



Exponentials and Logarithms

Questions

Suitable for:

Pearson Edexcel International A-Level (iAL) — Pure Mathematics 2



Question 1

(a) Show that

$$2\log 5 + \log 4 = \log 100$$

(2 marks)

(b) Hence state the exact value of $2\log 5 + \log 4$.

(1 marks)

Total for question = 3 marks



Question 2

Show that

$$\log 250 + \log 4 - \log 10 = 2$$

(3 marks)

Total for question = 3 marks



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Question 3

Express

$$\log 48 - 2\log 2 + \log 3$$

as a single logarithm.

(3 marks)

Total for question = 3 marks



Question 4

Solve

$$\log(x + 2) + \log(x - 1) = \log(2x + 4)$$

(4 marks)

Total for question = 4 marks



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Question 5

Solve

$$2\log x - \log(x + 6) = 0$$

giving any solutions that are not valid a reason for rejection.

(4 marks)

Total for question = 4 marks





Question 6

Solve

$$4^x = 50$$

giving your answer to 3 decimal places.

(3 marks)

Total for question = 3 marks



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Question 7

Solve

$$3^{2x+1} = 15$$

giving your answer to 3 decimal places.

(4 marks)

Total for question = 4 marks



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Question 8

Solve

$$5^x = 3^{x+2}$$

giving your answer to 3 decimal places.

(4 marks)

Total for question = 4 marks