7 **(a)** Given that $y = \left(x^2 - 1\right)\sqrt{5x+2}$, show that $\frac{\mathrm{d}y}{\mathrm{d}x} = \frac{Ax^2 + Bx + C}{2\sqrt{5x+2}}$, where A, B and C are integers. [5]

(b) Find the coordinates of the stationary point of the curve $y = (x^2 - 1)\sqrt{5x + 2}$, for $x > 0$. Give each coordinate correct to 2 significant figures. [3]

(c) Determine the nature of this stationary point. [2]