Problem 13-20 (30 minutes)

1. Since the fixed costs will not change as a result of the order, they are not relevant to the decision. The cost of the new machine is relevant, and this cost will have to be recovered by the current order since there is no assurance of future business from the retail chain.

	Unit	*Total—5,000 units*
Revenue from the order ($50 × 84%)	$42	$210,000
Less costs associated with the order:		
Direct materials	15	75,000
Direct labor	8	40,000
Variable manufacturing overhead	3	15,000
Variable selling expense ($4 × 25%)	1	5,000
Special machine ($10,000 ÷ 5,000 units)	2	10,000
Total costs	29	145,000
Net increase in profits	$13	$ 65,000

2. Revenue from the order:

Reimbursement for costs of production (variable production costs of $26, plus fixed manufacturing overhead cost of $9 = $35 per unit; $35 per unit × 5,000 units)	$175,000
Fixed fee ($1.80 per unit × 5,000 units)	9,000
Total revenue	184,000
Less incremental costs—variable production costs ($26 per unit × 5,000 units)	130,000
Net increase in profits	$ 54,000

3. Sales revenue:

From the U.S. Army (above)	$184,000
From regular channels ($50 per unit × 5,000 units)	250,000
Net decrease in revenue	(66,000)
Less variable selling expenses avoided if the Army's order is accepted ($4 per unit × 5,000 units)	20,000
Net decrease in profits if the Army's order is accepted	$(46,000)