in the cost computations shown here:

Beginning Inventory	$74,323
Purchases	?
Materials available for use	?
Ending inventory	?
Materials used in production	78,413

Work in Process Inventory	
Beginning inventory	$253,210
Materials used in production	?
Direct labor	125,900
Overhead applied	94,425
Manufacturing costs incurred	?
Ending inventory	242,932
Cost of goods manufactured	?

Finished Goods Inventory	
Finished goods inventory	?
Beginning inventory	$333,149
Cost of goods manufactured	309,016
Goods available for sale	?
Ending inventory	354,235
Cost of goods sold	287,930

Solution

Beginning inventory	$74,323
Purchases	77,321
Material available for use	151,644
Ending inventory	73,231
Materials used in production	78,413
Work in Process Inventory	
Beginning inventory	$253,210
Materials used in production	78,413
Direct labor	125,900
Overhead applied	94,425
Manufacturing costs incurred	551,948

Ending inventory	242,932
Cost of goods manufactured	309,016
Finished Goods Inventory	
Beginning inventory	$333,149
Cost of goods manufactured	309,016
Goods available for sale	642,165
Ending inventory	354,235
Cost of goods sold	287,930

PB6. During the year, a company purchased raw materials of $77,321 and incurred direct labor costs of $125,900. Overhead is applied at the rate of 75% of the direct labor cost. These are the inventory balances:

	Beginning	Ending
Raw materials inventory	$ 15,394	$ 17,432
Work in process inventory	57,304	53,721
Finished goods inventory	120,432	132,432

Compute the cost of materials used in production, the cost of goods manufactured, and the cost of goods sold.

Solution

Raw Materials	
Beginning inventory	$15,394
Purchases	77,321
Material available for use	92,715
Ending inventory	17,432
Materials used in production	75,283
Work in Process Inventory	
Beginning inventory	$57,304
Materials used in production	75,283
Direct labor	125,900
Overhead applied	94,425
Manufacturing costs incurred	352,912
Ending inventory	53,721
Cost of goods manufactured	299,191
Finished Goods Inventory	
Beginning inventory	$120,432
Cost of goods manufactured	299,191
Goods available for sale	419,623
Ending inventory	132,432

Cost of goods sold	287,191

PB7. Freeman Furnishings has summarized its data as shown. Direct labor hours will be used as the activity base to allocate overhead:

Raw materials purchased	$320,000
Raw materials, beginning inventory	15,000
Raw materials, ending inventory	14,000
Work in process, beginning inventory	35,000
Work in process, ending inventory	37,000
Estimated overhead	300,000
Depreciation of factory building	50,000
Factory real estate taxes	7,382
Factory utility expenses	45,000
Indirect materials	20,000
Indirect labor	11,000
Direct labor cost	100,000
Direct labor hours incurred	24,000
Estimated direct labor hours	25,000

Compute the cost of goods manufactured.

Solution

Predetermined overhead rate	$12.00
Overhead applied	288,000
Raw Materials	
Beginning inventory	$15,000
Purchases	320,000
Material available for use	335,000
Ending inventory	14,000
Materials used in production	321,000
Work in Process Inventory	
Beginning inventory	$35,000
Materials used in production	321,000
Direct labor	100,000
Overhead applied	288,000
Manufacturing costs incurred	744,000
Ending inventory	37,000
Cost of goods manufactured	707,000

PB8. Queen Bee's Honey, Inc., estimated its annual overhead to be $110,000 and based its predetermined overhead rate on 27,500 direct labor hours. At the end of the year, actual overhead was $106,000 and the total direct labor hours were 29,000. What is the entry to dispose of the overapplied or underapplied overhead?

Solution

The predetermined overhead rate is $4.00/direct labor hours, calculated as 110,000/27,500 direct labor hours. The overhead applied is $116,000, calculated as $4.00/direct labor hours × 29,000

direct labor hours. Overhead is overapplied by $10,000 ($116,000 – $106,000). The adjusting journal entry is:

Manufacturing overhead	10,000	
Cost of goods sold		10,000

PB9. [LO4.6]Mountain Tops applies overhead on the basis of direct labor hours and reports the following information:

	Budget	Actual
Overhead	$450,000	$452,000
Direct labor hours	75,000	77,000
Direct materials		$195,000
Direct labor		$333,865

A. What is the predetermined overhead rate?
B. How much overhead was applied during the year?
C. Was overhead overapplied or underapplied, and by what amount?
D. What is the journal entry to dispose of the overapplied or underapplied overhead?

