SOLUTION 3.3

1)

STEP 1: Allocating overheads to both production and service cost centres

CONCEPT	(€)	ENERGY	MAINTENANCE	CENTRE A	CENTRE B
IL	3,550,000	450,000	500,000	1,400,000	1,200,000
DM	2,480,500	600,000	300,500	650,000	930,000
LH	1,000,000	10%	15%	35%	40%
DB	3,000,000	10%	15%	35%	40%
TOTAL	**10,030,500**				

CONCEPT	(€)	ENERGY	MAINTENANCE	CENTRE A	CENTRE B
IL	3,550,000	450,000	500,000	1,400,000	1,200,000
DM	2,480,500	600,000	300,500	650,000	930,000
LH	1,000,000	100,000	150,000	350,000	400,000
DB	3,000,000	300,000	450,000	1,050,000	1,200,000
TOTAL	**10,030,500**	**1,450,000**	**1,400,500**	**3,450,000**	**3,730,000**

STEP 2: Reallocating overheads from service cost centres to production cost centres

		ENERGY	MAINTENANCE	CENTRE A	CENTRE B
OVERHEADS BEFORE REALLOCATION	10,030,500	1,450,000	1,400,500	3,450,000	3,730,000
ENERGY	Kw	5,000	2,000	10,000	15,000
MAINTENANCE	MH	400		------	600

Energy: 1,450,000 + 5,000 Kw + 400 MH = 32,000 Kw
Maintenance: 1,400,500 + 2,000 Kw = 1,000 MH

Kw = 76.72519084

MH = 1,553.950382

	TOTAL	ENERGY	MAINTENANCE	CENTRE A	CENTRE B
OVERHEADS BEFORE REALLOCATION	10,030,500	1,450,000	1,400,500	3,450,000	3,730,000
Reallocation:					
ENERGY		-2,071,580.15	153,450.38	767,251.91	1,150,877.86
MAINTENANCE		621,580.15	-1,553,950.38		932,370.23
TOTAL OVERHEADS	**10,030,500**	**0,00**	**0,00**	**4,217,251.91**	**5,813,248.09**

STEP 3: Computing overhead rates for production cost centres

	TOTAL	ENERGY	MAINTENANCE	CENTRE A	CENTRE B
TOTAL OVERHEADS	**10,030,500**	**0,00**	**0,00**	**4,217,251.91**	**5,813,248.09**
Product A				50,000 LHA	10,000 MHB
Product B				24,000 LHA	8,000 MHB
Centre A (labour hours)				**74,000 LHA**	
Centre B (machine hours)					**18,000 MHB**
Cost per labour hour (Centre A)				€56.99 per LHA	
Cost per machine hour (Centre B)					€322.96 per MHB

STEP 4: Assigning overheads to products

	PRODUCT 1	**PRODUCT 2**
Actual production	10,000 units	8,000 units
LH_A per unit	5	3
MH_B per unit	1	1
Cost per unit	€607.91 per unit	€493.93 per unit

2) Gross profit: 10,000 (650 – 607.91) + 8,000 (500 – 493.93) = €469,500
Net profit: €469,500