

Question			Answer	Marks	AO	Guidance	
3	(a)		$kx^2 + 2kx - 3x + 2k + 1$ oe	B1	2.1	Correctly moves all terms to one side of the equation	Therefore, allow sign errors only M0 if $b^2 - 4ac$ appears only in the quadratic formula All inequality work must be correct throughout for this mark
			$(2k - 3)^2 - 4(k)(2k + 1)$	M1*	1.1	Use of $b^2 - 4ac$ with $a = \pm k, b = \pm 2k \pm 3, c = \pm 2k \pm 1$. Allow with any inequality or equals	
			$(2k - 3)^2 - 4(k)(2k + 1) < 0$	M1dep*	1.1	Setting discriminant < 0	
			$4k^2 - 12k + 9 - 8k^2 - 4k < 0$ $-4k^2 - 16k + 9 < 0$ $\Rightarrow 4k^2 + 16k - 9 > 0$	A1	2.2a	AG - sufficient working must be shown (e.g. at least one line of working from $(2k - 3)^2 - 4(k)(2k + 1) < 0$ to given answer)	
				[4]			
3	(b)		c.v. are 0.5 and -4.5	B1	1.1	BC – correct critical values of k	Answer must be in set notation for this mark
			$\{k : k > 0.5\} \cup \{k : k < -4.5\}$	B1FT	2.5	FT their critical values k_1, k_2 from the given correct inequality e.g. $\{k : k > k_1\} \cup \{k : k < k_2\}$ where $k_1 > k_2$	
				[2]			