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**Lab Report #6: Options & Volatility**

1.

a) The price decreases as the yield increases.



b)

number of iterations = 99

difference between x's in bisection = 0.000000

difference between f(x)'s in bisection = 102.000000

the yield of a bond with cashflow = 5 and a price of 102.000000 is

**x = 0.045439**

c) (Code attached on the back)

d)

number of iterations = 99

difference between x's in bisection = 0.000000

difference between f(x)'s in bisection = 99.000000

the yield of a bond with cashflow = 5 and a price of 99.000000 is

**x = 0.052325**

The yield increases because the price decreases (inverse relationship for bonds between price and yield).

2.

The price of a call option given this information is **7.950000**

*Check: Buy Call - Sell Put + PV of Strike = 7.950000 - 2.000000 + 94.050000 = 100.000000*

3.

a)

The price of a put option **at sigma = 0.10 is 0.640324**

The price of a put option **at sigma = 0.20 is 5.302776**

*Check: Buy Call - Sell Put + PV of Strike = 28.640324 - 0.640324 + 180.000000 = 208.000000*

*Check: Buy Call - Sell Put + PV of Strike = 33.302776 - 5.302776 + 180.000000 = 208.000000*

b)

c)

The price of a put option at **sigma = 0.211624** is 6.000045