

TOPIC

Economics – Section VI – Question 3

QUESTION

I would like to retire as a millionaire. If I make a uniform deposit of \$15,000 annually at an interest rate of 10%, the number of years I have to work most nearly is

- (A) 7.00
- (B) 14.5
- (C) 21.5
- (D) 30.0

HINT

$$F = A \left[\frac{(1+i)^n - 1}{i} \right]$$

SOLUTION

$$A = \$15,000$$

$$F = \$1,000,000$$

$$n = ?$$

$$i = 10\%$$

$$F = A \left[\frac{(1+i)^n - 1}{i} \right]$$

$$1000000 = 15000 \left[\frac{(1.1)^n - 1}{0.1} \right]$$

$$(1.1)^n = \frac{1000000 \times 0.1}{15000} + 1 = 7.6667$$

$$n \log 1.1 = \log 7.6667$$

$$n = \frac{\log 7.6667}{\log 1.1}$$

$$= 21.37$$

$$\approx 21.5$$

ANSWER

(C)

CONTRIBUTOR

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