10 Given that $\frac{12(2^{3x})^{x-2}6^{2x-1}}{9^x}$ can be written in the form 2^n

(a) show that $n = 3x^2 - 4x + 1$

(3)

(b) Hence solve the equation $\frac{12(2^{3x})^{x-2}6^{2x-1}}{9^x} = 32$

(3)

Question 10 continued

(Total for Question 10 is 6 marks)