Universidad
Rey Juan Carlos
Servicio de Publicaciones

COST ACCOUNTING EXERCISES

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ISBN: 978-84-697-0402-8

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Cost Classification Exercise:

SWEETHOME is a 50 room's hotel with restaurant, gymnasium and spa facilities. Below are listed various costs that have been found in this hotel. For each of the costs listed below, indicate (by placing an X in the appropriate column) whether it would typically be treated as a direct cost or an indirect cost with respect to the specified cost object. Also classify each cost as being either variable or fixed with respect to the number of rooms sold. Justify your answers.

Cost concept	*Costing object*	**Direct**	**Indirect**	**Fixed**	**Variable**
1. Room's bar drinks	A particular guest	X			
2. Chef's salary	Hotel's restaurant				
3. Chef's salary	A particular guest				
4. Cleaning supplies	A hotel's room				
5. Cleaning supplies	Housecleaning department				
6. Doorman's salary	A particular guest				
7. Flowers to decorate reception area	A particular guest				
8.Fire insurance on the hotel building	Hotel's restaurant				
9.Towels used in the gymnasium	Hotel's Gymnasium				

Inventory valuation methods:

1. Consider the following information in relation to the "Martí" wine beginning inventory and the amount of bottles of wine purchased during November 2010.

Date	Transaction	Number of bottles	Purchasing price
November 1	Beginning inventory	5	€ 9 each bottle
November 2	Purchase	15	€ 11 each bottle
November 10	Purchase	12	€ 11.50 each bottle

This company adopted the *periodic method of inventory control*. At the end of November the company conducted a physical count to determine the ending inventory and the cost of goods sold which shows that 7 bottles of wine were left.
Determine the value of the ending inventory and cost of sales for Marti wine for November using the following:

- First-in, first-out method.
- Weighted average method.

2. Peter's Steak House has provided the following cost information in relation to the food inventory for September. Calculate the cost of food consumed and the food cost of sales for September.

Food beginning inventory (September 1)	€ 3,200
Food ending inventory (September 30)	€ 3,500
Food purchases (during September)	€ 10,500
Employee meals cost	€ 500
Promotional meals cost	€ 450

3. The Ganges Restaurant has adopted a *perpetual inventory system*[1] to account for their wines and the following information showing the receipt and sale of inventory has been taken from the inventory record.
Calculate the value of the ending inventory and the cost of sales at the end of the period for the FIFO and weighted average valuation methods.

Date	Purchases	Sales	Purchasing price (in €)		
May 1	20 units in the Beginning balance		8		
May 3	30 units		9		
May 9		12 units			
May 12		15 units			
May 17	30 units		9.25		
May 24		18 units			
May 26	15 units		9.5		
May 31		25 units			

[1] Remember the perpetual inventory method requires continuous updating, showing the receipt and sale of inventory as it occurs; and allows for the maintenance of a daily running balance of inventory available.

Responsibility centres

Tower, Ltd. manufactures two products in two production departments, a machine shop and a fitting section. It also has a service department, a machine maintenance section. Shown below are next year's budgeted production data and prime costs for the company.

	Product X	Product Y
Production	2000 units	4000 units
Prime costs:		
• Direct materials	11 €/unit	14 €/unit
• Direct labour	6 €/unit in the machine shop 12 €/unit in the fitting section	4 €/unit in the machine shop 3 €/unit in the fitting section
Machine hours needed per unit in the machine shop	4 machine/hours per unit	2 machine/hour per unit

Budgeted overhead costs as well as additional information in relation with the company are presented as follows:

Budgeted costs	**Machine shop**	**Fitting section**	**Mach. Maintenance section**	**Total**
Allocated overheads	25750	20250	18000	64000
Rent, heat and light				16000
Depreciation and insurance				20000
Additional data:				
Book value of equipment (€)	100000	40000	20000	160000
Number of employees	14	10	6	30
Area occupied (squared metres)	400	300	100	800

It has been estimated that approximately 70% of the machine maintenance section's costs are incurred servicing the machine shop and the remainder incurred servicing the fitting section. This company uses a machine hour rate for the *machine shop* and a rate expressed as a percentage of direct wages for the *fitting section.*

Required:

a) Assigning all manufacturing overheads to cost centres and reallocate costs from service cost centres to production costs centres if necessary.
b) Calculate budgeted overhead absorption rates for the two main centres.
c) Calculate the budgeted manufacturing cost per unit of product X.

