

Question	Scheme	Marks	AOs
1(a)	States or uses $2\log(3-x) = \log(3-x)^2$	B1	1.2
	$2\log(3-x) - \log(21-2x) = 0$ $\frac{(3-x)^2}{21-2x} = 1$ oe	M1	1.1b
	$x^2 - 4x - 12 = 0$ *	A1*	2.1
		(3)	
(b)	(i) $x = -2, 6$	B1	1.1b
	(ii) 6 is not a solution as $\log(3-6)$ cannot be found	B1	2.3
		(2)	

(5 marks)

Notes:

(a)

B1: States or uses $2\log(2-x) = \log(2-x)^2$

M1: Correct attempt at eliminating the logs to form a quadratic equation in x .

An alternative method to the scheme is $2\log(3-x) = \log(21-2x) \Rightarrow (2-x)^2 = 21-2x$

A1*: Proceeds to the given answer with at least one line where the $(3-x)^2$ has been multiplied out.

There must be no errors or omissions.

(b)

B1: Writes down $x = -2, 6$

B1: Chooses 6 and gives a reason why it should be rejected, Eg. logs don't exist for negative numbers