

6 For x radians,

$$y = 3 \cos \frac{x}{2}$$

(a) Complete the table, giving the three missing values correct to 2 decimal places.

(2)

x	0	0.5	1	1.5	2	2.5	3	3.5
y	3		2.63	2.20		0.95	0.21	

On the axes opposite,

(b) draw the graph of $y = 3 \cos \frac{x}{2}$ for $0 \leq x \leq 3.5$

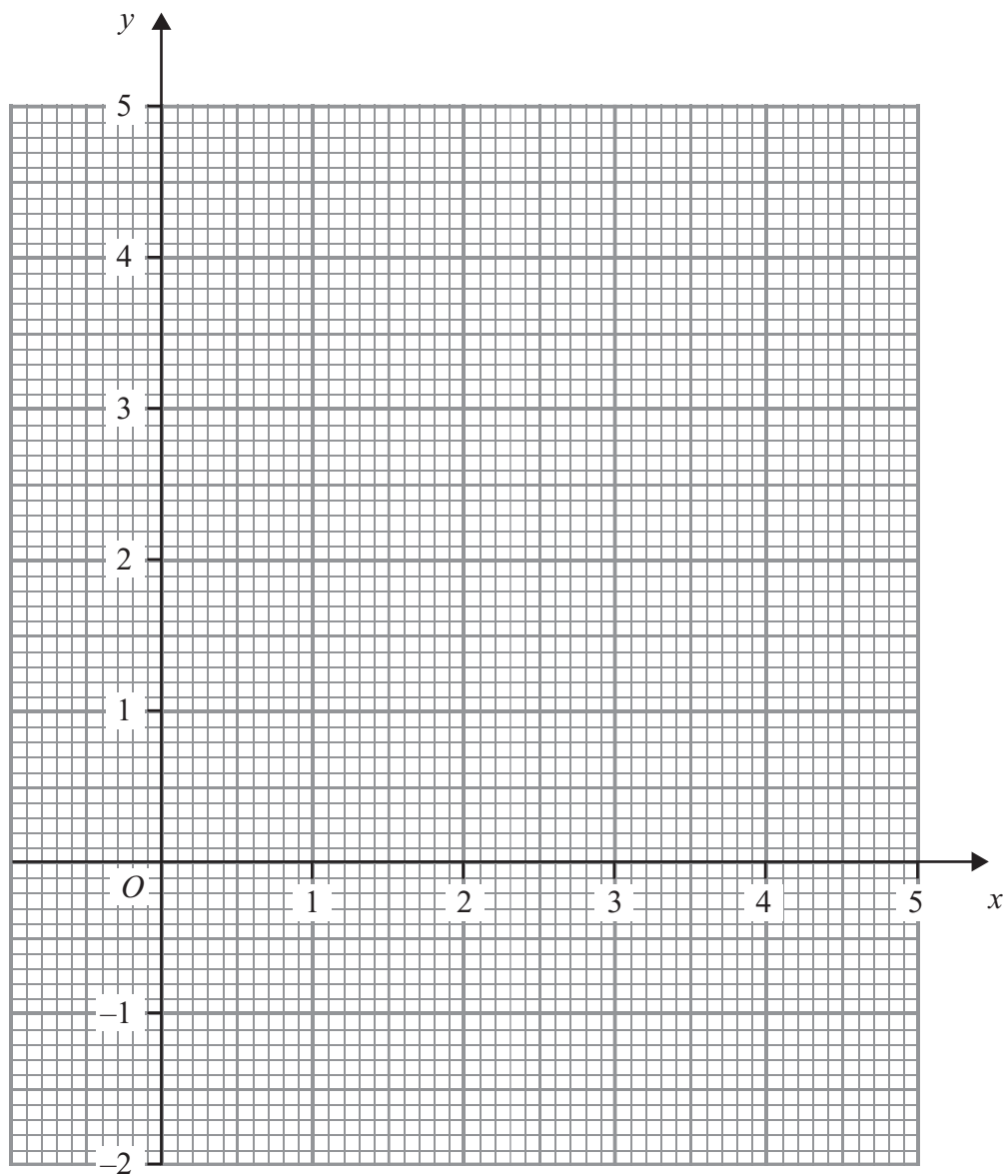
(2)

(c) Using your graph, find an estimate, to 1 decimal place, for the root of the equation

$$2x = 1 + 2 \cos \frac{x}{2}$$

(4)

This image shows a single sheet of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting or typing. There are no margins, text, or other markings on the paper.

