BUS-123 Spring 2014 | Bond Valuation Formulas | Name: ________________
Instr: F. Paiano | | Chapter 10

Bond Formulas:

$$\text{Current Yield} = \frac{\text{Annual Interest}}{\text{Market Price}}$$

$$\text{Yield to Maturity} = \frac{\text{Annual Interest} + \dfrac{\text{Par Value} - \text{Market Price}}{\text{Number of Years to Maturity}}}{\dfrac{\text{Par Value} + \text{Market Price}}{2}}$$

$$\text{Yield to Call} = \frac{\text{Annual Interest} + \dfrac{\text{Call Price} - \text{Market Price}}{\text{Number of Years to Call}}}{\dfrac{\text{Call Price} + \text{Market Price}}{2}}$$

$$\text{Taxable Equivalent Yield (Fed only)} = \frac{\text{Municipal Bond Yield}}{1.0 - \text{Federal Marginal Tax Bracket}}$$

$$\text{Taxable Equivalent Yield (Fed \& State)} = \frac{\text{Municipal Bond Yield}}{1.0 - \left[\text{Fed Tax Bracket} + \left(\text{State Tax Bracket} * \left(1.0 - \text{Fed Tax Bracket}\right)\right)\right]}$$

The taxable equivalent yield (Fed & State) assumes that the investor is itemizing deductions on their Federal taxes. Since most investors who buy tax-free municipal bonds are high-net worth or high-income investors and almost always itemize deductions on their tax returns, this is normally a valid assumption.

Bond Price = Present Value of Interest Income + Present Value of Repayment of Principal
= Annual Interest * present value of stream factor + Par Value * present value of lump sum factor

(Need to use: Present Value of a Stream of Payments [right table] and Present Value of a Lump Sum [left table])