4 (a) Complete the table of values for $y = \frac{x}{2} + 6e^{-2x} + 1$

giving your answers to one decimal place.

x	0	1	1.5	2	3	4	5	6
y	7		2.0			3.0		4.0

(2)

(b) On the grid opposite, draw the graph of $y = \frac{x}{2} + 6e^{-2x} + 1$ for $0 \leqslant x \leqslant 6$

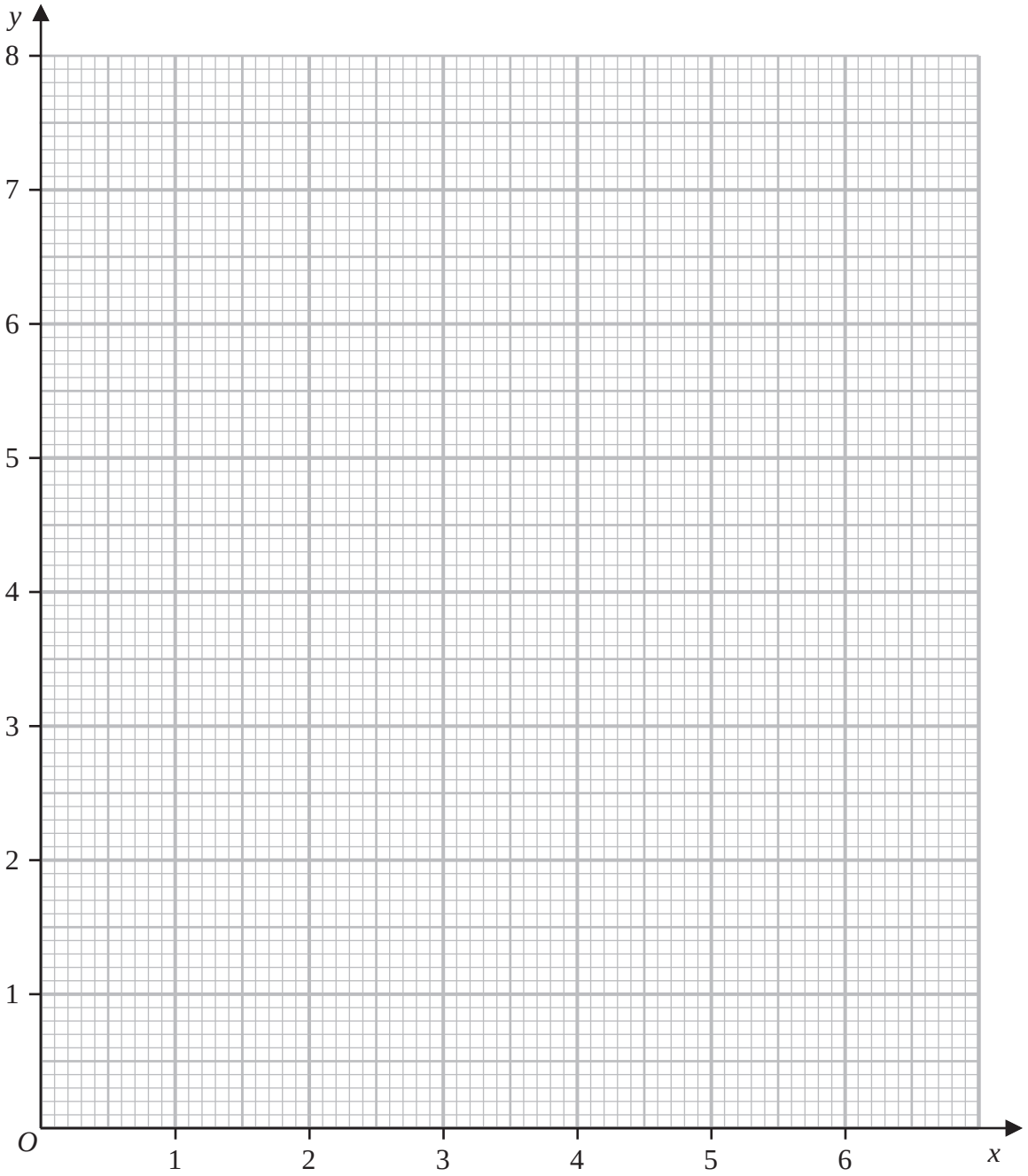
(2)

