4 $f(x) = e^{3x}\sqrt{1+2x}$

(a) Show that $f'(x) = \dfrac{2e^{3x}(2+3x)}{\sqrt{1+2x}}$

(4)

(b) Find an equation of the normal to the curve with equation $y = f(x)$ at the point on the curve where $x = 0$

Give your answer in the form $ax + by + c = 0$ where a, b and c are integers.

(6)

Question 4 continued

(Total for Question 4 is 10 marks)