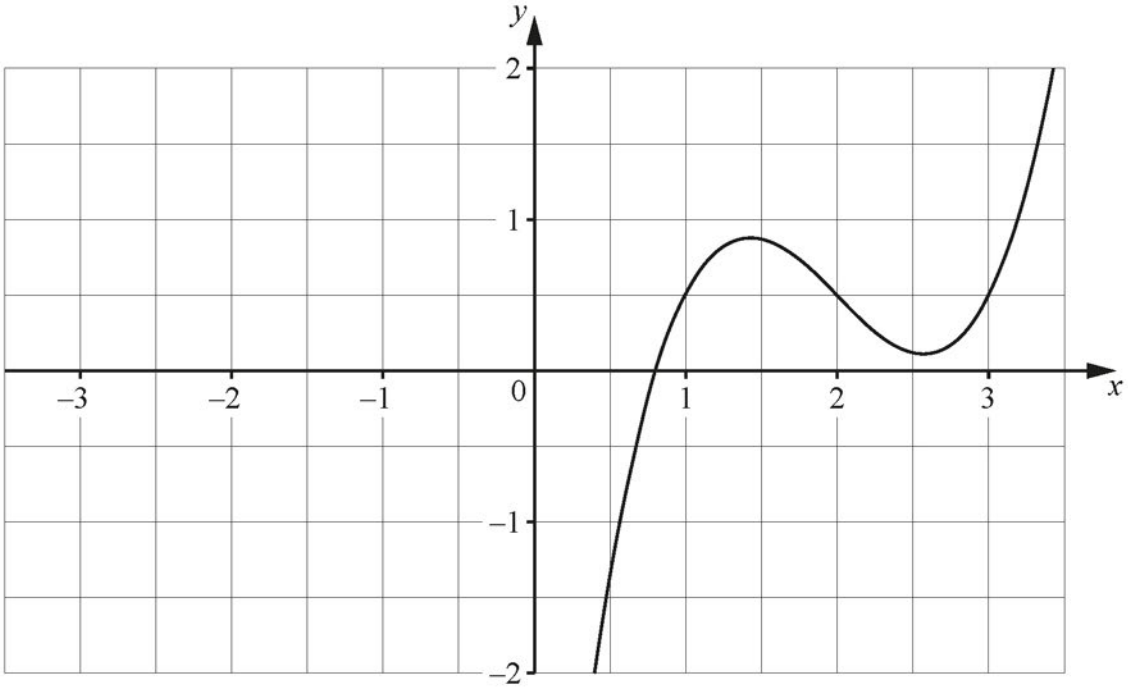
3 The diagram shows the curve $y = \mathrm{f}(x)$, where $\mathrm{f}(x)$ is a cubic polynomial in x.
This diagram is repeated in the Printed Answer Booklet.



(a) State the values of x for which $\mathrm{f}(x) < \frac{1}{2}$, giving your answer in set notation. **[3]**

(b) On the diagram in the Printed Answer Booklet, draw the graph of $y = \mathrm{f}(-x)$. **[2]**

(c) Explain how you can tell that $\mathrm{f}(x)$ cannot be expressed as the product of three real linear factors. **[1]**