Solution
A. $6 per direct labor hour: $450,000/75,000 direct labor hours. B. $462,000: $6/hour × 77,000 direct labor hours. C. Overapplied by $10,000 since actual overhead was $452,000 and applied overhead was $462,000. D.

Manufacturing overhead	10,000	
Cost of goods sold		10,000

PB10. The actual overhead for a company is $73,175. Overhead was based on 4,500 machine hours and was $3,325 overapplied for the year.

A. What is the overhead application rate per direct labor hour?
B. What is the journal entry to dispose of the underapplied overhead?

[Answer: A.

Actual overhead	$73,175
Overapplied overhead	3,325
= Applied overhead	$76,500
Divided by direct labor hours	4,500
= predetermined overhead rate per direct labor hour	$17

B.

Manufacturing overhead	3,325	
Cost of goods sold		3,325

PB11. When setting its predetermined overhead application rate, Tasty Turtle estimated its overhead would be $75,000 and manufacturing would require 25,000 machine hours in the next year. At the end of the year, it found that actual overhead was $74,000 and manufacturing required 24,000 machine hours.

A. Determine the predetermined overhead rate.
B. What is the overhead applied during the year?
C. Prepare the journal entry to eliminate the under- or overapplied overhead.

[Answer: A. $3 per machine hour ($75,000/25,000 machine hours). B. $72,000 ($3 × 24,000 machine hours). C.

Cost of goods sold	2,000	
Manufacturing overhead		2,000

PB12. The following data summarize the operations during the year. Prepare a journal entry for each transaction.

A. Purchase of raw materials on account: $1,500
B. Raw materials used by Job 1: $400
C. Raw materials used as indirect materials: $50
D. Direct labor for Job 1: $200
E. Indirect labor incurred for Job 1: $30
F. Factory utilities incurred on account: $500
G. Adjusting entry for factory depreciation: $200
H. Manufacturing overhead applied as % of direct labor: 100%
I. Job 1 is transferred to finished goods
J. Job 1 is sold: $1,000
K. Manufacturing overhead is underapplied: $100

Solution

A.

Raw materials inventory	1,500	
Accounts payable		1,500
To record purchase of material		

B.

Work in process inventory	400	
Raw materials inventory		400
To record the assignment of material to Job AA1		

C.

Manufacturing overhead	50	
Raw materials inventory		50
To record the assignment of indirect materials to manufacturing overhead		

D.

Work in process inventory	200	
Factory wages payable		200
To assign the factory labor to Job AA1		

E.

Manufacturing overhead	30	
Factory wages payable		30
To assign the indirect labor to manufacturing overhead		

F.

Manufacturing overhead	500	
Accounts payable		500
To record utilities for the month		

G.

Manufacturing overhead	200	
Accumulated depreciation		200
To adjust for depreciation for the month		

H.

Work in process inventory	200	
Manufacturing overhead		200
To apply overhead at 100% of direct labor cost		

I.

Direct materials	400
Direct labor	200
Manufacturing overhead	200
Total	800

Finished goods inventory	800	
Work in process inventory		800
To transfer Job AA1 to finished goods inventory		

J.

Cost of goods sold	800	
Finished goods inventory		800
To record sale of Job AA1		
Accounts receivable	1,000	
Sales		1,000
To record sale of Job AA1		

K.

Cost of goods sold	100	
Manufacturing overhead		100
To eliminate the underapplied manufacturing overhead		

PB13. The following events occurred during March for Ajax Company. Prepare a journal entry for each transaction.

A. Materials were purchased on account for $5,429.
B. Materials were requisitioned to begin work on Job C15 in the amount of $2,500.
C. Direct labor expense for Job C15 was $4,250.
D. Actual overhead was incurred on account for $5,385.
E. Factory overhead was charged to Job C15 at the rate of 200% direct labor.
F. Job C15 was transferred to finished goods at $15,250.
G. Job C15 was sold on account for $28,000.

Solution

A.

Raw materials	5,429	
Accounts payable		5,429

B.

Work in process inventory	2,500	
Raw materials		2,500

C.

Work in process	4,250	
Factory wages payable		4,250

D.

Manufacturing overhead	5,385	

Accounts payable		5,385

E.

Work in process	8,500	
Manufacturing overhead		8,500

F.

Finished goods inventory	15,250	
Work in process		15,250

G.

Cost of goods sold	15,250	
Finished goods inventory		15,250
Accounts receivable	28,000	
Sales		28,000

PB14. A leather repair shop incurred the following expenses while repairing luggage for a major airline.

A. Time cards showing direct labor: $750
B. Time cards showing indirect labor: $100
C. Purchased repair supplies on account: $1,500
D. Issued indirect supplies: $350
E. Utilities expense on account: $24,000
F. Overhead applied: 100% of direct labor costs

Journalize the listed transactions.

