

Question	Answer	Marks	Guidance
9(a)	Differentiate to obtain $5 + 12x - 9x^2$	B1	
	Attempt to find two critical values by solving quadratic equation or inequality	M1	
	Obtain values $-\frac{1}{3}$ and $\frac{5}{3}$	A1	SC B1 if no method for solving the quadratic.
	Conclude $x < -\frac{1}{3}, x > \frac{5}{3}$	A1FT	SC B1 if no method for solving the quadratic.
		4	

Question	Answer	Marks	Guidance
9(b)	Equate first derivative to 9 and simplify to 3 term quadratic	*M1	
	Obtain $x = \frac{2}{3}$	A1	SC B1 for solving $5 + 12x - 9x^2 = 9$ without simplifying to a 3-term quadratic.
	Use x -value and corresponding y -value to determine value of k	DM1	
	Obtain $k = \frac{28}{9}$	A1	SC B1 for $k = \frac{28}{9}$ from solving $5 + 12x - 9x^2 = 9$ without simplifying to a 3-term quadratic.
		4	