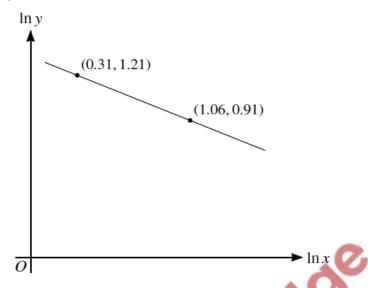
<u>Logarithm and Exponential Functions – 2022 A2 June</u>

1. March/2022/Paper_9709/32/No.3



The variables x and y satisfy the equation $x^ny^2 = C$, where n and C are constants. The graph of $\ln y$ against $\ln x$ is a straight line passing through the points (0.31, 1.21) and (1.06, 0.91), as shown in the diagram.

Find the value of n and find the value of C correct to 2 decimal places.	[5]

So	lve the equation $2(3^{2x-1}) = 4^{x+1}$, giving your answer correct to 2 decimal places.	
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Solve the equation $\ln(e^{2x} + 3) = 2x + \ln 3$, giving your answer correct to 3 decimal places.	[4]
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4.	June/2022/Paper_9709/33/No.3				
		Show that the equation $\log_3(2x+1) = 1 + 2\log_3(x-1)$ can be written as a quadratic equation	on [3]		
	(b)	Hence solve the equation $log_3(4y+1) = 1 + 2 log_3(2y-1)$, giving your answer correct to 2 decimples	nal		
		places.	[2]		