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Q.1 Part A

Solution: Given Data

$$Pv = \$2000$$

$$K = 8\%$$

$$N = ?$$

$$F = \$4765$$

$$Pv = Fv * PvIF (K, N)$$

$$= 2000 = 4765 * PvIF (4\%, N)$$

$$= 2000 / 4765 = PvIF (4\%, N)$$

$$0.419 = PvIF (4\%, N)$$

Checking 0.419 in Present Value Table under 4%

$$0.419 = 0.42$$

So, $N = 22$ Years

Q.1 Part B

Solution:

$$PMT = \$100$$

$$I = 0.1$$

$$PVP = ?$$

$$PVP = PMT * 1/I$$

$$= 100 * 1/0.1$$

$$= 100 * 10$$

$$PVP = \$1000.$$

Q.2 Part A

Real rate of interest

The real rate of interest measures the percentage increase in purchasing power the lender receives when the Borrower repays the loan with interest.

Example: The Lender earned 8% on the loan, however because inflation was 5% over the same time period, the lender actually earned only 3% in real purchasing power on the loan.

Nominal Interest Rate

The nominal interest rate is the percentage increase in money you pay the Lender for the use of the money you borrowed.

Example: Imagined that you borrowed \$100 from your bank 1 Year ago at 8% interest on your loan, when you must repay the \$100 you borrowed plus (+) \$8 in interest - a total of \$108.

Q.2 Part B

Solution:

Being an investor I will prefer over the counter market Rather security exchange market, because OTC is a decentralized dealer market where broker and dealer transact directly with the help of computer and mobile phones. You can easily withdraw your money at your finger tips. It reduces transportation cost as well as physically goes to location, it is done electronically. In OTC the short selling stocks are risky because it trades thinly.

Q.3 Part A

Solution: Given Data

$$FV = \$40000$$

$$N = 15Y$$

$$K = 10\% \Rightarrow 0.1$$

We Know that the formula

$$\begin{aligned} PV &= FV/(1+K)^n \\ &= 40000/(1+0.1)^{15} \\ &= 40000/(1.1)^{15} \\ &= 40000 / 4.177248169 \\ PV &= 9575.681975. \end{aligned}$$

Q.3 Part B

Solution:

Example of ordinary annuity

A. Home Mortgages

In home mortgages the home-owner makes a payment at the end of each month.

B. Dividend Payments

In this you are typically paid the payments at each quarter of the year.

Example of Annuity due.

- a) The common example of an Annuity due payments as rent paid at the beginning of each month.
- b) Many monthly bills such as rent mortgages Car payments and sell phones payments are annuity dues because the beneficiary must pay at the beginning of the billing period.