Chapter 3 – CVP Analysis Exam Prep Handout

1. You have been provided with the following information:

	Per Unit	*Total*
Sales	$15	$45,000
Less variable expenses	9	27,000
Contribution margin	6	18,000
Less fixed expenses		12,000
Operating profit		$ 6,000

If sales decrease by 500 units, how much will fixed costs have to be reduced by to maintain the current operating profit of $6,000?

A. $9,000.
B. $7,500.
C. $6,000.
D. $3,000.

2. James Company has a margin of safety percentage of 20%. The break-even point is $200,000 and the variable costs are 45% of sales. Given this information, the operating profit is:

A. $27,500.
B. $18,000.
C. $22,500.
D. $22,000.

3. JJ Motors Inc. employs 45 sales personnel to market its line of luxury automobiles. The average car sells for $23,000, and a 6 percent commission is paid to the salesperson. JJ Motors is considering a change to the commission arrangement where the company would pay each salesperson a salary of $2,000 per month plus a commission of 2 percent of the sales made by that salesperson. The amount of total monthly car sales at which JJ Motors would be indifferent as to which plan to select is:

A. $2,250,000.
B. $3,000,000.
C. $1,500,000.
D. $1,250,000.
E. $4,500,000.

E3-28 Basic Decision Analysis Using CVP

Balance, Inc., is considering the introduction of a new energy snack with the following price and cost characteristics:

Sales price.	$	1.00 per unit
Variable costs.		0.20 per unit
Fixed costs.		400,000 per month

Assume that the company plans to sell 600,000 units per month. Consider requirements (*b*), (*c*), and (*d*) independently of each other.

Required

a. What will be the operating profit?

b. What is the impact on operating profit if the sales price decreases by 10 percent? Increases by 20 percent?

c. What is the impact on operating profit if variable costs per unit decrease by 10 percent? Increase by 20 percent?

d. Suppose that fixed costs for the year are 10 percent lower than projected, and variable costs per unit are 10 percent higher than projected. What impact will these cost changes have on operating profit for the year? Will profit go up? Down? By how much?

E 3-30. Analysis of Cost Structure

The Dollar Store's cost structure is dominated by variable costs with a contribution margin ratio of .30 and fixed costs of $30,000. Every dollar of sales contributes 30 cents toward fixed costs and profit. The cost structure of a competitor, One-Mart, is dominated by fixed costs with a higher contribution margin ratio of .80 and fixed costs of $280,000. Every dollar of sales contributes 80 cents toward fixed costs and profit. Both companies have sales of $500,000 for the month.

Required

a. Compare the two companies' cost structures using the format shown in Exhibit 3.5 as follows:

	Lo-Lev Company (1,000,000 units)		Hi-Lev Company (1,000,000 units)	
	Amount	Percentage	Amount	Percentage
Sales	$1,000,000	100	$1,000,000	100
Variable costs	750,000	75	250,000	25
Contribution margin	$ 250,000	25	$ 750,000	75
Fixed costs	50,000	5	550,000	55
Operating profit	$ 200,000	20	$ 200,000	20
Break-even point	200,000 units		733,334 units	
Contribution margin per unit	$0.25		$0.75	

b. Suppose that both companies experience a 15 percent increase in sales volume.

By how much would each company's profits increase?

E 3-36. Multiproduct CVP Analysis

Rio Coffee Shoppe sells two coffee drinks, a regular coffee and a latte. The two drinks have the following prices and cost characteristics:

	Regular Coffee	Latte
Sales price (per cup)	\$1.50	\$2.50
Variable costs (per cup)	0.70	1.30

The monthly fixed costs at Rio are \$6,720. Based on experience, the manager at Rio knows that the store sells 60 percent regular coffee and 40 percent lattes.

Required

How many cups of regular coffee and lattes must Rio sell every month to break even?