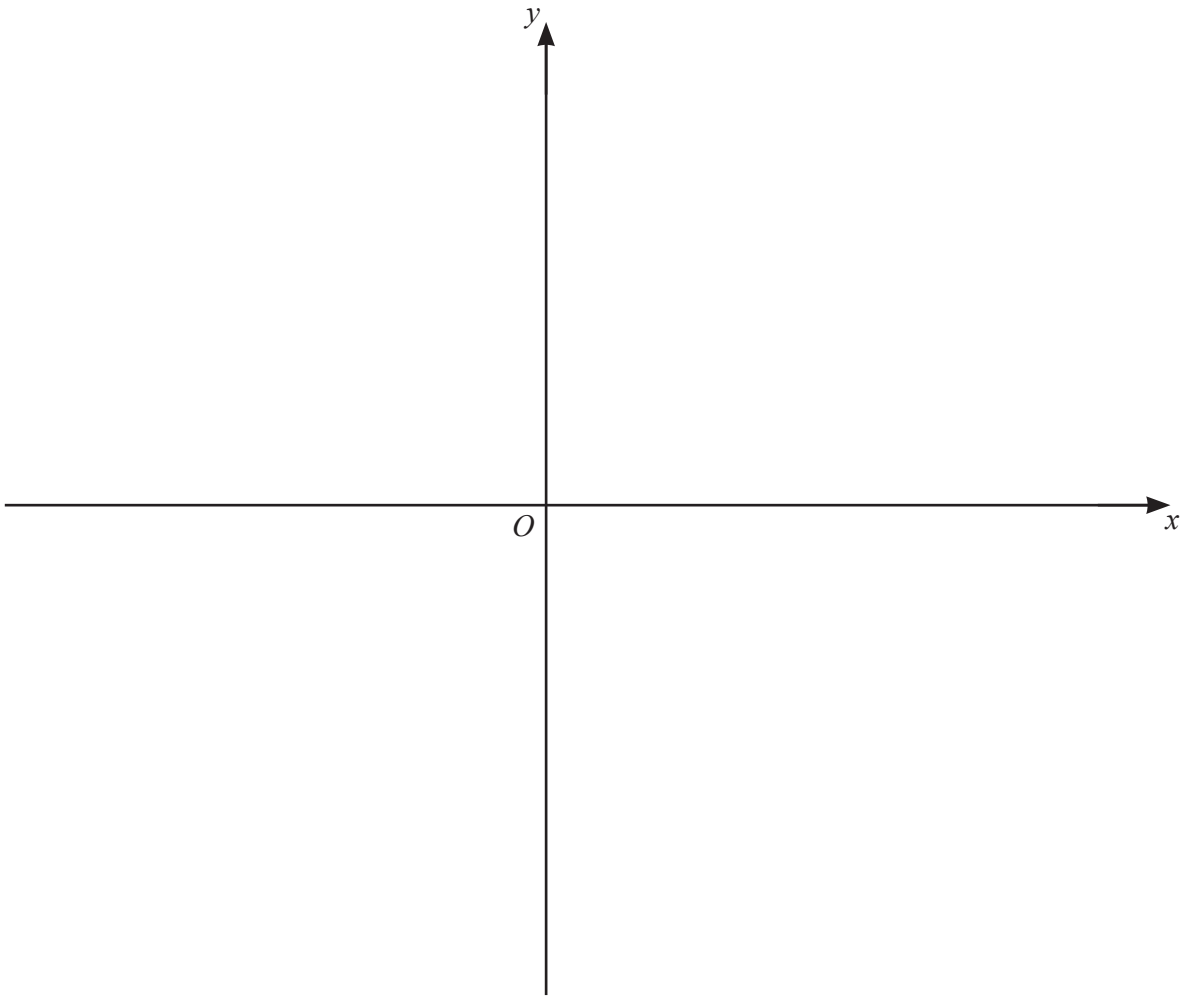
8 It is given that $f(x) = 2\ln(3x-4)$ for $x > a$.

(a) Write down the least possible value of a. [1]

(b) Write down the range of f. [1]

(c) It is given that the equation $f(x) = f^{-1}(x)$ has two solutions. (You do not need to solve this equation). Using your answer to **part (a)**, sketch the graphs of $y = f(x)$ and $y = f^{-1}(x)$ on the axes below, stating the coordinates of the points where the graphs meet the axes. [4]



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It is given that $g(x) = 2x - 3$ for $x \geqslant 3$.

(d) (i) Find an expression for $g(g(x))$. [1]

(ii) Hence solve the equation $fg(g(x)) = 4$ giving your answer in exact form. [3]