

Quiz # 2

Yufeng Chinese School Math Enrichment

Name: Solutions

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Fill in the blank lines (7 points):

3 principles of Capitalism:

1. Money has value.
2. Money has time value.
3. Goods and services have value.

To avoid uncontrollable and detrimental profiteering by banks on loans, governments impose financial regulations.

In a capitalist economic system, a business with no significant advantages or disadvantages over its competitors should act in the best interests of itself first but also try to benefit the economy as a secondary goal.

Answer the questions in the space provided.

(3 points) Define the rate of return/ return on investment (give two equivalent definitions).

$$\frac{\text{profit}}{\text{investment}}$$

(3 points) Define the interest rate/ risk-free rate.

return on money invested in a BANK

(3 points) Define the interest accrued in a given period.

amount at end of period — amount at start of period.

(3 points) Give the formula for the amount accumulated after investing a principle of A for N years at simple interest.

$$A \times (1 + rN)$$

(3 points) Give the formula for the amount accumulated after investing a principle of A for N years at compound interest.

$$A \times (1 + r)^N$$

(3 points) Writing the discount factor as v, give the formula for an N-year annuity due.

$$A_{\overline{n}|} = 1 + v + v^2 + \dots + v^{N-1} = \frac{1 - v^N}{1 - v}$$