7 It is given that $y = \dfrac{\ln(3x^2 - 1)}{x + 2}$, for $x > \dfrac{1}{\sqrt{3}}$. When $x = 1$, y is increasing at the rate of h units per second. Find, in terms of h, the corresponding rate of change in x, giving your answer in exact form.

[6]

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8 The tangent to the curve $y = e^x(2x+5)^{\frac{1}{2}}$ at the point where $x = 2$ meets the x-axis at the point X and the y-axis at the point Y. Find the coordinates of the mid-point of XY, giving your answer in exact form. [8]

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