

Quiz – Chapter 4B - Solutions

Use the following to answer questions 1-4:

The Uinta Company has two service departments and two operating departments. The following data are available from last year:

	<i>Service Depts.</i>		<i>Operating Depts.</i>	
	<i>1</i>	<i>2</i>	<i>X</i>	<i>Y</i>
Departmental costs	\$63,000	\$42,000	\$200,000	\$100,000
Number of transactions .	10,000	12,000	14,000	16,000
Square feet occupied	2,000	1,000	3,000	2,000

The costs of service departments 1 and 2 are allocated on the basis of number of transactions and square feet occupied respectively. No distinction is made between fixed and variable costs.

- Assuming that Uinta allocates service department costs by the direct method, the total overhead costs allocated from Department 1 to Department X are:
 - \$18,000.
 - \$25,200.
 - \$42,000.
 - \$29,400.

D is correct

	X	Y
S1 \$63,000	29,400 $14,000/30,000 \times 63,000$	33,600 $16,000/30,000 \times \$63,000$
S2 \$42,000	25,200 $3,000/5,000 \times \$42,000$	16,800 $2,000/5,000 \times \$42,000$

- Assuming that Uinta allocates service department costs by the direct method, the total overhead costs allocated from Department 2 to Department Y are:
 - \$22,400.
 - \$16,800.
 - \$42,000.
 - \$14,000.

B is correct. See above table.

3. Assume that Uinta allocates service department costs by the step method, starting with Department 1. The total overhead costs allocated from Department 1 to Department Y are:
- A) \$12,115.
 - B) \$21,000.
 - C) \$24,000.
 - D) \$33,600.

C is correct.

	S2	X	Y
S1 \$63,000	\$18,000 12K/42K x 63,000	21,000 14K/42K x 63,000	24,000 16K/42K x \$63,000
S2 \$60,000 (\$42,000+18,000)		36,000 3K/5K x \$60,000	24,000 2K/5K x \$60,000

4. Assume that Uinta allocates service department costs by the step method, starting with Department 1. The total overhead costs allocated from Department 2 to Department Y are:
- A) \$18,000.
 - B) \$24,000.
 - C) \$21,000.
 - D) \$25,200.

B is correct.

THE FOLLOWING INFORMATION APPLIES TO THE QUESTION 5 BELOW.

Alfred, owner of Hi-Tech Fiberglass Fabricators Inc. is interested in using the reciprocal allocation method. The following data from operations were collected for analysis:

Budgeted manufacturing overhead costs:

Plant Maintenance	PM (Support Dept)	\$350,000
Data Processing	DP (Support Dept)	\$75,000
Machining	M (Operating Dept)	\$225,000
Capping	C (Operating Dept)	\$125,000

Services furnished:

By Plant Maintenance (budgeted labor-hours):

to Data Processing	3,500
to Machining	5,000
to Capping	8,200

By Data Processing (budgeted computer time):

to Plant Maintenance	600
to Machining	3,500
to Capping	600

5. What is the complete reciprocated cost of the Plant Maintenance Department?
- A \$393,750
B \$369,459
C \$365,000
D \$375,773

B is correct.

$$PM = \$350,000 + (600/4700)DP$$

$$DP = \$75,000 + (3500/16700)PM$$

$$PM = \$350,000 + .12766(\$75,000 + .209581PM)$$

$$PM = \$350,000 + \$9,574.47 + .026755PM$$

$$PM - .026755PM = \$359,574.47$$

$$0.973245PM = \$359,574.47$$

$$PM = \$359,574.47 / 0.973245$$

$$PM = 369,459.40$$