

REVIEW PROBLEM 3.3

The company PAIRS has two service cost centres (Energy and Maintenance) and two production cost centres (Centres A and B).

The annual overhead costs are as follows:

- Indirect labour costs (IL): €3,550,000.
- Depreciation of machinery (DM): €2,480,500.
- Lighting and heating (LH): €1,000,000.
- Depreciation of buildings (DB): €3,000,000.

Although indirect labour and depreciation of machinery cannot be directly assigned to products, they can be directly assigned to cost centres (they are indirect costs when products are the cost object and direct costs when cost centres are the cost object).

The remaining costs cannot be traced directly to cost centres and must be allocated to cost centres using appropriate allocation bases: floor area occupied by each cost centre.

	ENERGY	MAINTENANCE	CENTRE A	CENTRE B	TOTAL
IL	450,000	500,000	1,400,000	1,200,000	3,550,000
DM	600,000	300,500	650,000	930,000	2,480,500
LH y DB	10%	15%	35%	40%	100%

We shall assume that:

- Energy consumption (kilowatts) provides a suitable approximation of the services provided by Energy.
- Maintenance hours provide a suitable approximation of the services provided by Maintenance.

	ENERGY	MAINTENANCE	CENTRE A	CENTRE B	TOTAL
ENERGY	5,000 Kw	2,000 Kw	10,000 Kw	15,000 Kw	32,000 Kw
MAINTENANCE	400 MH	-----	-----	600 MH	1,000 MH

We shall assume that a direct labour hour rate is used for Centre A and a machine hour rate is used for Centre B. Shown below are actual labour hours and machine hours for each product:

	CENTRE A	CENTRE B
Product 1	50,000 LH _A	10,000 MH _B
Product 2	24,000 LH _A	8,000 MH _B

	PRODUCT 1	PRODUCT 2
Actual production	10,000 units	8,000 units

Required:

- 1) Reallocate the overheads assigned to service cost centres to production cost centres, and then assign them to the various products.
- 2) If sales totalled 100% of the manufactured units, calculate gross profit and net profit at the following selling unit prices:
 - Product 1: €650 per unit.
 - Product 2: €500 per unit.