

**Question 22**

\$25 000 is invested at 4% per annum, calculated and added annually. Each year a further \$10 000 is added to the principal.

To find the value after  $n$  years, you could set up which recursive relation?

- A.  $t_{n+1} = t_n \times 0.04 + 10\,000, t_0 = 25\,000$
- B.  $t_n = t_{n+1} \times 0.04 + 10\,000, t_0 = 25\,000$
- C.  $t_n = t_0 \times 1.04 + 10\,000, t_0 = 25\,000$
- D.  $t_{n+1} = t_n \times 1.04 + 10\,000, t_0 = 25\,000$
- E.  $t_2 = 35\,000 \times 0.04 + 10\,000$

**Question 23**

A loan is advertised as charging 4.5% per annum compounding monthly.

Assuming no repayments are made, what is the effective interest rate over the first 12 months?

- A. 1.045%
- B. 1.046%
- C. 3.5%
- D. 4.5%
- E. 4.6%

**Question 24**

A loan is taken where there are no repayments until the end of the 5-year period.

The extra interest charged when the compounding period is changed from monthly to daily on a loan of \$25 000 at 5% per annum is closest to

- A. \$16.12
- B. \$96.88
- C. \$112.75
- D. \$32 003.97
- E. \$32 083.97

**END OF SECTION A**