EXERCISE 5–1 Preparing a Contribution Format Income Statement [LO1]

Wheeler Corporation's most recent income statement follows:

	Total	Per Unit
Sales (8,000 units)	$208,000	$26.00
Variable expenses	144,000	18.00
Contribution margin	64,000	$ 8.00
Fixed expenses	56,000	
Net operating income	$ 8,000	

Required:

Prepare a new contribution format income statement under each of the following conditions (consider each case independently):

1. The sales volume increases by 50 units.
2. The sales volume declines by 50 units.
3. The sales volume is 7,000 units.

EXERCISE 5–3 Prepare a Profit Graph [LO2]

Capricio Enterprises distributes a single product whose selling price is $19 and whose variable expense is $15 per unit. The company's fixed expense is $12,000 per month.

Required:

1. Prepare a profit graph for the company up to a sales level of 4,000 units.
2. Estimate the company's break-even point in unit sales using your profit graph.

EXERCISE 5–4 Computing and Using the CM Ratio [LO3]

Last month when Harrison Creations, Inc., sold 40,000 units, total sales were $300,000, total variable expenses were $240,000, and fixed expenses were $45,000.

Required:

1. What is the company's contribution margin (CM) ratio?
2. Estimate the change in the company's net operating income if it were to increase its total sales by $1,500.

EXERCISE 5–5 Changes in Variable Costs, Fixed Costs, Selling Price, and Volume [LO4]

Data for Herron Corporation are shown below:

	Per Unit	Percent of Sales
Selling price	$75	100%
Variable expenses	45	60%
Contribution margin	$30	40%

Fixed expenses are $75,000 per month and the company is selling 3,000 units per month.

Required:

1. The marketing manager believes that an $8,000 increase in the monthly advertising budget would increase monthly sales by $15,000. Should the advertising budget be increased?
2. Refer to the original data. Management is considering using higher-quality components that would increase the variable cost by $3 per unit. The marketing manager believes that the higher-quality product would increase sales by 15% per month. Should the higher-quality components be used?

EXERCISE 5–6 Compute the Level of Sales Required to Attain a Target Profit [LO5]

Liman Corporation has a single product whose selling price is $140 and whose variable expense is $60 per unit. The company's monthly fixed expense is $40,000.

Required:

1. Using the equation method, solve for the unit sales that are required to earn a target profit of $6,000.
2. Using the formula method, solve for the dollar sales that are required to earn a target profit of $8,000.

EXERCISE 5–7 Compute the Break-Even Point [LO6]

Maxson Products distributes a single product, a woven basket whose selling price is $8 and whose variable cost is $6 per unit. The company's monthly fixed expense is $5,500.

Required:

1. Solve for the company's break-even point in unit sales using the equation method.
2. Solve for the company's break-even point in sales dollars using the equation method and the CM ratio.
3. Solve for the company's break-even point in unit sales using the formula method.
4. Solve for the company's break-even point in sales dollars using formula method and the CM ratio.

EXERCISE 5–8 Compute the Margin of Safety [LO7]

Mohan Corporation is a distributor of a sun umbrella used at resort hotels. Data concerning next month's budget appear below:

Selling price	$25 per unit
Variable expenses	$15 per unit
Fixed expenses	$8,500 per month
Unit sales	1,000 units per month

Required:

1. Compute the company's margin of safety.
2. Compute the company's margin of safety as a percentage of its sales.

EXERCISE 5–9 Compute and Use the Degree of Operating Leverage [LO8]

Eneliko Company installs home theater systems. The company's most recent monthly contribution format income statement appears below:

	Amount	Percent of Sales
Sales	$120,000	100%
Variable expenses	84,000	70%
Contribution margin	36,000	30%
Fixed expenses	24,000	
Net operating income	$ 12,000	

Required:

1. Compute the company's degree of operating leverage.
2. Using the degree of operating leverage, estimate the impact on net operating income of a 10% increase in sales.
3. Verify your estimate from part (2) above by constructing a new contribution format income statement for the company assuming a 10% increase in sales.