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Other Questions

(Gaeaf 2014)

10. The nth term of a number sequence is denoted by t_n. The $(n + 1)$th term of the sequence satisfies

$$t_{n+1} = 1 - \frac{1}{t_n},$$

for all positive integers n. Given that $t_1 = 4$,

(a) evaluate t_2, t_3, and t_4, [2]

(b) describe the behaviour of the sequence and hence, without carrying out any further calculation, write down the value of t_{50}. [2]

(Haf 2017)

10. The nth term of a number sequence is denoted by t_n. The $(n + 1)$th term of the sequence satisfies

$$t_{n+1} = 3t_n + 1,$$

for all positive integers n. Given that $t_4 = 202$,

(a) evaluate t_1, [2]

(b) explain why 29 999 999 cannot be one of the terms of this number sequence. [1]