

Exam questions: Cell cycle

- 1a(i) Cells lining the human intestine complete the cell cycle in a short time. Explain the advantage of these cells completing the cell cycle in a short time.

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..... (1)

- (ii) The time required for a cell to complete the cell cycle was 4 hours 18 minutes.

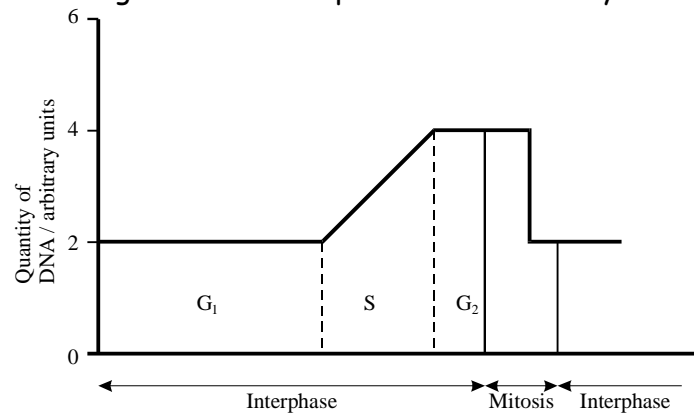
Calculate the time required in minutes for this cell to multiply to produce eight cells.

Show your working.

Answer .....

(2)

2. The graph below shows how the quantity of DNA, measured in arbitrary units, varies with time during the different phases of the cell cycle in an animal cell.



(a) Interphase is made up of two growth phases,  $G_1$  and  $G_2$ , separated by an intermediate phase, S.

(i) Explain what is happening within the cell during phase S.

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 ..... (2)

(ii) State one process other than cell growth which occurs during phase  $G_2$ .

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 ..... (1)