The Duque Hotel is located in county Wicklow. It offers relaxing hotel accommodation at 30 charming rooms. It also has a snack bar where guests can enjoy a snack and a drink.
This hotel has two revenue generating centres: *rooms* and *bar*. It also has three more cost centres: *laundry and cleaning*, *maintenance* and *general administration*. The following schedule provides information about some March expenses.

(Table 1)

Energy expenses	1.000,00
Water expenses	600,00
Equipment depreciation	5.000,00
Heating	1.260,00
Indirect materials	500,00
Payroll costs	25.600,00
Insurance	315,00
Phone expenses	300,00

The hotel's accountant has provided the following information in order for you to allocate indirect costs into the centres:

	Rooms	*Bar*	*Laundry and Cleaning*	*Maintenance*	*General Administration*
Number of employees (*)	3	4	4	1	2
Area occupied (m2)	550,00	40,00	15,00	10,00	15,00
Water consumption	50%	30%	20%	no hay medición	no hay medición
Book value of equipment	420.000,00	120.000,00	36.000,00	12.000,00	12.000,00
Phone	50%	30%	Not available	Not available	20,00%
Energy consumption (kw/h)	1.000,00	300,00	300,00	Not available	Not available
Indirect materials	30,00%	30,00%	31,00%	9,00%	

(*) All employees are paid equally except two of them, rooms' and administration' manages who are paid double than the rest.
The laundry & cleaning centre is in charge of cleaning facilities and doing the rooms and bar laundry. Its costs will be allocated to the others centres according to the services provided, measured in terms of working hours. During last month the laundry centre provided 250 working hours to the rooms centre, 120 working hours to the bar and 30 working hours to the general administration centre.
A 70% of the maintenance centre work was provided to repair rooms' facilities and the bar was benefiting from the rest of its work.
REQUIRED:

- Allocate indirect costs into cost centres.
- Reallocate costs from service into main cost centres.

The Guitar Hotel has three selling departments: rooms, restaurant and bar. The accountant has decided to allocate some indirect operating expenses according to the following manner:

Indirect expenses	***Allocation basis***	***Total expense (€)***
Rent	Floor space	90.000,00
Advertising	Sales in €	20.000,00
Depreciation	Net book value of assets	45.000,00
Personnel Department	Salaries and wages	100.000,00

The hotel's accountant has collected the following information in order for you to allocate indirect costs into the centres.

	Rooms	*Restaurants*	*Bar*
Number of employees	8	4	2
Floor space(m2)	350	100	50
Net book value of assets	450.000,00	100.000,00	50.000,00
Salaries and wages	250.000,00	210.000,00	40.000,00
Sales	575.000,00	125.000,00	50.000,00

The accountant also knows that the 20% of the advertising expenditure was found to be specific to the restaurant activities. The hotel has the following food & beverage cost information:
Food inventory, beginning balance: €27.820
Food inventory, ending balance: €26.120
Food purchases: €98.070
Promotional meals cost: €2.190
Food & beverage costs will be allocated between the bar and restaurants centre according with the level of sales.

REQUIRED:

- Allocate indirect costs into cost centres according to the allocation bases proposed by the accountants.
- Calculate the cost of the food sold by the three different centres.

The Petit Hotel is a small hotel located in Toledo. It has 50 double rooms and its occupancy level is about 90%. Its success comes from its good value for money and the top attractions that Toledo offers as a city, which include the city's magnificent cathedral, the Alcázar, and the Greco's famous paintings tourists and visitors can enjoy, just as an example. The hotel is situated in the very city centre and near the main tourist attractions.

This hotel provides accommodation and optional breakfast buffet, but the restaurant is closed during the rest of the day as Toledo is plenty of bars and restaurants that tourists enjoy to visit as an additional attraction. The hotel also provides a parking service for guests. The parking has 40 parking spaces to rent which is always full.

Therefore, this hotel has three revenue generating centres: rooms, breakfast and parking; as well as two more costs centres, such as the cleaning and administration centres. The following schedule provides information about some April expenses.

