9 (a) Find the value of a such that $\log_a 8 = \frac{3}{4}$

(2)

(b) Show that

$$3x\log_2 x - 4\log_{16} 8 + 6x\log_4 8 - \log_2 x = \log_2 (8x)^{3x-1}$$

(4)

(c) Hence solve the equation $3x\log_2 x - 4\log_{16} 8 + 6x\log_4 8 - \log_2 x = 0$

(3)

Question 9 continued

Question 9 continued

Question 9 continued

(Total for Question 9 is 9 marks)