Provide your complete solution for the following problem(s):

Problem 1.1. The current price of a continuous-dividend-paying stock is $80 per share. Its prepaid forward price for delivery at time $-1$ equals $78.

There are two possible states of the world at the end of the one-year period: cloudy and sunny. The stock price in the case of cloudy state of the world will be $100, while the stock price in the case of the sunny state of the world equals $75.

Let the price today of a zero-coupon bond redeemable at time $-1$ be equal to 0.9275.

(i) (10 points) What is the risk-neutral probability associated with the above stock-price tree?

(ii) (5 points) Consider a $78-strike, one-year European call option on the above stock. What is the price of this option consistent with the above stock-price model?