Calculation Example: Margin Call

Question: A trader buys one June futures contract on orange juice. Each contract is for the delivery of 10,000 pounds. The current futures price is $2 per pound. The initial margin is $4,500 per contract, and the maintenance margin is $3,000 per contract.

What is the smallest price change would that would lead to a margin call for the buyer?

Answer: A margin call will occur when the money in the margin account (currently $4,500) falls below the maintenance margin ($3,000). Here are the steps to solve for the smallest price change that will lead to a margin call for the buyer:

1. Since she bought the futures contract, she is long and she'll lose money when the orange price falls;

2. A margin call will be triggered when she loses $1,500 (=$4,500-$3,000);

3. Each contract has a notional principal of $20,000 (=$2/pound * 10,000pounds);

4. She'll receive a margin call when the notional principal falls to $18,500 (=$20,000-$1,500);

5. This corresponds to a price of $1.85/pound (=$18,500/10,000pounds);

6. Which is a $0.15/pound price fall (=$1.85/pound - $2/pound).