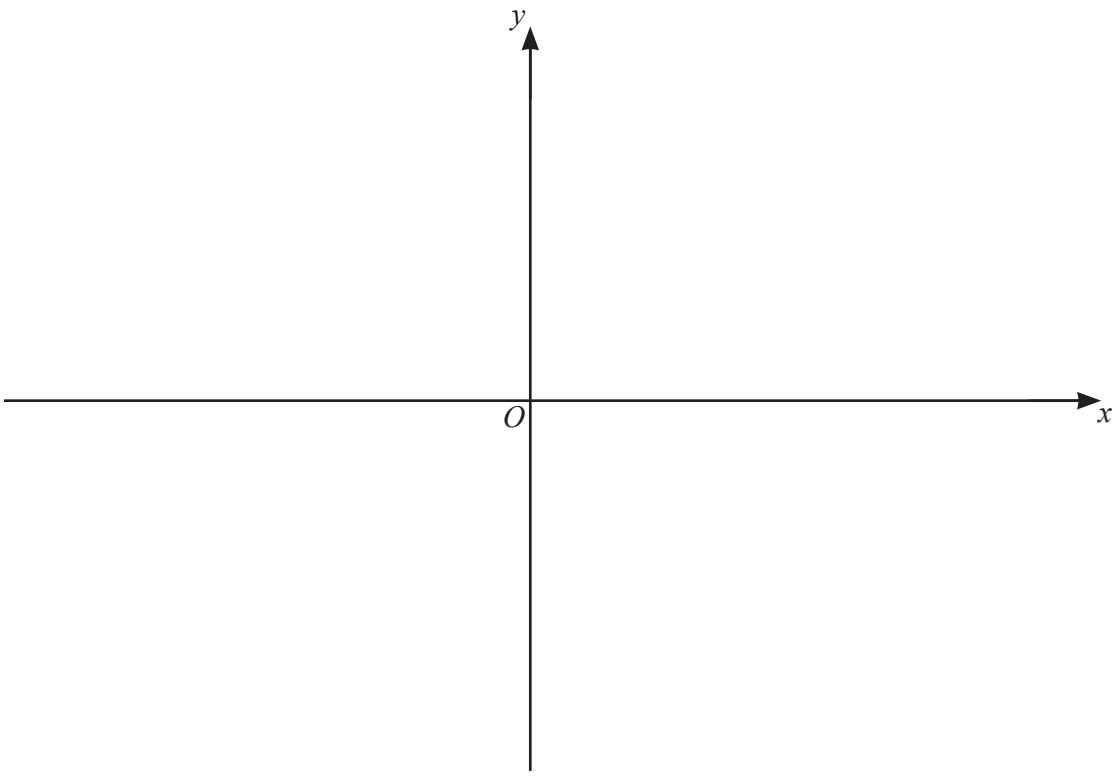
3 **(a)** Find the coordinates of the stationary points on the curve $y = (2x+1)^2(x-3)$. [4]

(b) On the axes, sketch the graph of $y = (2x+1)^2(x-3)$, stating the intercepts with the axes. [3]



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(c) Write down the values of k for which the equation $(2x+1)^2(x-3)=k$ has exactly one solution. [2]

4 Find $\int_0^2 \left(1+e^{2x}\right)^2 dx$, giving your answer in exact form. [5]