Proposed Problems

(Week 1)

Financial Investments
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1. A trader has purchased 200 shares of a non-dividend-paying firm on margin at a price of \$50 per share. The leverage ratio is 2.5. Six months later, the trader sells these shares at \$60 per share. Ignoring the interest paid on the borrowed amount and the transaction costs, what was the return to the trader during the six-month period?

   - Sol. 50%.

2. An investor goes long in a portfolio of stocks by an amount of \$120000, taking a margin loan of \$60000. Given a maintenance margin of 25%. At what portfolio price will the margin call first occur?

   - Sol. \$80000.

3. John Doe purchases on margin, with leverage ratio of 1.25, 5000 shares of the stock X at \$20 per share. The brokerage firm requires a maintenance margin of 50%. In a turnboil day, the stock X declines to \$5. How much is the shortfall in the account value in order to fulfill the maintenance margin requirement?

   - Sol. \$15000 (margin call occurs at X=\$8).

4. A brokerage company, with initial margin requirement of 2/3, offers no comission fees in the first operation and a margin call rate of 10%. Jane Doe opened recently a margin account there and deposited \$10,000 of her own cash. Taking the maximum available funds, she buyed on margin some stock portfolio. Given some trading period, she took a short position on the portfolio for a value of \$20520 paying \$20 in sale commission. How much it was Jane's investment return?

   - Sol. 50%.