Basic Problems

1. Shock Electronics sells portable heaters for $35 per unit, and the variable cost to produce them is $22. Mr. Amps estimates that the fixed costs are $97,500.
   a. Compute the break-even point in units.
   b. Fill in the table (in dollars) to illustrate the break-even point has been achieved.

Sales	______
– Fixed costs	______
– Total variable costs	______
Net profit (loss)	______

5. Eaton Tool Company has fixed costs of $255,000, sells its units for $66, and has variable costs of $36 per unit.
   a. Compute the break-even point.
   b. Ms. Eaton comes up with a new plan to cut fixed costs to $200,000. However, more labor will now be required, which will increase variable costs per unit to $39. The sales price will remain at $66. What is the new break-even point?
   c. Under the new plan, what is likely to happen to profitability at very high volume levels (compared to the old plan)?

9. Boise Timber Co. computes its break-even point strictly on the basis of cash expenditures related to fixed costs. Its total fixed costs are $6,500,000, but 10 percent of this value is represented by depreciation. Its contribution margin (price minus variable cost) for each unit is $9. How many units does the firm need to sell to reach the cash break-even point?

12. Healthy Foods Inc. sells 50-pound bags of grapes to the military for $10 a bag. The fixed costs of this operation are $80,000, while the variable costs of grapes are $.10 per pound.
   a. What is the break-even point in bags?
   b. Calculate the profit or loss on 12,000 bags and on 25,000 bags.
   c. What is the degree of operating leverage at 20,000 bags and at 25,000 bags? Why does the degree of operating leverage change as the quantity sold increases?
   d. If Healthy Foods has an annual interest expense of $10,000, calculate the degree of financial leverage at both 20,000 and 25,000 bags.
   e. What is the degree of combined leverage at both sales levels?

16. Lenow's Drug Stores and Hall's Pharmaceuticals are competitors in the discount drug chain store business. The separate capital structures for Lenow and Hall are presented below.

Lenow		Hall	
Debt @ 10%	$100,000	Debt @ 10%	$200,000
Common stock, $10 par	200,000	Common stock, $10 par	100,000
Total	$300,000	Total	$300,000
Shares	20,000	Common shares	10,000

a. Compute earnings per share if earnings before interest and taxes are $20,000, $30,000, and $120,000 (assume a 30 percent tax rate).

b. Explain the relationship between earnings per share and the level of EBIT.

c. If the cost of debt went up to 12 percent and all other factors remained equal, what would be the break-even level for EBIT?