Exercises & Problems: 3-23, 3-25, 3-26, 3-28. 3-29, 3-33, 3-34, 3-35, 3-40

3-23 Mackenzie Consulting computes the cost of each consulting engagement by adding a portion of firmwide support costs to the labor cost of the consultants on the engagement. The support costs are assigned to each consulting engagement using a cost driver rate based on consultant labor costs. MacKenzie Consulting’s support costs are $5M per year, and total consultant labor cost is estimated at $2.5M per year.

1. What is MacKenzie Consulting’s support cost driver rate?
2. If the consultant labor cost on an engagement is $25,000, what costs will MacKenzie Consulting compute as the total cost of the consulting engagement?

3-25 Western Wood Products has two production departments: cutting and assembly, The company has been using a single predetermined cost driver rate based on plantwide direct labor hours. That is, the plantwide cost driver rate is computed by dividing plantwide support costs by total plantwide direct labor hours. The estimates for support costs and quantities of cost drivers for 2006 follow:

Cutting Assembly Total

Manufacturing support $25,000 $35,000 $60,000

Direct labor hours 1,000 3,000 4,000

Machine hours 4,000 2,000 6,000

1. What was the single plantwide cost driver rate for 2006?
2. Determine departmental cost driver rates based on direct labor hours for assembly and machine hours for cutting.
3. Provide reasons why Western Wood might use the method in (a) or in (b).

3-26 Morrison Company carefully records its costs because it bases prices on the cost of the goods it manufactures. Morrison also carefully records its machine usage and other operational information. Manufacturing costs are computed monthly, and prices for the next month are determined by adding a 20% markup to each product’s manufacturing costs. The support activity cost driver rate is based on machine hours, shown below:

Month Actual Machine Hours

Jan 1,350

Feb 1,400

Mar 1,500

Apr 1,450

May 1,450

June 1,400

July 1,400

Aug 1,400

Sep 1,500

Oct 1,600

Nov 1,600

Dec 1,600

Profits have been acceptable until the past year, but Morrison has recently faced increased competition. The marketing manager reported that Morrison’s sales force finds the company’s pricing puzzling. When demand is high, the company’s prices are low, and when demand is low, the company’s prices are high. Practical capacity is 1,500 machine hours per month. Practical capacity is exceeded in some months by operating the machines overtime beyond regular shift hours. Monthly machine-related costs, all fixed, are $70,000 per month.

1. Compute the monthly support cost driver rates that Morrison used last year.
2. Suggest a better approach to developing cost driver rates for Morrison and explain why your method is better.

3-28 Pitman Chemical Company manufactures and sells Goody, a product that sells for $10 per pound. The manufacturing process also yields 1 pond of a waste product, called Baddy, in the production of every 10 pounds of Goody. Disposal of the waste product costs $1 per pound. During March, the company manufactured 200,000 pounds of Goody. Total manufacturing cost were as follows:

Direct materials $232,000

Direct labor 120,000

Manufacturing support costs 60,000

Total Costs $412,000

Determine the cost per pound of Goody.

3-29 The information below pertains to July production at Porter Company’s paint factory, which produces paints for household interiors:

Gallons Materials Conversion

Work in process, July 1 3,000 30% complete 20% complete

Started in July 7,000

To account for 10,000

Completed and transferred out 6,000 100% complete 100% complete

Work in process, July 31 4,000 25% complete 10% complete

Accounted for 10,000

Using the weighted-average method, determine the number of equivalent units of production for materials and conversion during July.

3-33 the Hillman Company sells and services lawn mowers, snow blowers, and other equipment. The service department uses a job order cost system to determine costs of each job, such as oil changes, tune-ups, and repairs. The department assigns conversion costs through a cost driver rate on the basis of direct labor hours. The cost driver rate additionally includes a markup of 25% on the job’s conversion costs in order to provide a reasonable profit for Hillman. The customer’s invoice itemizes prices for parts and labor, where the stated labor rate is the department’s cost 25% markup on conversion costs. Hillman Company’s service department estimated the following information for 2006.

Salaries of mechanics $120,000

Fringe benefits 54,000

General and Adm 18,000

Depreciation 42,000

Billable direct labor hours 4,500

1. Determine Hillman Company’s service department’s cost driver rate to be used to assign conversion costs on the basis of billable direct labor hours.
2. Job 254 requires $47.40 of materials and 0.7 direct hours. Determine the price charged for job 254.

3-34 The Leblanc Company employs a job order cost system to account for its costs. The company has three production departments. Separate departmental cost driver rates are employed because the demand for support activities for the three departments is very different, All jobs generally pass through all three production departments. Data regarding the hourly direct labor rates, cost driver rates, and three jobs on which work was done during June appear below. Jobs 101 and 102 were completed during June, while job 103 was not completed as of June 30. The costs charged to jobs not completed at the end of a month are shown as work in process inventory at the end of that month and at the beginning of the next month:

Production Dept Direct Labor rate Cost Driver rates

Dept 1 $12 150% of direct material cost

Dept 2 $18 $8 per machine hour

Dept 3 $15 200% of direct labor cost

Job 101 Job 102 Job 103

Beginning work in process $25,000 $32,400 $0

Direct materials

Dept 1 $40,000 $26,000 $58,000

Dept 2 3,000 5,000 14,000

Dept 3 0 0 0

Direct Labor hours

Dept 1 500 400 300

Dept 2 200 250 350

Job 101 Job 102 Job 103

Dept 3 1,500 1,800 2,500

Machine hours

Dept 1 0 0 0

Dept 2 1,200 1,500 2,700

Dept 3 150 300 200

1. Determine the total cost of completed job 101.
2. Determine the total cost of completed job 102.
3. Determine the ending balance of work in process inventory for job 103 as of June 30.

3-35 Airporter Service Company operates scheduled coach service from Boston’s Logan Airport to downtown Boston and to Cambridge. A common scheduling service center at the airport is responsible for ticketing and customer service for both routes. The service center is regularly staffed to service traffic of 2,400 passengers per week: two-thirds for downtown Boston passengers and the balance for Cambridge passengers. The cost to operate this service center is $7,200 per week normally, but it is higher during weeks when additional help is required to service higher traffic levels. The service center costs and number of passengers serviced during the 5 weeks of August follow:

Week Cost Boston Cambridge

1 $7,200 1,600 800

2 7,200 1,500 900

3 7,200 1,650 800

4 7,200 1,700 850

5 7,200 1,700 700

How much of the service center costs should be charged to the Boston service and how much to the Cambridge service?

3-40 The Gonzalez Company uses a job order costing system at its plant in Green Bay, Wisconsin. The plant has a machining department and a finishing department. The company uses two cost driver rates for allocating manufacturing support costs to job orders: one on the basis of machine hours for allocating machining department support costs and the other on the basis of direct labor cost for allocating the finishing department support costs. Estimates for 2006 follow:

Machining Dept Finishing Dept

Manufacturing support cost $500,000 $400,000

Machine hours 20,000 2,000

Direct labor hours 5,000 22,000

Direct labor cost $150,000 $500,000

1. Determine the two departmental support cost driver rates.
2. Determine the total costs charges to job 511 in July 2006.
3. Explain why Gonzalez Company uses two different cost driver rates in its job costing system.