Solution

A.

Repair in process	750	
Salary payable		750

B.

Operating overhead	100	
Salary payable		100

C.

Supplies	1,500	
Accounts payable		1,500

D.

Operating overhead	350	
Supplies		350

E.

Operating overhead	24,000	
Accounts payable		24,000

F.

Direct labor	750		
Operating overhead	750		
Overhead cost for repairs	1,500		
Repairs in process		1,500	
Operating overhead			1,500

Thought Provokers

TP1. Can a company use both job order costing and process costing? Why or why not?

Solution

Yes. A company may use both systems to account for different types of products. For example, a jewelry manufacturer may manufacture many of the same charms and use process costing. It may also have custom-ordered jewelry and use job order costing for those goods.

TP2. If a job order cost system tracks the direct materials and direct labor, why doesn't it track the actual overhead used for a specific job?

Solution

By its very nature, overhead is impossible or impractical to trace to specific jobs. In the cases where it is possible to track the costs, the additional work involved in doing so is not worth the benefit from the calculations. For example, it is impossible to determine the electricity cost for manufacturing one particular unit, since electricity is being used elsewhere in the manufacturing organization. Likewise, it is not practical to keep track of how many sheets of paper were used for a specific job. Instead, overhead is accumulated in the manufacturing overhead account and applied to each specific job on the basis of the activity considered the cost driver.

TP3. What are the similarities in calculating the cost of materials used in production, the cost of goods manufactured, and the cost of goods sold?

Solution

Each starts with the beginning inventory and adds the increases during the month. The cost of materials used adds the purchases of materials; the cost of goods manufactured adds the materials, labor, and overhead to the product, and the finished goods adds the cost of goods manufactured. So, each subtotal is the maximum each inventory account can have during the year. From that subtotal, the ending inventory is subtracted, and the result is the amount that was used during the year. In each of the steps, the amount used is transferred on. The materials used in production are added to the work in process. The cost of goods manufactured is moved to finished goods and part of the cost of goods sold calculation.

TP4. If a company bases its predetermined overhead rate on 100,000 machine hours, and it actually has 100,000 machine hours, would there be an underapplied or overapplied overhead?

Solution

Yes. The actual overhead used in computing the predetermined overhead rate is based on estimated overhead. It is very unlikely that all components of overhead, like utility expenses, have the exact expense equal to the estimate. So, the difference between the overhead incurred and the overhead applied in this case is not based on the activity base but on the overhead costs incurred.

TP5. How do the job cost sheets act as a subsidiary ledger for the work in process inventory if journal entries are not made to the job cost sheets?

Solution

Journal entries are not part of subsidiary ledgers. The job cost sheets are subsidiary ledgers to the work in process inventory in the same way that an accounts receivable subsidiary ledger keeps track of the organizations that have receivables with the company. When journal entries are made on the journal, the posting to the ledger triggers a notation to be made in the subsidiary ledger immediately as well.

TP6. How is a job order cost system used in a service industry?

Solution

Similar to accounting for a manufacturing company, the direct materials used, direct labor incurred, and overhead applied are assigned to each specific job. While service industries do not generally have direct materials, those that do maintain that information in a methodology similar to manufacturing companies. Any indirect materials are considered manufacturing overhead. Time sheets are used to keep track of employee time on each individual job, similar to manufacturing companies. Instead of manufacturing overhead, the term *operating overhead* is used. A predetermined overhead rate is used similar to a manufacturing organization, and direct labor hours are typically the activity base. Because there is no production, there is no inventory or cost of goods sold. The jobs are custom-ordered and expensed when completed along with the sale.

Feature Boxes

Your Turn: Maria's Market

A job order cost system will work well for this store. In addition to specific price and cost, these are other important considerations.

- The optimal sales price should be set to encourage customers to purchase the meals.
- The materials, labor, and overhead cost should be considered for each meal option.
    - Direct material costs may include the cost of the protein, grain, and vegetable option, as well as the cost of the packing containers.
    - The direct labor cost is for employees who are directly involved in preparing the meals.
    - Manufacturing overhead includes the cost of gloves used when preparing the meals, the cost of employees who support but are not directly involved in preparing the meals, and the cost to operate the oven.
- The cost of the various meal options should all be less than the sales price.
- The meal options should change to take advantage of seasonal items.

There may be a need to vary the sales price, depending on the combinations selected.

Think It Through: Franchise or Unique Venture?

[Answer: Student answers will vary and should lead to a discussion about how an expense may be in one category for one company and another category for a different company, or can be addressed differently by different departments within a single company. The table here shows a sample response.

