

8 The curves $e^x - 2e^y = 1$ and $2e^x + 3e^{2y} = 41$ intersect at the point P .

(a) Show that the y -coordinate of P satisfies the equation $3e^{2y} + 4e^y - 39 = 0$. **[1]**

(b) **In this question you must show detailed reasoning.**

Hence find the exact coordinates of P . **[5]**