

NAME: _____

BEM 103 QUIZ 1

Present value and prices

Consider bond with 1 year maturity, a face value of 100, has a coupon of 5% (so it will pay interest only once at redemption). The annual interest rate is denoted r ,

1.A Give a formula to compute the current market price of the bond given r ?

$$X = 100(1.05)/(1+r)$$

1.B For what values of r will the bond's price be below par (100)?

$$r > 0.05$$

1.C If that bond is trading at par, what is the interest rate and what would be the value of a bond that has a coupon rate of 10% and 1 year maturity (an answer to the second decimal place is sufficient)

If the first bond is trading at par $r = 0.05$

$$\text{So } X = 100(1.1)/(1.05) = 104.7$$

1D. If the bonds are priced in the ways described above which one would you prefer to buy? Why?

It does not matter their returns are equal and yields are both 5%.

$$\Pi(B5\%) = (-100 + 105/1.05) = 0$$

$$\Pi(B10\%) = (-104.7 + 110/1.05) = 0$$