Question 1 : Jan 05 Q3

Question Number	Scheme	Marks
	(a) $\log 3^x = \log 5$ $x = \dfrac{\log 5}{\log 3}$ $= 1.46$	M1 A1 A1 cao (3)
	(b) $\log_2 (\dfrac{2x+1}{x}) = 2$ $\dfrac{2x+1}{x} = 2^2$ or 4 $2x+1 = 4x$ $x = \dfrac{1}{2}$ or 0.5	M1 M1 M1 A1 (4) (7)
	(a) M1 a correct attempt to take logs A1 an exact expression for x that can be evaluated on a calculator e.g. $x = \log_3 5$ scores M1 A0 (b) 1st M1 for use of $\log a (\pm) \log b$ rule 2nd M1 for getting out of logs 3rd M1 forming and solving a linear equation $\rightarrow x = \alpha$ A1 $\alpha = \dfrac{1}{2}$ or 0.5	

Question 2 : June 05 Q2

Question number	Scheme	Marks
2.	(a) $x\log 5 = \log 8$, $x = \dfrac{\log 8}{\log 5}$, $= 1.29$	M1, A1, A1 (3)
	(b) $\log_2 \dfrac{x+1}{x}$ (or $\log_2 7x$)	B1
	$\dfrac{x+1}{x} = 7$ $x = \ldots$, $\dfrac{1}{6}$ (Allow 0.167 or better)	M1, A1 (3)
		6
	(a) Answer only 1.29 : Full marks. Answer only, which rounds to 1.29 (e.g. 1.292): M1 A1 A0 Answer only, which rounds to 1.3 : M1 A0 A0 Trial and improvement: Award marks as for "answer only". (b) M1: Form (by legitimate log work) and solve an equation in *x*. Answer only: No marks unless verified (then full marks are available).	

Question 3 : June 06 Q3

Question number	Scheme	Marks
3.	(i) 2	B1 (1)
	(ii) $2\log 3 = \log 3^2$ (or $2\log p = \log p^2$)	B1
	$\log_a p + \log_a 11 = \log_a 11p$, $= \log_a 99$ (Allow e.g. $\log_a (3^2 \times 11)$)	M1, A1 (3)
		4
	(ii) Ignore 'missing base' or wrong base. The correct answer with no working scores full marks. $\log_a 9 \times \log_a 11 = \log_a 99$, or similar mistakes, score M0 A0.	

Question 4 : Jan 07 Q4

Question Number	Scheme	Marks
4.	$x\log 5 = \log 17$ or $x = \log_5 17$	M1
	$x = \dfrac{\log 17}{\log 5}$	A1
	$= 1.76$	A1 (3)

<u>Notes</u> N.B. It is never possible to award an A mark after giving M0. If M0 is given then the marks will be M0 A0 A0.

4	
Acceptable alternatives include $x\log 5 = \log 17$; $x\log_{10} 5 = \log_{10} 17$; $x\log_e 5 = \log_e 17$; $x\ln 5 = \ln 17$; $x = \log_5 17$ Can be implied by a correct exact expression as shown on the first A1 mark	1st M1
An exact expression for x that can be evaluated on a calculator. Acceptable alternatives include $x = \dfrac{\log 17}{\log 5}$; $x = \dfrac{\log_{10} 17}{\log_{10} 5}$; $x = \dfrac{\log_e 17}{\log_e 5}$; $x = \dfrac{\ln 17}{\ln 5}$; $x = \dfrac{\log_q 17}{\log_q 5}$ where q is a number This may not be seen (as, for example, $\log_5 17$ can be worked out directly on many calculators) so this A mark can be implied by the correct final answer or the right answer corrected to or truncated to a greater accuracy than 3 significant figures or 1.8 Alternative: $x = \dfrac{\text{a number}}{\text{a number}}$ where this fraction, when worked out as a decimal rounds to 1.76. (N.B. remember that this A mark cannot be awarded without the M mark). If the line for the M mark is missing but this line is seen (with or without the $x =$) and is <u>correct</u> the method can be assumed and M1 1st A1 given.	1st A1
1.76 cao	2nd A1
N.B. $\sqrt[5]{17} = 1.76$ and $x^5 = 17, \therefore x = 1.76$ are both M0 A0 A0	
Answer only 1.76: full marks (M1 A1 A1) Answer only to a greater accuracy but which rounds to 1.76: M1 A1 A0 (e.g. 1.760, 1.7603, 1.7604, 1.76037 etc) Answer only 1.8: M1 A1 A0 Trial and improvement: award marks as for "answer only".	

