	Quadratic Inequalities (Algebraically) Mark Scheme	
1(a)	$x = 0$ and $x = 3$	**[1]** Both answers needed for mark
1(b)	$-x^2 + 7x - 7 < 7$	**[1]**
1(c)	$-10 < x < 3$	**[1]**
2(a)	$x^2 + 5x - 14 \leq 0$ $(x + 7)(x - 2) \leq 0$	**[1]** - Factorising
	$-7 \leq x \leq 2$	**[1]** – Final answer
2(b)	$7x^2 - 22x + 16 \leq 0$ $(x - 8)(x - 2) \leq 0$	**[1]** - Factorising
	$2 \leq x \leq 8$	**[1]** – Final answer
2(c)	$x^2 > 4(8 - x)$ $x^2 + 4x - 32 > 0$ $(x - 4)(x + 8) > 0$	**[1]** - Factorising
	$x < -8$ and $x > 4$	**[1]** – Final answer
2(d)	$x^2 - x - 30 \geq 0$ $(x - 6)(x + 5) \geq 0$	**[1]** - Factorising
	$-5 \leq x \leq 6$	**[1]** – Final answer
3	$x^2 - 4x - 5 \geq 0$	**[1]** - Rearranging
	$(x - 5)(x + 1) \geq 0$	**[1]** - Factorising
	They are both correct but each person only gives half of the answer.	**[1]** – Valid explanation
4	$-(x^2 - 7x + 12) \geq 0$	**[1]** - Rearranging
	$-(x - 3)(x - 4) \geq 0$	**[1]** - Factorising
	$f(0) < 0; f(5) < 0;\ f(3.5) > 0$	**[1]** - Evaluation
	$3 \leq x \leq 4$ is the solution	**[1]** – Final answer only achieves mark with prior working shown
5	$x^2 - 5x + 4 \leq 0$	**[1]** - Rearranging
	$(x - 4)(x - 1) \leq 0$	**[1]** - Factorising
	$1 \leq x \leq 4$	**[1]** – Final answer

END