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4	The curve C has equation $y = 2x^2 + px + q$ where p and q are integers.	
	The curve $C$ has a stationary point at $(3, -5)$	
	(a) Show that $p = -12$ and find the value of $q$	
		(4)
	(b) State, giving a reason, the nature of the stationary point.	(4)
		(1)
	(c) Find an equation of the normal to $C$ at the point on $C$ where $x = 1$	
	Give your answer in the form $ax + by + c = 0$	(6)
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Question 4 continued			
(Total for Question 4 is 11 marks)			
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5	$y$ and $x$ vary so that $y = xe^{-2x}$	
	Given that the value of $x$ increases by 3%, use calculus to find, in terms of $x$ , an estimate for the percentage change in $y$ . Give your answer in the form $a(b-cx)$ where $a$ , $b$ and $c$ are integers.	
		(6)

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Question 5 continued				
(Total for Question 5 is 6 marks)				

