4

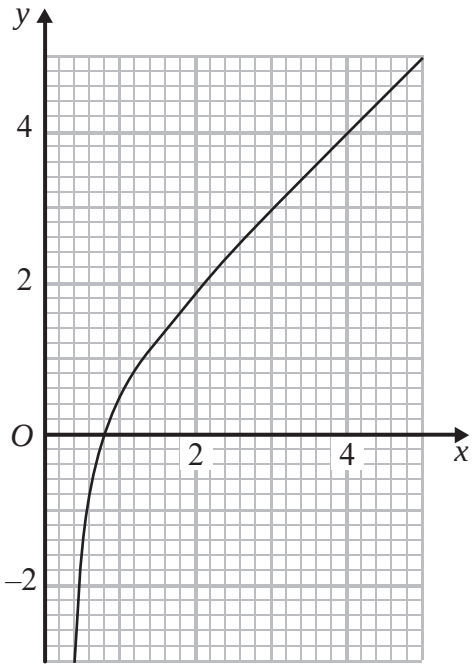

Figure 2

Figure 2 shows the graph of $y = x - \frac{1}{2x^2}$ for $0.4 \leqslant x \leqslant 5$ drawn on a grid.

(a) (i) Express $x - \frac{1}{2x^2}$ as a single fraction.

(ii) Hence use the graph to obtain, to one significant figure, an estimate for the value of $\sqrt[3]{0.5}$

(3)

(b) By drawing a suitable straight line on the grid, find an estimate to 2 significant figures, for the root of the equation

$$4 - 2x + \frac{1}{2x^2} = 0$$

in the interval $0.4 \leqslant x \leqslant 5$

(3)

Question 4 continued

(Total for Question 4 is 6 marks)