Question			Answer	Marks	AO	Guidance	
2	**(a)**	**(i)**	$\dfrac{3+2\sqrt{x}+3-2\sqrt{x}}{\left(3-2\sqrt{x}\right)\left(3+2\sqrt{x}\right)}$	**M1**	**1.1**	Attempt to rewrite fractions using correct common denominator	Common denominator could just appear as $9-4x$ Must include correct attempt at numerators as well
			$\dfrac{6}{9-4x}$	**A1**	**2.1**	Obtain correct simplified fraction	No need to state values for a, b and c explicitly www – if middle terms shown for expansion of denominator, then these must be correct ISW any further attempt to 'simplify' **SC B1** for answer only, with no method shown
				[2]			
2	**(a)**	**(ii)**	$\dfrac{6}{9-4x}=2$ $6=18-8x$ $8x=12$	**M1**	**1.1a**	Attempt to solve equation – as far as clearing the fraction and combining constant terms	**M1** for using their fraction, as long as of correct form Correct method to clear fraction, so **M0** for eg $6=18-4x$, but allow sign error when combining constant terms
			$x=\frac{3}{2}$	**A1**	**1.1**	Obtain $x=\frac{3}{2}$	aef, but fractions must be simplified
				[2]			

Question			Answer	Marks	AO	Guidance	
2	**(b)**		**DR** $$\left(2^y - 8\right)\left(2^y + 1\right)$$	**M1**	**3.1a**	Attempt to solve disguised quadratic in 2^y	If factorising then expansion should give x^2 and one other term correct Quadratic formula should be correct – allow one slip when substituting as long as general formula already seen as correct Completing the square needs to go as far as $x - p = \pm\sqrt{q}$
			$2^y = 8$, $2^y = -1$	**A1**	**2.1**	Obtain two correct roots (could still be in terms of eg u if substitution used)	**SC** If no method shown then award **B1** in place of **M1A1** for both correct roots (final two marks can still be awarded)
			$y = \log_2 8 = 3$	**M1**	**1.1**	Attempt to solve $2^y = k$, where $k > 0$ May just see $y = 3$, with no explicit use of $\log_2$	Allow BOD if attempt at solving $2^y = -1$ still present If $k \neq 8$ then solution method must be seen, even if k is a power of 2
			$y = 3$ only; $2^y = -1$ has no solutions as $2^y > 0$ for all y	**A1**	**2.3**	Obtain $y = 3$, having rejected $2^y = -1$ with some reasoning	Must have some reason, eg '2^y is always positive', '2^y cannot be negative', 'cannot take log of a negative number', 'not defined', 'not real', 'no solutions' **A0** for 'math error', 'does not work', 'not possible'
				[4]			**SC** If no method at all shown then allow **B1** for $y = 3$, with no other solutions