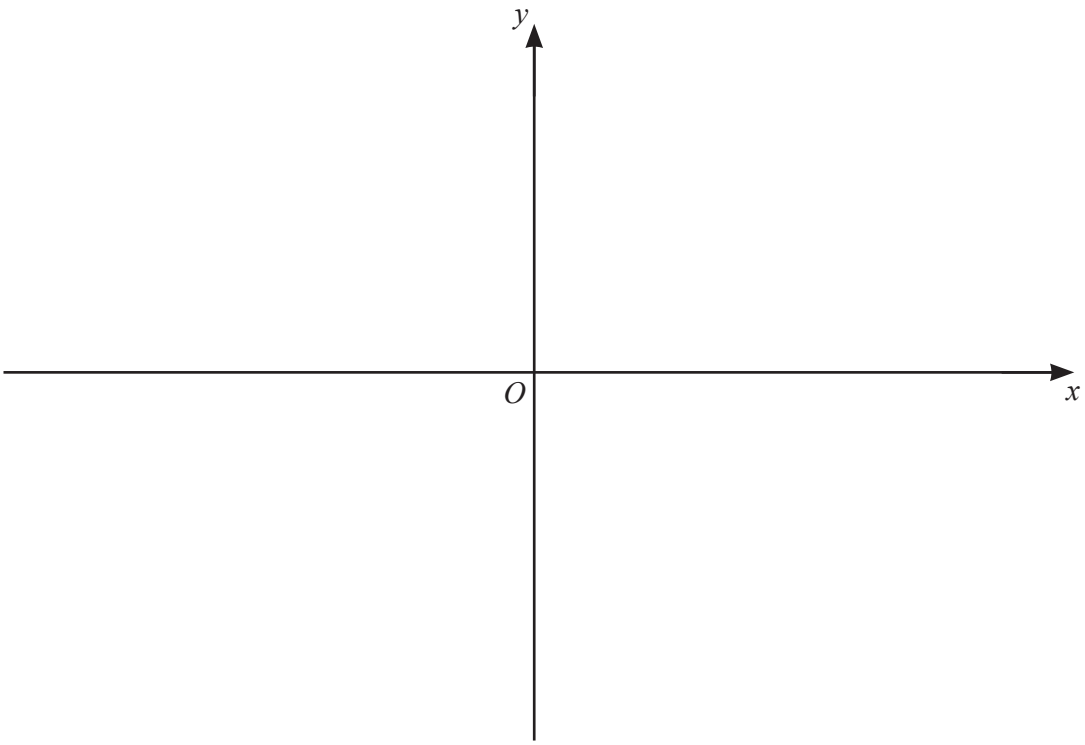
6 The polynomial $\mathrm{q}(x)$ is given by $\mathrm{q}(x) = -\frac{1}{3}(2x-1)(x+3)^2$.

(a) Find the x-coordinates of the stationary points on the curve $y = \mathrm{q}(x)$. [4]

(b) On the axes, sketch the graph of $y = \mathrm{q}(x)$ stating the intercepts with the coordinate axes. [3]



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(c) Find the values of k such that $q(x) = k$ has exactly one solution. [3]

7 Solve the equation $6x^{\frac{1}{3}} - 2x^{-\frac{1}{3}} - 1 = 0$. Give your answers in exact form. [4]