(Table 1)

Energy expenses	1.200
Heating	600
Indirect materials expenses	1.500
Salaries and wages	15.000
Employee benefits	4.200
Insurance of equipment	330
Phone expenses	200
Cleaning supplies (begining balance)	50
Purchases of cleaning supplies	400
Laundry expenses	2.400
Rent (building)	5.000
Depreciation of equipment	825

The hotel's accountant has provided the following information in order for you to allocate indirect costs into the centres.

	Rooms	*Breakfast*	*Parking*	*Cleaning Centre*	*General Administration*
Number of employees	4	4 part-time	2	2	2
Area occupied (m2)	720	120	300	30	30
Cleaning working hours	190	100	20	-	10
Book value of equipment	39.600	50.400	3.000	3.000	3.000
Phone	70%	-	-	-	30%
Indirect materials	40%	50%			10%

- ✓ All assets are depreciated at 10% per year and are allocated into centres according to the book value of equipment.
- ✓ Energy expenses are allocated on the relative area occupied in squared metres for each centre.
- ✓ In April 1st the hotel paid the estimated second quarter laundry expenses which are shared by the rooms and breakfast's centres according to the following proportion: 75% relates to the rooms centre and the remainder relates to the breakfast centre.
- ✓ The cleaning supplies ending balance amounts € 200.

- ✓ The cleaning centre costs are to be allocated to centres based on the relative working hours on each centre.
- ✓ The rooms centre activity is measured in terms of rooms sold and the breakfast center activity is measured according with the number of breakfasts served to clients. In relation with the parking centre activity, it is measured as the number of parking spaces daily occupied.
- ✓ Food and beverage costs are directly traceable to the breakfast centre. The hotel operates a perpetual inventory system with respect to food and beverage inventory. The hotel's accountant has the following information:
    - Food & Beverage beginning balance: 50 units at a 50 €/unit
    - Purchases: According to the supplier invoice the hotel bought 400 units at a 45 €/unit. The supplier granted a 5% discount because of a high volume purchase.
    - Freight costs invoiced by transport company amounts € 720.
    - The food and beverage consumption for the period raises up to 375 units. The inventory valuation method used is the FIFO (first in, first out).
- ✓ Sales details:
    - The room rate for April amounts € 50 per double room. Consider 30 days.
    - 900 breakfasts were served to the guests. Guests are charged at 12 €/breakfast.
    - Parking sales revenues amounts € 24.000 as the hotel charges 20€ per day.

REQUIRED:

- Allocate indirect costs into responsibility centres.
- Reallocate costs from service into main centres.
- Determine the cost of food & beverage sold.
- Calculate the costs of the three services provided by the hotel.
- Prepared the income statement to show the departmental income generated by each of the three revenue generating centres and the total net operating income.

Restness, Ltd. is a small hotel situated in the suburbs of Salamanca. It has 80 rooms and its occupancy rate is about 75%. Its big attractiveness consists in having a stress relief program and wellness which combines a spa, a restaurant which is specially dedicated to healthy food and dietetics, as well as a relaxing zen decoration. Besides, it is unquestionable that Salamanca offers great possibilities for tourists and it is attractive by itself.

Therefore, the hotel provides the following services: accommodation and breakfast services and catering and spa services. These last two mentioned are required mainly by the guests' hotel although other clients come to spend a relaxing day in the spa and have lunch at the restaurant.

Along with the operating centres (rooms, restaurant and spa), the hotel's management system is made up of some others cost centres: reception, cleaning, kitchen and an administrative centre.
Costs are calculated monthly and on January 31st the following information has been taken from the trial balance.

Office supplies (Bg. balance)	500
Utilities	1.840
Food & Beverage (Bg. balance)	13.000
Purchases of Food & Beverage	75.000
Sarlaries and wages	16.471
Employee benefits	4.430
Buildings	1.008.000
Equipment - Vehicles	48.000
Equipment - Furniture	192.000
Equipment - Computers	6.000
Laundry expenses	2.760
Repairs and maintenance expenses	190
Insurances expenses	300
Other expenses	750
Cleaning supplies (Bg. balance)	350
Purchases of pool's chemical supplies	250
Amenities (Bg. balance)	300
Purchases of amenities	1.200
Phone expenses	400

Additional information to allocate costs into the responsibility centres:

1. The consumption of office supplies reaches €100 and will be bet by the reception and administrative centres.
2. All assets are depreciable at 10% per year (to simplify calculations, residual value equals to 0). As for buildings, €300.000 out of the full amount in table 1 is the cost of the building where the spa and the wellness activities are provided by the hotel.
3. The hotel owns two vehicles. One of them is used by the general manager and the other one is used to transport the guests when needed.
4. Computers are shared equally by the reception and administrative centres.
5. On January 2nd the hotel paid €2.760 for laundry services. This was an advance payment for services to be rendered in the following three months. On January 31st a third part of this service has been provided.

