F2 - LECTURE EXAMPLE 7

Duff Co manufactures three products, X, Y and Z. demand for products X and Y is relatively elastic whilst demand for product Z is relatively inelastic. Each product uses the same materials and the same type of direct labour but in different quantities. For many years, the company has been using full absorption costing and absorbing overheads on the basis of direct labour hours. Selling prices are then determined using cost plus pricing.

This is common within this industry, with most competitors applying a standard mark-up.

Budgeted production and sales volumes for X, Y and Z for the next year are 20,000 units, 16,000 units and 22,000 units respectively.

The budgeted direct costs of the three products are shown below:

Product	**X**	**Y**	**Z**
	$ per unit	**$ per unit**	**$ per unit**
Direct materials	25	28	22
Direct labour ($12 per hour)	30	36	24

In the next year, Duff Co also expects to incur indirect production costs of $1,377,400, which are analysed as follows:

Cost pools	**$**	**Cost drivers**
Machine set up costs	280,000	Number of batches
Material ordering costs	316,000	Number of purchase orders
Machine running costs	420,000	Number of machine hours
General facility costs	361,400	Number of machine hours
	1,377,400	

The following additional data relate to each product:

product	**X**	**Y**	**Z**
Batch size (units)	500	800	400
No of purchase orders per batch	4	5	4
Machine hours per unit	1.5	1.25	1.4

Duff Co wants to boost sales revenue in order to increase profits but its capacity to do this is limited because of its use of cost plus pricing and the application of the standard mark-up. The finance director has suggested using activity based costing (ABC) instead of full absorption costing, since this will alter the cost of the products and may therefore enable a different price to be charged.

Required:

(a) Calculate the budgeted full production cost per unit of each product using Duff Co's current method of absorption costing. All workings should be to two decimal places.

(b) Calculate the budgeted full production cost per unit of each product using activity based costing. All workings should be to two decimal places.

(c) Discuss the impact on the selling prices and the sales volumes of EACH PRODUCT which a change to activity based costing would be expected to bring about.