8 The equation of a curve is $y = \frac{1}{2}x^3 - 5x - 3$

(a) Complete the table of values for $y = \frac{1}{2}x^3 - 5x - 3$

x	–4	–3	–2	–1	0	1	2	3	4
y	–15	–1.5				–7.5			9

(3)

(b) On the grid opposite, plot the points from your completed table and join them to form a smooth curve.

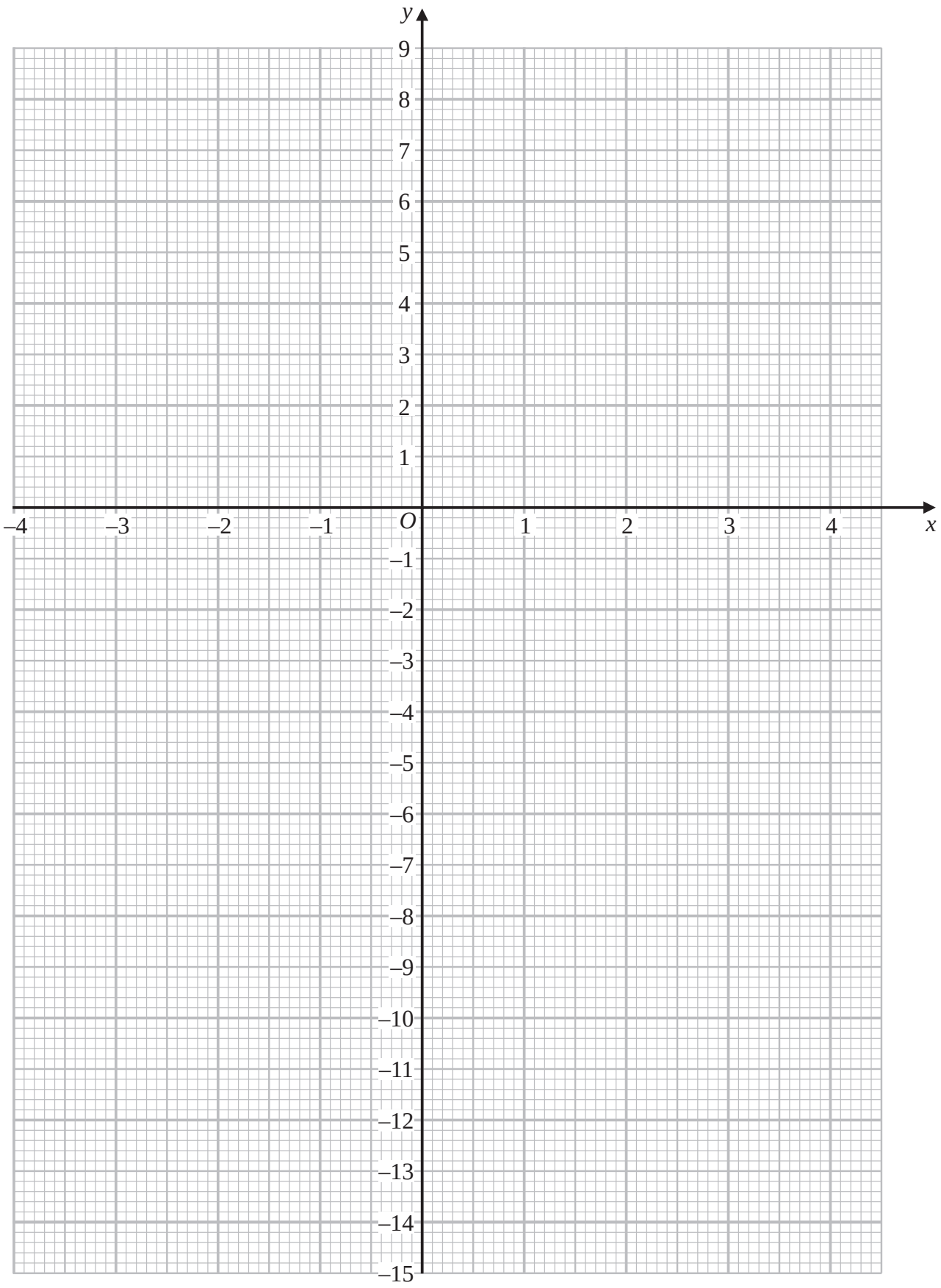
(3)

