1. Award: **100.00 points**

Pittman Company is a small but growing manufacturer of telecommunications equipment. The company has no sales force of its own; rather, it relies completely on independent sales agents to market its products. These agents are paid a sales commission of 15% for all items sold.

Barbara Cheney, Pittman's controller, has just prepared the company's budgeted income statement for next year as follows:

Pittman Company
Budgeted Income Statement
For the Year Ended December 31

Sales		$ 25,500,000
Manufacturing expenses:		
Variable	$ 11,475,000	
Fixed overhead	3,570,000	15,045,000
Gross margin		10,455,000
Selling and administrative expenses:		
Commissions to agents	3,825,000	
Fixed marketing expenses	178,500*	
Fixed administrative expenses	2,180,000	6,183,500
Net operating income		4,271,500
Fixed interest expenses		892,500
Income before income taxes		3,379,000
Income taxes (30%)		1,013,700
Net income		$ 2,365,300

*Primarily depreciation on storage facilities.

As Barbara handed the statement to Karl Vecci, Pittman's president, she commented, "I went ahead and used the agents' 15% commission rate in completing these statements, but we've just learned that they refuse to handle our products next year unless we increase the commission rate to 20%."

"That's the last straw," Karl replied angrily. "Those agents have been demanding more and more, and this time they've gone too far. How can they possibly defend a 20% commission rate?"

"They claim that after paying for advertising, travel, and the other costs of promotion, there's nothing left over for profit," replied Barbara.

"I say it's just plain robbery," retorted Karl. "And I also say it's time we dumped those guys and got our own sales force. Can you get your people to work up some cost figures for us to look at?"

"We've already worked them up," said Barbara. "Several companies we know about pay a 7.5% commission to their own salespeople, along with a small salary. Of course, we would have to handle all promotion costs, too. We figure our fixed expenses would increase by $3,825,000 per year, but that would be more than offset by the $5,100,000 (20% × $25,500,000) that we would avoid on agents' commissions."

The breakdown of the $3,825,000 cost follows:

Salaries:	
Sales manager	$ 159,375
Salespersons	956,250
Travel and entertainment	637,500
Advertising	2,071,875
Total	$ 3,825,000

"Super," replied Karl. "And I noticed that the $3,825,000 equals what we're paying the agents under the old 15% commission rate."

"It's even better than that," explained Barbara. "We can actually save $117,300 a year because that's what we're paying our auditors to check out the agents' reports. So our overall administrative expenses would be less."

"Pull all of these numbers together and we'll show them to the executive committee tomorrow," said Karl. "With the approval of the committee, we can move on the matter immediately."

Required:
1. Compute Pittman Company's break-even point in dollar sales for next year assuming:
a. The agents' commission rate remains unchanged at 15%.
b. The agents' commission rate is increased to 20%.
c. The company employs its own sales force.

2. Assume that Pittman Company decides to continue selling through agents and pays the 20% commission rate. Determine the dollar sales that would be required to generate the same net income as contained in the budgeted income statement for next year.

3. Determine the dollar sales at which net income would be equal regardless of whether Pittman Company sells through agents (at a 20% commission rate) or employs its own sales force.

4. Compute the degree of operating leverage that the company would expect to have at the end of next year assuming:
a. The agents' commission rate remains unchanged at 15%.
b. The agents' commission rate is increased to 20%.
c. The company employs its own sales force.
Use income *before* income taxes in your operating leverage computation.

Complete this question by entering your answers in the tabs below.

Required 1 | Required 2 | Required 3 | Required 4

Compute Pittman Company's break-even point in dollar sales for next year assuming: (Round CM ratio to 3 decimal places and final answers to the nearest dollar amount.)

	Break-Even Point
a. The agents' commission rate remains unchanged at 15%.	
b. The agents' commission rate is increased to 20%.	
c. The company employs its own sales force.	

< Required 1 | Required 2 >

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References

Worksheet	Learning Objective: 05-04 Show the effects on net operating income of changes in variable costs, fixed costs, selling price, and volume.	Learning Objective: 05-06 Determine the level of sales needed to achieve a desired target profit.
Difficulty: 3 Hard	Learning Objective: 05-05 Determine the break-even point.	