Great Grape Juice company is operating at full capacity. Annual revenues are $50,000,000. Total costs are $45,000,000, of which 40% is fixed and 60% is variable. In considering the following scenarios, assume each is independent of the others.

(a) The company is considering expanding capacity. The additional capacity will add $10,000,000 in annual fixed costs. The contribution margin rate will not be impacted. How much in additional sales will be necessary to justify the added capacity?

(b) Assume a fungus has reduced grape production and increased total variable costs by an additional 10% of sales. Competitive pressures prevent Great Grape Juice from raising sales prices. Will the company remain profitable?

(c) The company is considering automation of certain production processes. Productive capacity will not be increased, but the contribution margin ratio will increase by 5% of sales via a reduction in direct labor. The automated equipment will cost $5,000,000 per year to operate. Should the equipment be purchased?

(d) The company is considering increasing the sales price per unit by 10%. The fixed costs and variable per unit cost will not be affected, but total sales volume (in units) will be reduced by 10%. Decide whether the company will be more or less profitable if they engage this pricing strategy.