Problem 4

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Since the put call parity requires that European put and call options have the same implied volatility, the difference here is 30% for call and 33% for the put. This signals arbitrage.

1. Mispricing, the call is undervalued relative to the put
2. Strategy: Buy the call, sell put, and short the stock. This captures profit from the volatility mismatch
3. This arbitrage does not depend on the log normal assumption from Black Scholes Merton, as its solely based on put call parity.

Thus this strategy exploits the volatility discrepancy without needing any assumption about the underlying asset distribution