6. Half of phone expenses will be assumed by the reception centre. The remaining half will be shared out equally between the rooms and administration centres.
7. The cleaning supplies ending balance amounts €240 on January 31st.
8. The consumption of products to treat the spa's pool reaches €109.
9. The amenities ending balance (rooms and spa) raises up to 300€.
10. In "Other expenses", the flower arrangement expenses have been journalized and will be split by the hotel's reception and restaurant.
11. The reception centre is in charge of attending guests which lodge in the hotel and it is considered a main centre. Its activity will be measured by the number of stays. During January a total of 1.240 stays[2] have been realised by guests.
12. The kitchen is responsible for the breakfasts served to guests as well as for the meals served in the restaurant, and its activity will be measured according with the employees working hours. A total of 840 working hours have been worked for this period. A 20% of the work done in the kitchen corresponds to breakfasts while the remaining 80% correspond to the meals prepared for the restaurant.
13. The cleaning centre costs should be allocated based on the relative working hours made for each department. During January 400 hours were worked for the following: 30 for reception, 45 for the kitchen, 160 for the rooms, 80 for the restaurant, 65 for the spa and the rest for the administration centre.
14. Food and beverages are considered direct materials and are consumed in the rooms, the restaurant and in the kitchen. The beginning inventory is made up of 500 units. During January, 5.000 units have been purchased and 4.800 units were consumed. Out of the total consumption, 800 units correspond to the rooms, 1.000 units to the restaurant and 3.000 units to the kitchen. The inventory valuation method used is the WAC (weighted average cost).

<u>Information on sales:</u>

Restaurant sales revenue was €90.000. The restaurant attended 3.000 customers. 2.000 spa services were sold, having a selling price of 25 euros each. Room sales revenue during the month was 93.000€.

REQUIRED:

1. Prepare the company's overhead sheet for the period detailing the two stage allocation process. Use the table provided below.
2. Calculate overhead rates for each centre (except the administration centre).
3. Prepare a food & beverage inventory indicating the closing stock as well as the cost of food & beverage traced to the rooms, the restaurant and to the kitchen.
4. Calculate the total cost of the three different services provided by Restness.
5. Prepared the income statement to show the total net operating income and the net income generated by each of the revenue generating centres.

[2] A stay is defined as each time a room is booked, as independently of the length, it will require a chek-in and a chek-out process by the reception centre.

Restness Overhead allocation sheet

Concepto	Total	Reception	Cleaning	Kitchen	Rooms	Restaurant	Spa & wellness	Administrative
Office supplies		50						
Utilities		¿?	50	300	700	190	400	50
Labour costs		2220	3930	4515	3000	2236	1800	¿?
Building depreciation		900	300	600	3000	900	¿?	¿?
Vehicles depreciation								
Furniture deprecation		5%			60%	20%	10%	5%
Computer depreciation								
Laundry services					50%	20%	30%	
Repair and maintenance				40	100		50	
Insurance expenses		10	10	30	80	90	70	¿?
Amenities					2/3		1/3	
Other expenses								
(...)								

Veciana Campsite, Ltd. is located in Gredos' mountains in a beautiful natural area. Most of its guests choose this campsite because of its attractiveness and the many activities and leisure options that can be found in the surrounding areas. This campsite offers accommodation service in 120 m2 pitches, provided with water, drainage and electric hook up (6 amp). There are 15 of these 120 m2 pitches which can accommodate up to 10 people daily. There are also 2 bigger pitches (around 300 m2) which are usually booked by groups.

Therefore, this hotel has two revenue generating centers: accommodation and bar; as well as two more costs centers, such as the kitchen, and the cleaning and maintenance centre. There is also a general administration center which works for the company as a whole. The following schedule provides information about some July expenses.

