FNB 100 Quiz 2 Name Last_____ First_____

Given, $FV_n = \frac{PMT[(1+r)^n - 1]}{r}$, $PV_0 = -\frac{PMT}{r}\left[\frac{1}{(1+r)^n} - 1\right] = \frac{PMT}{r} - \frac{PMT}{r(1+r)^n}$ & $P_0 = \sum_{t=1}^{T} \frac{Coupon_t}{(1+{}_0R_T)^t} + \frac{Face\,Value}{(1+{}_0R_T)^T}$

Show all your works to answer the following questions.

1. If you set up an annual sinking fund account to retire $1,000,000 debt in 10 years @10% interest, how much will you have to pay into account annually?
2. The prevailing (bank) interest rate is currently 10% per year. If an annuity pays $1,000 annually for the next 10 years, what is such an annuity worth today?
3. If the bond that matures in 10 years with the face (redemption) value of $1,000 pays coupon interest of $100 per year while the prevailing interest rate is 15%, how much should the bond sell for?

Given $\text{Required ROR (k)} = R_f + \text{Risk Premium} \times \beta_i$ or $E[\tilde{R}_i] = R_f + [E[R_m] - R_f]\frac{\sigma_{im}}{\sigma_m^2}$

4. If a firm's β is 3, and the market return is 10%, what is the required return on the firm's stock if the risk-free rate is 5%?
5. If this company pays $8 dividend /share, what is the rational price of this firm's stock? If the stock currently trades at $80, is this a "must-buy" or "must sell"? Why?