

Section 7 - Step-down costs allocation method

- 1) Hanung Corp has two service departments, Maintenance and Personnel. Maintenance Department costs of \$320,000 are allocated on the basis of budgeted maintenance-hours. Personnel Department costs of \$200,000 are allocated based on the number of employees. The costs of operating departments A and B are \$208,000 and \$312,000, respectively. Data on budgeted maintenance-hours and number of employees are as follows:

	Support Departments		Production Departments	
	Maintenance Department	Personnel Department	A	B
Budgeted costs	\$320,000	\$200,000	\$208,000	\$312,000
Budgeted maintenance-hours	NA	860	1230	690
Number of employees	50	NA	270	630

Using the step-down method, what amount of Maintenance Department cost will be allocated to Department B if the service department with the highest percentage of interdepartmental support service is allocated first? (Do not round any intermediary calculations.)

- A) \$31,079
- B) \$79,424
- C) \$49,640
- D) \$88,489

Answer: B

Explanation: Maintenance provides the greatest amount of service to support departments, so it is allocated first. Dept B: $690 / (860 + 1230 + 690) \times \$320,000 = \$79,424$

- 2) Hanung Corp has two service departments, Maintenance and Personnel. Maintenance Department costs of \$350,000 are allocated on the basis of budgeted maintenance-hours. Personnel Department costs of \$110,000 are allocated based on the number of employees. The costs of operating departments A and B are \$184,000 and \$276,000, respectively. Data on budgeted maintenance-hours and number of employees are as follows:

	Support Departments		Production Departments	
	Maintenance Department	Personnel Department	A	B
Budgeted costs	\$350,000	\$110,000	\$184,000	\$276,000
Budgeted maintenance-hours	NA	840	1230	630
Number of employees	55	NA	290	650

Using the step-down method, what amount of Maintenance Department cost will be allocated to Department A if the service department with the highest percentage of interdepartmental support service is allocated first? (Do not round any intermediary calculations.)

- A) \$231,452
- B) \$121,677
- C) \$50,111
- D) \$159,444

Answer: D

Explanation: Maintenance provides the greatest amount of service to support departments, so it is allocated first.

$$\text{Dept A: } 1230 / (840 + 1230 + 630) \times \$350,000 = \$159,444$$

- 3) Goldfarb's Book and Music Store has two service departments, Warehouse and Data Center. Warehouse Department costs of \$320,000 are allocated on the basis of budgeted warehouse-hours. Data Center Department costs of \$180,000 are allocated based on the number of computer log-on hours. The costs of operating departments Music and Books are \$125,000 and \$150,000, respectively. Data on budgeted warehouse-hours and number of computer log-on hours are as follows:

	Support Departments		Production Departments	
	Warehouse Department	Data Center Department	Music	Books
<i>Budgeted costs</i>	\$320,000	\$180,000	\$125,000	\$150,000
<i>Budgeted warehouse-hours</i>	NA	570	1080	1530
<i>Number of computer hours</i>	290	NA	850	1000

Using the step-down method, what amount of Data Center Department cost will be allocated to the Warehouse Department if the service department with the highest percentage of interdepartmental support service is allocated first? (Round up)

- A) \$62,182
- B) \$180,000
- C) \$24,393
- D) \$0

Answer: D

Explanation: Warehouse provided to Data Center: $570 / (570 + 1080 + 1530) = 0.179$

Data Center provided to Warehouse: $290 / (290 + 850 + 1000) = 0.136$

Warehouse provides the greatest amount of service to support departments, so it is allocated first.

Therefore, there will be no cost from the Data Center allocated to the Warehouse department.

- 4) Goldfarb's Book and Music Store has two service departments, Warehouse and Data Center. Warehouse Department costs of \$310,000 are allocated on the basis of budgeted warehouse-hours. Data Center Department costs of \$100,000 are allocated based on the number of computer log-on hours. The costs of operating departments Music and Books are \$102,500 and \$123,000, respectively. Data on budgeted warehouse-hours and number of computer log-on hours are as follows:

	Support Departments		Production Departments	
	Warehouse Department	Data Center Department	Music	Books
<i>Budgeted costs</i>	\$310,000	\$100,000	\$102,500	\$123,000
<i>Budgeted warehouse-hours</i>	NA	520	1080	1590
<i>Number of computer hours</i>	270	NA	900	1020

Using the step-down method, what amount of Warehouse Department cost will be allocated to Department Music if the service department with the highest percentage of interdepartmental support service is allocated first? (Do not round any intermediary calculations.)

- A) \$33,856
 B) \$104,953
 C) \$125,393
 D) \$34,702

Answer: B

Explanation: Warehouse provided to Data Center: $520 / (520 + 1080 + 1590) = 0.163$

Data Center provided to Warehouse: $270 / (270 + 900 + 1020) = 0.123$

Warehouse provides the greatest amount of service to support departments, so it is allocated first.

Dept Music: $1080 / (520 + 1080 + 1590) \times \$310,000 = \$104,953$

- 5) Goldfarb's Book and Music Store has two service departments, Warehouse and Data Center. Warehouse Department costs of \$370,000 are allocated on the basis of budgeted warehouse-hours. Data Center Department costs of \$200,000 are allocated based on the number of computer log-on hours. The costs of operating departments Music and Books are \$142,500 and \$171,000, respectively. Data on budgeted warehouse-hours and number of computer log-on hours are as follows:

	Support Departments		Production Departments	
	Warehouse Department	Data Center Department	Music	Books
<i>Budgeted costs</i>	\$370,000	\$200,000	\$142,500	\$171,000
<i>Budgeted warehouse-hours</i>	NA	590	1000	1600
<i>Number of computer hours</i>	250	NA	860	1010

Using the step-down method, what amount of Data Center Department cost will be allocated to Department Music if the service department with the highest percentage of interdepartmental support service is allocated first? (Round intermediary calculations to three decimal places.)

A) \$144,992

B) \$91,979

C) \$123,487

D) \$108,021

Answer: C

Explanation: Warehouse provided to Data Center: $590 / (590 + 1000 + 1600) = 0.185$

Data Center provided to Warehouse: $250 / (250 + 860 + 1010) = 0.118$

Warehouse provides the greatest amount of service to support departments, so it is allocated first.

Data Center gets costs from Warehouse = $0.185 \times (\$370,000) = \$68,450$

Data Center total costs are now = $\$200,000 + \$68,450 = \$268,450$

Allocation of Data Center to Music = $(860 / (860 + 1010)) \times \$268,450 = \$123,487$