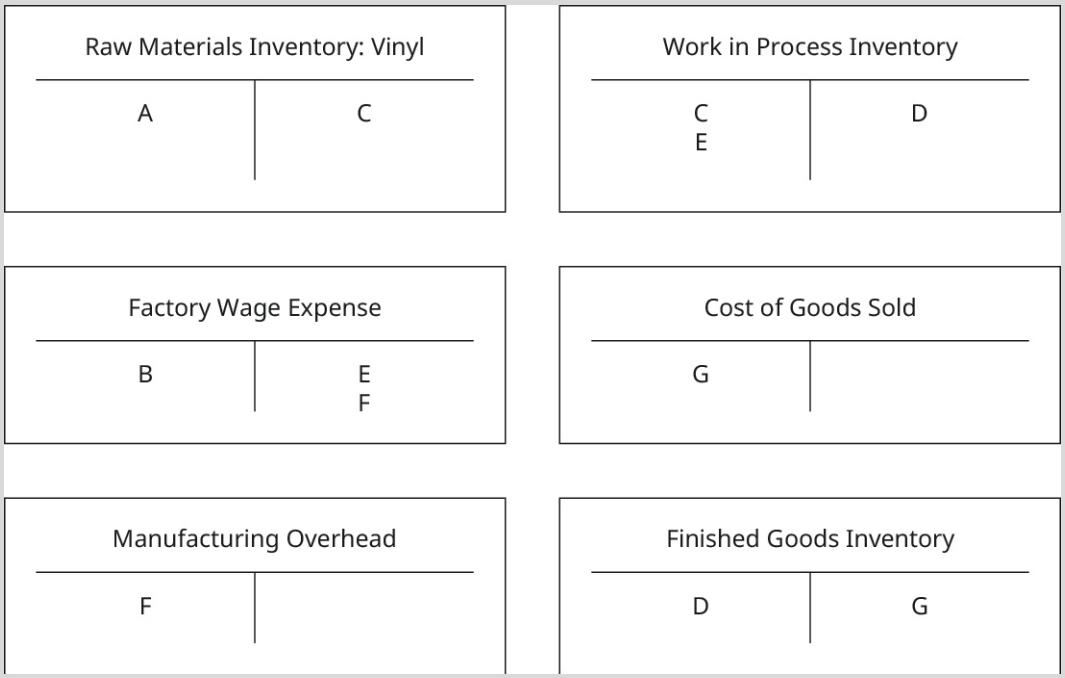
Pizza Restaurant Cost Allocation

	Fixed or Variable?	**Manufacturing or Sales and Administration (S&A)?**	**Direct Materials?**	**Direct Labor?**	**Overhead: Indirect Materials, Indirect Labor, or Other?**
Dough (flour, eggs, etc.)	Variable	Manufacturing	X		
Tomato sauce	Variable	Manufacturing	X		
Toppings	Variable	Manufacturing	X		
Pizza boxes	Variable	Manufacturing	X		
Chef labor	Variable	Manufacturing		X	
Server labor	Variable	Manufacturing			Indirect labor
Employee at cash	Fixed	S&A			

register (if stated)					
Manager	Fixed	S&A			
Franchise fee (if stated)	Fixed	S&A			
Maintenance	Fixed	S&A			
Depreciation of equipment	Fixed	Manufacturing			Other
Utilities	Varies*	Manufacturing			Other

*Sometimes fixed because the ovens need to be on when potential customers order

Your Turn: Tracking the Flow with Selected T-Accounts



Your Turn: Kraken Boardsports

The total overhead incurred is the total of:

Indirect materials	$ 25,000
Indirect labor	31,750
Depreciation of factory equipment	50,000
Factory utility expenses	17,500
Supervisor salaries	85,000
Actual overhead incurred	$209,250

The total overhead applied is $209,040, which is calculated as:
$33.50/direct labor hours × 6,240 direct labor hours.
The balance in manufacturing overhead is a debit balance of $210:

	Manufacturing Overhead	
	Actual Costs	Applied Costs
	$209,250	$209,040
Balance	210	

The adjusting journal entry is:

JOURNAL			
Date	**Account**	**Debit**	**Credit**
	Cost of Goods Sold	210	
	Manufacturing Overhead		210

Think It Through: Ongoing Overapplied Overhead

Solution

The base used by the company was specifically not mentioned, so students realize that the math behind consistently overapplying overhead does not depend on the base. Student answers may vary but should include reducing the overhead allocation rate. Students may also question the overhead base used, which could be correct if they mention that another base would lead to a better allocation.