Worksheet 10/6/2023

Total return = percentage change in investment value = $\frac{A-P}{P}$

Annual return = the average APY that would give then same growth, found from the equation $P(1 + APY)^Y = A$.

Face value of a bond = the original price you pay to buy the bond

Current yield of a bond = $\frac{annual\ interest\ payment}{current\ price\ of\ bond}$

Bond quote = percentage of current price compared to the face value

Amortization formula: $P = \frac{p}{i}\left(1 - \frac{1}{(1+i)^n}\right)$

where P = principal, p = monthly payment, i = interest rate per period, n = number of periods.

1) You invest $5000 in a company by purchasing stocks. Over 5 years, you sell them for $6000. Find the total return and annual return.

2) You bought a house for $400,000 in 2006. In 2010, you sold it for $375,000 (at a loss). Find the total return and annual return.

3) A $1000 U.S. Treasury bond with a current yield of 3.9% is quoted at 105 points. Compute the annual interest you will earn if you buy it. Suppose that this is a 10-year bond. How much will you earn in 5 years? 10 years?

4) A $100 U.S. Treasury bond with a current yield of 1.5% is quoted at 98 points. Compute the annual interest you will earn if you buy it. Suppose that this is a 20-year bond. How much will you earn in 5 years? 10 years? 20 years?

5) A Kirby vacuum cleaner is sold at $1,500 with a payment plan of 5 years at a fixed monthly interest rate of 1%. Find the monthly payment.