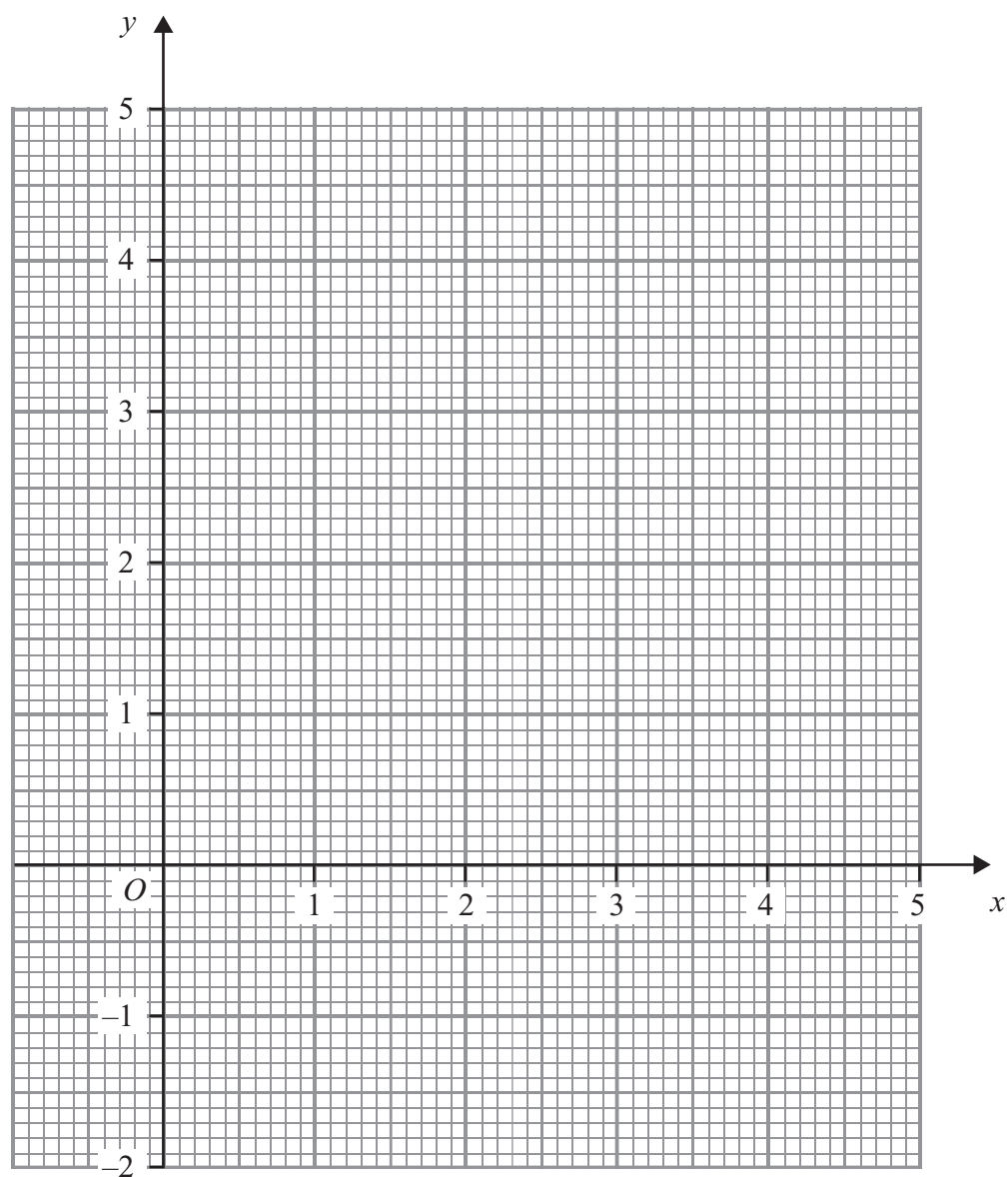
Question 6 continued

Question 6 continued



Question 6 continued

Use this page only if you need to redraw your graph.



(Total for Question 6 is 8 marks)

