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9. (i) Find the exact value of x for which

$$\log_3(x + 5) - 4 = \log_3(2x - 1)$$

(4)

(ii) Given that

$$3^{y+3} \times 2^{1-2y} = 108$$

(a) show that

$$0.75^{y} = 2$$

(4)

(b) Hence find the value of y, giving your answer to 3 decimal places.

(2)

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Question 9 continued

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Question 9 continued

Q9

(Total 10 marks)

TOTAL FOR PAPER IS 75 MARKS

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