

P13.23.

- a. Total manufacturing cost = (Direct materials + Direct labor + Manufacturing overhead)

Direct materials		\$3,500,000
Direct labor (160,000 hours * \$20 per hour)		3,200,000
Manufacturing overhead:		
Materials handling (\$1.50 per part * 275,000 parts used)	\$ 412,500	
Milling and grinding (\$11.00 per machine hour * 95,000 hours)..	1,045,000	
Assembly and inspection (\$5.00 per labor hour * 160,000 hours).	800,000	
Testing (\$3.00 per unit * 50,000 units tested).....	<u>150,000</u>	<u>2,407,500</u>
Total manufacturing cost.....		<u>\$9,107,500</u>

Cost per unit produced and tested = \$9,107,500 / 50,000 units = **\$182.15 per unit**

- b. The activity-based costing approach is likely to provide better information for manufacturing managers because overhead costs are applied based on the activities (i.e., cost drivers) that *cause* the incurrence of cost. Thus, management attention will be directed to the critical activities that can be controlled to improve the firm's operating performance. ABC systems also produce more accurate product costing information, which can lead to better decision-making.