July expenses are provided in the table below:

Office supplies (Begin. balance)	300
Utilities expenses	3.093,50
Food and Beverage (Begin. balance, 600 Units.)	3.000
Purchases of Food and Beverage (7.000 units)	43.260
Salaries and wages	11.690
Employee benefits	3.200
Public concessions	384.000
Buildings	144.000
Transport equipment	42.000
Furniture equipment	10.800
Laundry expenses	600
Maintenance expenses	110
Insurance expenses	600
Depreciation of public concessions	1.600
Building depreciation	600
Furniture depreciation	720
Cleaning supplies (Begin. balance)	500
Purchases of amenities	2.000
Phone expenses	200

- Office supplies ending balance amounts € 220.
- The company has a 20 years concession to operate this campsite on a public area. The depreciation of this concession will be allocated to the accommodation center.
- The company owns two vehicles to be used by employees. The depreciation is calculated under the straight-line method, considering a 5 years useful life. Assume there is no residual value.
- Insurance expenses were registered for the third quarter of the year.
- Cleaning supplies' consumption amounts € 200.
- Amenities supplies ending balance amounts € 1.700.
- The kitchen centre works on the menus that will be sold in the bar. A thousand and eight hundred hours have been worked in the kitchen during July.

- Food and beverage (F&B) are considered as direct materials under this' campsite cost system. Value added tax (VAT), not registered yet, amounts in average an 18%. The company got a 3% discount from the supplier.
- During the period, 6.000 food and beverage units were consumed. A 70% of total consumption corresponds with food and beverage needed in the kitchen to prepare the menus, while the 30% left corresponds with materials consumed in the bar without being processed in the kitchen. The company follows the first in-first out method to determine the value of inventory.
- During July, 360 hours have been worked in the cleaning and maintenance centre with the following detail: 60 hours in the kitchen, 60 hours in the bar, 220 hours to have rooms ready and 20 hours in the general administration centre.

Information about sales:

Daily renting prices depend on the size of the pitch, but in all cases; a car, a tent and the electric hook up is included. Ordinary pitches cost € 20 per night and the 300 m2 pitches cost € 40 per night. Additionally, each person will be charged € 6.50 per night.
The 17 pitches occupancy rate was a 100%, that is, all of them were rented during July. Revenues coming from people staying in the campsite amount € 30.628, which is an 80%.
The bar provided 6.000 breakfasts and menu services what generate income that amounts € 24.000.
REQUIRED: Using the information provided in the following page, you are required to:

- Allocate indirect costs into responsibility centers using information from the table provided.
- Reallocate costs from service into main centres.
- Prepare the food & beverage inventory and determine consumption.
- Calculate the total and per unit costs of the three services provided by the hotel.
- Prepared the income statement to show the departmental income generated by each of the revenue generating centers and the total net operating income.

Veciana Campsite overhead allocation sheet

	Cleaning and maintenance	Kitchen	Bar	Accomodation	General administration	Total
Utilities	437,50	300,00	526,00	1.800,00	Resto	
Office supplies				25%	75%	
M.O.I.	3.000,00	3.600,00	3.000,00	2.090,00	3.200,00	
Building deprecitaion	112,50	112,50	150,00	150,00	75,00	
Car depreciation	2/7		1/7	2/7	2/7	
Furniture depreciation			560,00	80,00	80,00	
Concessions amortization						
Laundry		20%	80%			
Maintenance espenses		40,00	70,00			
Insurance	5%	25%	40%	25%	5%	
Phone expenses			50,00		50,00	
Amenities			50%	50%		

Process costing:

The STRAWBERRY COMPANY, Ltd produces fresh local fruit jam that is sold in ¼ kgs jars. This production is made through two processing departments: the mixing department and the bottling department. This company uses predetermined absorption rates to allocate overhead costs into products.

Two production cost centres corresponding with the two stages of the production process have been created (the *mixing centre* and the *bottling centre*) as well as two service cost centres: a *materials procurement centre* and a *quality control centre* which works for the mixing centre as it supervises the jam prepared in the mixing centre to make sure it accomplishes the quality standard and is ready to be bottled.