(c) By drawing a suitable straight line on your graph, obtain estimates, to one decimal place, of the roots of the equation

$$2x + \ln(24 - 5x) = \ln 36$$

(5)

Question 4 continued

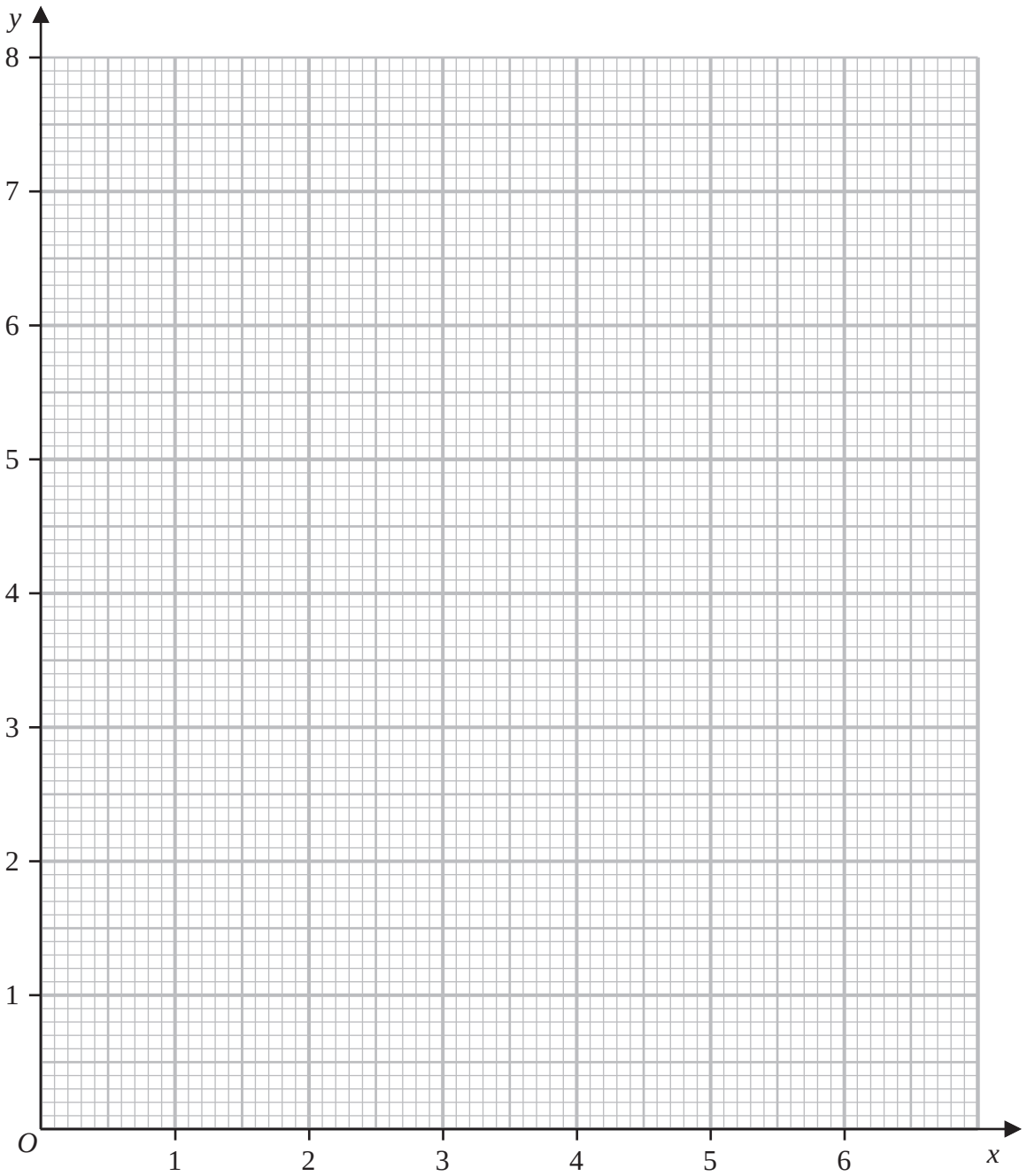


Turn over for a spare grid if you need to redraw your graph.

Question 4 continued

Question 4 continued

Only use this grid if you need to redraw your graph.



(Total for Question 4 is 9 marks)