



Core Mathematics C12(GCE)

Practice Question 12

Standard A★

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**CRITICAL THINKING IS THE KEY TO SOLVE REAL WORLD PROBLEMS.
CHILDREN MUST BE TAUGHT HOW TO THINK, NOT WHAT TO THINK.
A GREAT TEACHER WILL BE CREATING STUDENTS TO DO NEW THINGS
THROUGH CRITICAL THINKING, NOT SIMPLY REPEATING WHAT OTHER
GENERATIONS HAVE DONE BEFORE. WE DO NOT NEED ANOTHER
ALBERT EINSTEIN OR ISAAC NEWTON.... WE NEED A PERSON BETTER
THAN THEM.**

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Question:

A sequence u_1, u_2, u_3, \dots satisfies

$$u_{n+1} = \frac{2}{5}u_n + 30, \text{ for each natural number } n \geq 1$$

Given that $u_2 = 5$,

(a) find the value of u_3, u_4 and u_5

(b) find the value of u_∞

Golden Rules

- A series of numbers following a set rule is called sequence.
- Each number in a sequence is called a term.
- A recurrence relationship of the form

$$U_{k+1} = U_k + n, \quad k \geq 1 \quad n \in \mathbb{Z}$$

is called an arithmetic sequence.

Traditional or Online classes

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