The monthly budgeted overhead costs for The Strawberry Company are as follows (€):

	Budgeted Overhead	Mixing centre	Bottling centre	Materials procurement centre	Quality control centre
Indirect wages	3400				
Indirect materials	1025	600	200	75	150
Depreciation and insurance of machinery	2400				
Rent and rates	450				
Heating and lighting	300				

The following information is also available to apportion indirect costs into cost centres:

	Total	Mixing	Bottling	Materials procurement	Quality Control
Book value of machinery	120000	42000	60000	0	18000
Area occupied	600	200	200	100	100
Nº of employees	17	5	6	3	3
Machine hours	1800	800	1000		
Nº of materials issues	50	20	25		5

This company uses predetermined overhead absorption rates for the two production centres. Both centres use a machine hour rate as both of them are highly automated. In this period, actual machine hours amount 700 for the mixing centre and 1100 for the bottling centre.

Actual overheads incurred for the period (March) amount 3900 € for the mixing centre and 3450 € for the bottling centre.

Direct materials are consumed in both production processes. Fresh fruit is consumed in the mixing production process and jars, where the jam is bottled, are consumed in the bottling production process. This company values stock using the FIFO method. The following receipts and issues have been made during the period.

Fruit	Kilograms.	€/kg
Beginning inventory	-	
Receipts	1000	1
Ending	0	

Jars	Units	€/unit
Beginning inventory	1000	0.3
Receipts	5000	0.35

Ending	¿?	

Fresh fruit is mixed and cooked with sugar and water, considered both indirect materials, in the mixing process. This is why although 1000 kgs of fruit were consumed in the mixing process, 1050 kgs of jam were obtained at the end of the period. When the jam is ready to be bottled is immediately transferred to the bottling process where jars are filled with jam and then transferred to the finished goods stock, ready to be sold. Jars contain ¼ kg. of jam. The following report relates to the mixing process for the period:

Mixing process	*kilograms*
Jam in process, March 1st	0 kgs
Fruit started into production during March	1000 kgs
Units transferred out	1050 kgs
Units in process, March 31st	0 kgs

Jam Jars	Units	€/unit
Beginning inventory	500	2.5
Production	¿?	
Ending	¿?	

Required:

- Prepare the company's overhead analysis sheet for the period.
- Calculate overhead absorption rates for the two production cost centres.
- Calculate the amount of overhead under- or over-absorbed for the <u>two production centres.</u>
- Under the weighted average method, calculate the per kilogram cost of production of jam and the per jam jar cost of production.
- Considering that 4.000 units were sold at 4€ per unit and that selling and administrative costs amount 2.000€, prepare an income statement for the period.

SANCA, Ltd. is a manufacturing company that manufactures special leather shoes through two processing departments prior to completion: Cutting centre and Fitting centre. This company uses process costing to value its output, and predetermined absorption rates to allocate overhead costs into products. Two production cost centres corresponding with the two stages of the production process have been created as well as to service cost centres: Materials Procurement centre and Quality Control centre.

The monthly budgeted overhead costs for SANCA are as follows (€):

	Budgeted Overhead	Cutting centre	Fitting centre	Materials procurement centre	Quality control centre
Indirect wages	6300	2500	1500	1300	1000
Indirect materials	2857	557	1200	305	795
Depreciation and insurance of machinery	1600				
Rent and rates	1800				
Heating and lighting	400				
Insurance of buildings	200				

The following information is also available to apportion indirect costs into cost centres:

	Total	Cutting	Fitting	Mater procur	Quality Control
Book value of machinery	10000	3800	2200	2000	2000
Area occupied	500	100	175	150	75
Nº of employees	40	10	20	5	5
Direc labor hours	1320	320	1000		
Machine hours	2000	1600	400		
Nº of materials issues	115	40	60		15
Nº of tests	60	25	35		

Quality control is vital for this company- This is why SANCA decided to create a quality control centre which tests the quality of output obtained in production cost centres. Quality control costs will be allocated according to the amount of quality tests done.

This company uses predetermined overhead absorption rates for the two production centres: a machine hour rate for the cutting centre, as it is highly automated; and a direct labour hour rate for the fitting centre. In this period, actual machine hours amount 1650 for the cutting centre and 375 for the fitting centre. Actual direct labour hours amount 320 for the cutting centre and 1050 for the fitting centre.

Actual overheads incurred for the period (March) amount 6.400 € for the cutting centre and 7.400 € for the fitting centre.

