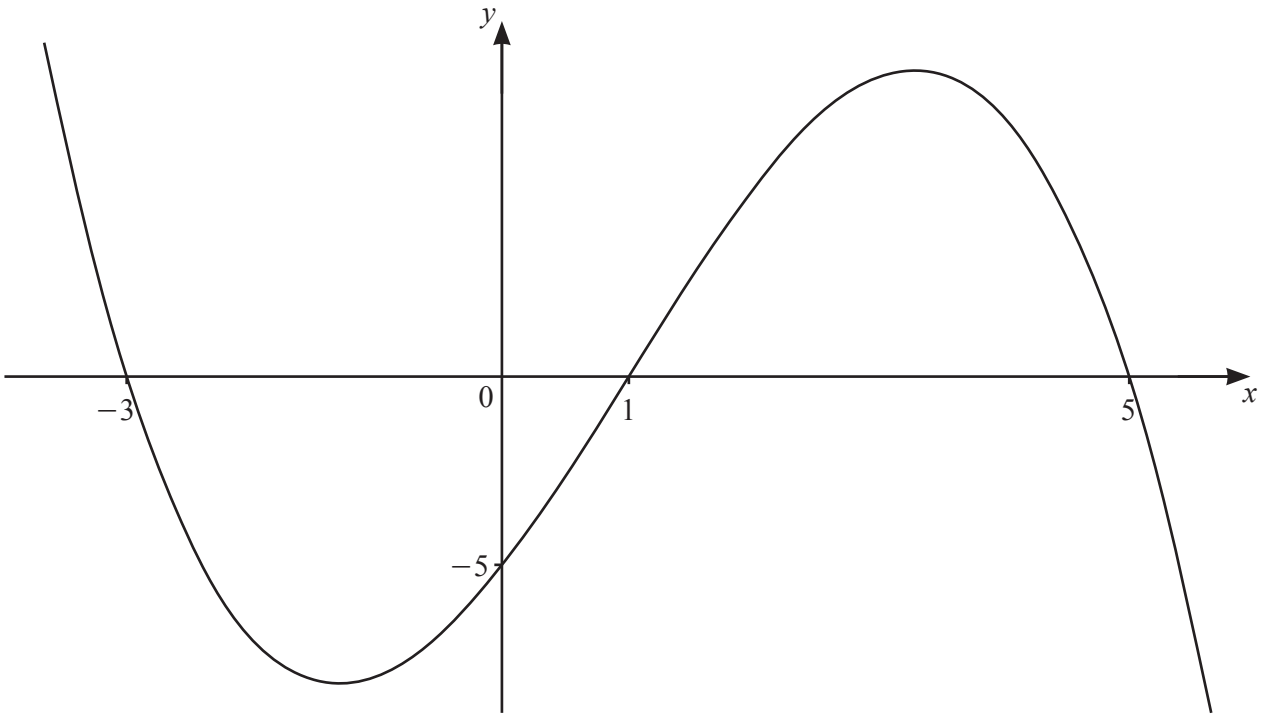
1



The diagram shows the graph of the cubic function $y = \mathrm{f}(x)$. The intercepts of the curve with the axes are all integers.

(a) Find the set of values of x for which $\mathrm{f}(x) < 0$. [1]

(b) Find an expression for $\mathrm{f}(x)$. [3]

2 **(a)** Given that $\dfrac{\sqrt[3]{xy}(zy)^2}{(xz)^{-3}\sqrt{z}} = x^a y^b z^c$, find the exact values of the constants a, b and c. [3]

(b) Solve the equation $5(2^{2p+1}) - 17(2^p) + 3 = 0$. [4]

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