

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)

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Question 9 continued

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Question 9 continued

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(Total for Question 9 is 9 marks)



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