Direct raw materials are consumed in the cutting process. This company values stock using the FIFO method. The following receipts and issues have been made during the period.

	Units	Cost/unit
Beginning inventory	300	10
Receipts	2000	12
Ending	300	

Completed units of the cutting process are transferred to the fitting process, and completed units of the fitting process are transferred to the finished goods stock. The following report relates to the cutting process for the period (March):

Cutting process	*Units*
Units in process, March 1st	200 units
Units started into production during March	2000 units
Units transferred out	1800
Units in process, March 31st	units??? (materials 100% and conversion costs 60%)

The work in process beginning inventory in the cutting process consists of the following costs: materials, 1900 €; conversion costs, 705 €.

Required:

- Prepare the company's overhead analysis sheet for the period.
- Calculate overhead absorption rates for the two production cost centres.
- Calculate the amount of overhead under- or over-absorbed for the two production centres.
- Calculate the cost of production per unit in the cutting process under the weighted average method and value: the ending work in process in the cutting centre and the units transferred to the fitting process.

KEEP FIT, S.A. is a beverage maker company which manufactures a special drink for sport practitioners. To make this product the company buys syrup from another firm and then it is mixed in the mixing process with some others components, which are considered indirect materials. Once the drink is made is immediately bottled in the Bottling Department, so it will keep the specific characteristics that make it so appreciated by sport practitioners. The completed production of the Bottling process is transferred to finished goods stock. Apart from these two production departments there are two service departments: a Materials Procurement and a Quality Control Department.

The monthly budgeted overhead costs for this company are as follows (€):

	Budgeted overhead	Mixing Centre	Bottling Centre	Materials Procurem.	Quality Control Depart.
Indirect materials		500			
Indirect wages	13380	2000	4760	3000	3620
Lighting and heating	6460				
Property taxes	1900				
Depreciation of machinery	18000				
Insurance of machinery	3240				
Rent	12920				

The following information is also available:

	Total	Mixing Centre	Bottling Centre	Materials Procurem.	Quality Control Depart.
Book value of machinery	180000	40000	60000	50000	30000
Area occupied (sq. metres)	19000	4000	5000	7500	2500
Number of employees	82	15	35	20	12
Machine hours (budgeted)		10000	17500		
Number of tests		20	35		
Number of materials issues (number of materials requisitions)		40	40		20

The Materials Procurement centre provides materials to others cost centres and its cost will be assigned according to the number of materials requisitions (number of issues). The Quality Control Department`s costs will be assigned to other centres according to the number of tests done during the production process.

This company uses predetermined overhead absorption rates for the two production departments, based on machine hours. The actual machine hours worked in each department were:

- Mixing Department: 9.000 machine hours.
- Bottling Department: 16.000 machine hours.

This company values stock using the weighted average method. Raw material type 1 is consumed in the Mixing process and Raw materials type 2 is consumed in the Bottling process, as it consists of bottles to bottling the beverage. The following receipts and issues have been made with regards the two types of materials for the period.

RAW MATERIAL 1	uds	cost/unit
Begining	2000	1,2
receipts	8000	2,2
ending	2000	

RAW MAT 2	uds	cost/unit
Begining	3.000	0,33
receipts	15.000	0,33
ending	1.000	

The completed units of the Mixing process are immediately transferred to the Bottling process. Information on work in the two departments is given below for the period (December):

Mixing process:	Units
Units in process, December 1	2.000 units
Units started into production during December	16.000 units
Units transferred out	17.000 units
Units in process, December 31	1.000 units (materials 100%, conversion costs 50%)
Bottling process:	
Units in process, December 1	0 units
Units transferred out	17.000 units
Units in process, December 31	0 units

The beginning work in process inventory in the mixing process consisted of the following costs: materials, €2.000 and overhead, €1.600. There are not any direct labour costs.
Selling expenses amount €65.000, and administrative expenses amount €15.000.

Required:

1. Prepare the company's overhead analysis sheet for the period.
2. Calculate appropriate overhead absorption rates for each department.
3. Calculate the unit costs of production using the weighted average method and value: the ending WIP, the units transferred to the bottling process and the units transferred to the finished goods inventory.
4. Considering that 10.000 units were sold at €15 per unit and that there are not any units in the beginning finished goods inventory, prepare the income statement.