(c) By drawing a suitable straight line on your grid, find estimates, to one decimal place, of the solutions to the equation

$$\frac{1}{2}x^3 - 5x - 3 = 1 - \frac{1}{2}x \quad \text{in the interval} \quad -4 \leqslant x \leqslant 4$$

(3)

Question 8 continued

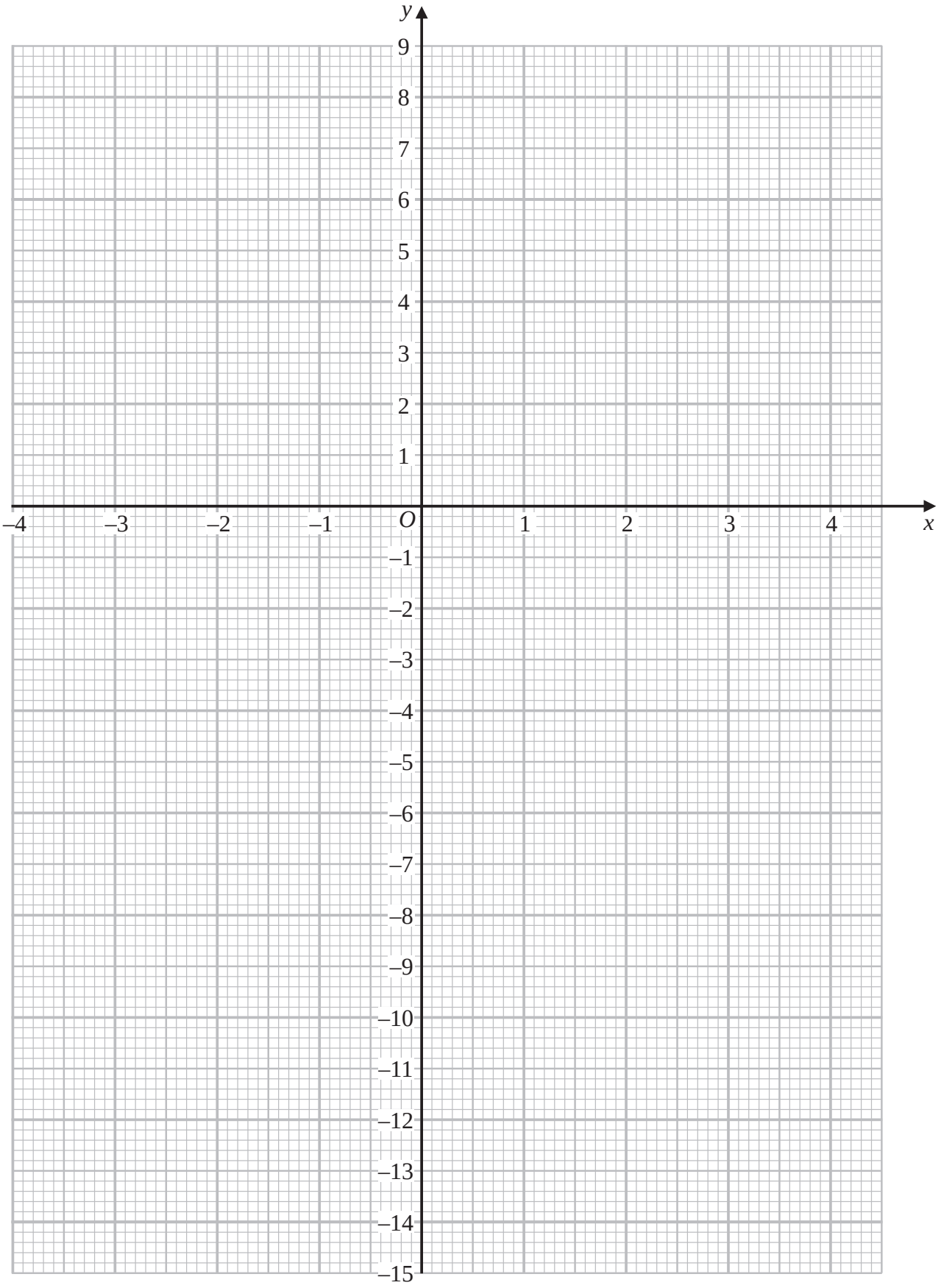


Turn over for a spare grid if you need to redraw your graph.

Question 8 continued

Question 8 continued

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



(Total for Question 8 is 9 marks)