

Subject 29

Please, don't write on the exam paper.

A patient is treated with a particular drug during a whole day, beginning at 6:00 a.m. and ending at 6:00 p.m.

He receives an initial injection of 140 cc at 6:00 a.m.

To be efficient, the amount of drug in the body must remain greater than 2cc.

The amount A_n of drug present in the body after n hours, is modelled by a geometric progression with first term the amount initially injected, and common ratio 0,5.

(a) Calculate the amount of drug present in the body at 7:00 a.m.

(b) Write down the formula giving A_n in terms of n .

(c) Will the patient need another injection during the day (with the same volume of drug)?

When will he need it?

Will he need a third injection during the day?