10 **(a)** Show that $\frac{6}{2+3x}+\frac{4}{(x+1)^2}-\frac{2}{x+1}$ can be written as $\frac{14x+10}{(2+3x)(x+1)^2}$. [2]

(b) Hence find the exact value of $\int_0^2 \frac{14x+10}{(2+3x)(x+1)^2}\,\mathrm{d}x$. Give your answer in the form $p+\ln q$, where p and q are rational numbers. [6]

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