Question 1:

Shantz Corporation has provided the following data concerning last month's operations.

Purchases of raw materials	$43,000
Indirect raw materials included in manufacturing overhead	$8,500
Direct labor cost	$58,000
Manufacturing overhead cost incurred	$99,000

Inventories:	**Beginning**	**Ending**
Raw materials inventory	$12,000	$16,000
Work in process inventory	$48,000	$53,000
Finished goods inventory	$41,000	$47,000

Required:

(a) Calculate the Cost of Goods Manufactured for the month.

(b) Calculate the Cost of Goods Sold for the month.

(a)

MOH = 99,000

DL = 58,000

Materials Cost = 43,000 + 12,000 - 16,000 - 8,500 = 30,500

COGM = 48,000 + (99,000 + 58,000 + 30,500) - 53,000 = 182,500

(b)

COGS = 182,500 + 41,000 - 47,000 = 176,500

Question 2:

AgroPharm Corp. manufactures pharmaceutical products that are sold through a network of external sales agents. The agents are paid a commission of 18% of revenues (i.e., a variable cost) and a fixed total basic salary of $5,250,000. Agropharm is considering replacing the sales agents with its own salespeople, who would be paid a commission of 12% revenues and a fixed total basic salary of $7,950,000. The income statement for the year ending December 31, 2020, under the two scenarios is shown here: (see the columns under "Using Sales Agents" vs those under "Using Own Sales Force").

	AgroPharm Corporation			
	Income Statement			
	For the Year Ended December 2020			
	Using Sales Agents		Using Own Sales Force	
Revenues		$45,000,000		$45,000,000
Cost of Goods Sold:				
Variable portion	$15,750,000		$15,750,000	
Fixed portion	5,425,000	21,175,000	5,425,000	21,175,000
Gross Margin		23,825,000		23,825,000
Marketing costs:				
Commissions	$8,100,000		$5,400,000	
Fixed costs	5,250,000	13,350,000	7,950,000	13,350,000
Operating Income		$10,475,000		$10,475,000

Required:

Calculate the company's 2020 contribution margin ratio, break-even revenues, and the degree of operating leverage under the two scenarios, respectively.

Using Sales Agents:
CM ratio = (45,000,000 - 15,750,000 - 8,100,000) / 45,000,000 = 47%
Break-even revenue = (5,425,000 + 5,250,000) / 47% = $22,712,766
Degree of operating leverage = CM / Operating Income = 2.02

Using Own Sales Force:
CM ratio = (45,000,000 - 15,750,000 - 5,400,000) / 45,000,000 = 53%
Break-even revenue = (5,425,000 + 7,950,000) / 53% = $25,235,849
Degree of operating leverage = CM / Operating Income = 2.28