8 Given that $f''(x) = (3x+5)^{-\frac{2}{3}}$, $f'(1) = 6$, and $f(1) = 20$, find an expression for $f(x)$. [8]

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9 The equation of a curve is $y = \dfrac{e^{-3x+2}}{x+1}$ where $x < -1$.

(a) Show that $\dfrac{dy}{dx} = \dfrac{e^{-3x+2}}{(x+1)^2}(Ax+B)$ where A and B are integers to be found. [5]

(b) Hence show that there is only one stationary point on the curve and find its exact coordinates. [3]

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