

# Managerial accounting- cheryl montoia flashcard

[Profession](#), [Manager](#)



Cheryl Montoya picked up the phone and called her boss, Wes Chan, the vice president of marketing at Piedmont Fasteners Corporation: “ Wes, I’m not sure how to go about answering the questions that came up at the meeting with the president yesterday:’ “ What’s the problem? ” “ The president wanted to know the break-even point for each of the company’s products, but I am having trouble figuring them out:’ “ I’m sure you can handle it, Cheryl. And, by the way, I need your analysis on my desk tomorrow morning at 8: 00 sharp in time for the follow-up meeting at 9: 00. Piedmont Fasteners Corporation makes three different clothing fasteners in its manufacturing facility in North Carolina. Data concerning these products appear below: Total fixed expenses are \$400, 000 per year. All three products are sold in highly competitive markets, so the company is unable to raise its prices without losing unacceptable numbers of customers. The company has an extremely effective lean production system, so there are no beginning or ending work in process or finished goods inventories. Required: 1. What is the company’s over-all break-even point in total sales dollars? . Of the total fixed costs of \$400, 000, \$20, 000 could be avoided if the Velcro product were dropped, \$80, 000 if the Metal product were dropped, and \$60, 000 if the Nylon product were dropped. The remaining fixed costs of \$240, 000 consist of common fixed costs such as administrative salaries and rent on the factory building that could be avoided only by going out of business entirely. a. What is the break-even point in units for each product? b. If the company sells exactly the break-even quantity of each product, what will be the overall profit of the company?

Explain this result. SOLUTION: Note: This is a problem that will challenge the very best students' conceptual and analytical skills. However, working through this case will yield substantial dividends in terms of a much deeper understanding of critical management accounting concepts. 1. The overall break-even sales can be determined using the CM ratio.

	Velcro	Metal	Nylon	Total
Total Sales	\$165,000	\$300,000	\$340,000	\$805,000
Variable expenses	125,000	140,000	100,000	365,000
Contribution margin	\$40,000	\$160,000	\$240,000	440,000
Fixed expenses	400,000			
Net operating income	\$40,000			

The issue is what to do with the common fixed cost when computing the break-evens for the individual products. The correct approach is to ignore the common fixed costs. If the common fixed costs are included in the computations, the break-even points will be overstated for individual products and managers may drop products that in fact are profitable. a. The break-even points for each product can be computed using the contribution margin approach as follows:

	Velcro	Metal	Nylon
Unit selling price	\$1.65	\$1.50	\$0.85
Variable cost per unit	1.25	0.70	0.25
Unit contribution margin (a)	\$0.40	\$0.80	\$0.60
Product fixed expenses (b)	\$20,000	\$80,000	\$60,000
Unit sales to break even (b) ?	(a)50,000	100,000	100,000

b. If the company were to sell exactly the break-even quantities computed above, the company would lose \$240,000—the amount of the common fixed cost. This can be verified as follows: At this point, many students conclude that something is wrong with their answer to part (a) because a result in which the company loses money operating at the break-evens for the individual products does not seem to make sense. They also worry that managers may be lulled into a

false sense of security if they are given the break-evens computed in part (a). Total sales at the individual product break-evens is only \$317, 500 whereas the total sales at the overall break-even computed in part (1) is \$732, 000.

Many students (and managers, for that matter) attempt to resolve this apparent paradox by allocating the common fixed costs among the products prior to computing the break-evens for individual products. Any of a number of allocation bases could be used for this purpose—sales, variable expenses, product-specific fixed expenses, contribution margins, etc. We usually take a tally of how many students allocated the common fixed costs using each possible allocation base before proceeding. ) For example, the common fixed costs are allocated on the next page based on sales. Allocation of common fixed expenses on the basis of sales revenue:

	Velcro	Metal	Nylon	Total
Sales	\$165, 000	\$300, 000	\$340, 000	\$805, 000
Percentage of total sales	20.49%	37.26%	42.23%	100.0%
Allocated common fixed expense*	\$49,193	\$89,441	\$101,366	\$240,000
Product fixed expenses	20,000	80,000	60,000	160,000

Allocated common and product fixed expenses (a) \$69, 193 \$169, 441 \$161, 366 \$400, 000 Unit contribution margin (b) \$0. 40 \$0. 80 \$0. 60 “ Break-even” point in units sold (a) ? (b) 172, 983 211, 801 268, 943 \*Total common fixed expense ? percentage of total sales If the company sells 172, 983 units of the Velcro product, 211, 801 units of the Metal product, and 268, 943 units of the Nylon product, the company will indeed break even overall. However, the apparent break-evens for two of the products are higher than their normal annual sales. VelcroMetalNylon

Normal annual sales volume 100,000 200,000 400,000 “ Break-even” annual sales 172,983 211,801 268,943 “ Strategic” decision drop drop retain It would be natural for managers to interpret a break-even for a product as the level of sales below which the company would be financially better off dropping the product. Therefore, we should not be surprised if managers, based on the above erroneous break-even calculation, would decide to drop the Velcro and Metal products and concentrate on the company’s “ core competency,” which appears to be the Nylon product.

If the managers drop the Velcro and Metal products, the company would face a loss of \$60,000 computed as follows:

	Velcro	Metal	Nylon	Total
Sales	dropped	dropped	\$340,000	\$340,000
Variable expenses	100,000	100,000		
Contribution margin	\$240,000	\$240,000		
Fixed expenses*			300,000	
Net operating income	(\$ 60,000)			

\*By dropping the two products, the company reduces its fixed expenses by only \$100,000 (= \$20,000 + \$80,000).

Therefore, the total fixed expenses are \$300,000 rather than \$400,000. By dropping the two products, the company would go from making a profit of \$40,000 to suffering a loss of \$60,000.

The reason is that the two dropped products were contributing \$100,000 toward covering common fixed expenses and toward profits. This can be verified by looking at a segmented income statement like the one that will be introduced in a later chapter.

	Velcro	Metal	Nylon	Total
Sales	\$165,000	\$300,000	\$340,000	\$805,000
Variable expenses	125,000	140,000	100,000	365,000
Contribution margin	40,000	160,000	240,000	440,000
Product fixed expenses	20,000	80,000	60,000	160,000
Product segment margin	\$ 20,000			

000 \$ 80, 000 \$180, 000 280, 000 Common fixed expenses 240, 000 Net  
operating income \$ 40, 000 \$100, 000