Question 5 : June 07 Q6

<table>
<tr><th>Question number</th><th>Scheme</th><th>Marks</th></tr>
<tr><td></td><td>(a) $x = \frac{\log 0.8}{\log 8}$ or $\log_8 0.8$, $= -0.107$ Allow awrt
(b) $2\log x = \log x^2$
$\log x^2 - \log 7x = \log \frac{x^2}{7x}$
"Remove logs" to form equation in x, using the base correctly: $\frac{x^2}{7x} = 3$
$x = 21$ (Ignore $x = 0$, if seen)</td><td>M1, A1 (2)
B1
M1
M1
A1cso (4)
6</td></tr>
<tr><td></td><td>(a) Allow also the 'implicit' answer $8^{-0.107}$ (M1 A1).
Answer only: −0.107 or awrt: Full marks.
Answer only: −0.11 or awrt (insufficient accuracy): M1 A0
Trial and improvement: Award marks as for "answer only".
(b) <u>Alternative:</u>
$2\log x = \log x^2$ B1
$\log 7x + 1 = \log 7x + \log 3 = \log 21x$ M1
"Remove logs" to form equation in x: $x^2 = 21x$ M1
$x = 21$ (Ignore $x = 0$, if seen) A1
<u>Alternative:</u>
$\log 7x = \log 7 + \log x$ B1
$2\log x - (\log 7 + \log x) = 1$
$\log_3 x = 1 + \log_3 7$ M1
$x = 3^{(1+\log_3 7)}$ $\left(= 3^{2.771\ldots}\right)$ or $\log_3 x = \log_3 3 + \log_3 7$ M1
$x = 21$ A1
Attempts using change of base will usually require the same steps as in the main scheme or alternatives, so can be marked equivalently.
<u>A common mistake:</u>
$\log x^2 - \log 7x = \frac{\log x^2}{\log 7x}$ B1 M0
$\frac{x^2}{7x} = 3$ $x = 21$ M1('Recovery'), but A0</td><td></td></tr>
</table>

Question 6 : Jan 08 Q5

Question Number	Scheme	Marks
	Method 1 (Substituting a = 3b into second equation at some stage)	
	Using a law of logs correctly (anywhere) e.g. $\log_3 ab = 2$	M1
	Substitution of $3b$ for a (or a/3 for b) e.g. $\log_3 3b^2 = 2$	M1
	Using base correctly on **correctly derived** $\log_3 p = q$ e.g. $3b^2 = 3^2$	M1
	First correct value $b = \sqrt{3}$ (allow $3^{½}$)	A1
	Correct method to find other value (dep. on at least first M mark)	M1
	Second answer $a = 3b = 3\sqrt{3}$ or $\sqrt{27}$	A1
	Method 2 (Working with two equations in $\log_3 a$ and $\log_3 b$)	
	" Taking logs" of first equation and " separating" $\log_3 a = \log_3 3 + \log_3 b$ $(= 1 + \log_3 b)$	M1
	Solving simultaneous equations to find $\log_3 a$ or $\log_3 b$ [$\log_3 a = 1½$, $\log_3 b = ½$]	M1
	Using base correctly to find a or b	M1
	Correct value for a or b $a = 3\sqrt{3}$ or $b = \sqrt{3}$	A1
	Correct method for second answer, dep. on first M; correct second answer [Ignore negative values]	M1;A1 **[6]**

Notes:	Answers must be exact; decimal answers lose both A marks There are several variations on **Method 1**, depending on the stage at which $a = 3b$ is used, but they should all mark as in scheme. In this method, the first three method marks on Epen are for (i) First M1: correct use of log law, (ii) Second M1: substitution of $a = 3b$, (iii) Third M1: requires using base correctly on correctly derived $\log_3 p = q$ *Three examples of applying first 4 marks in Method 1:* (i) $\log_3 3b + \log_3 b = 2$ gains second M1 $\log_3 3 + \log_3 b + \log_3 b = 2$ gains first M1 $(2\log_3 b = 1,\ \log_3 b = ½)$ no mark yet $b = 3^{½}$ gains third M1, and if correct A1 (ii) $\log_3 (ab) = 2$ gains first M1 $ab = 3^2$ gains third M1 $3b^2 = 3^2$ gains second M1 (iii) $\log_3 3b^2 = 2$ has gained first 2 M marks $\Rightarrow 2\log_3 3b = 2$ or similar type of error $\Rightarrow \log_3 3b = 1 \Rightarrow 3b = 3$ does not gain third M1, as $\log_3 3b = 1$ not derived correctly	

Question 7 : June 08 Q4

Question Number	Scheme	Marks
(*a*)	$x = \dfrac{\log 7}{\log 5}$ or $x = \log_5 7$	M1
	1.21	A1 (2)
(*b*)	$(5^x - 7)(5^x - 5)$	M1 A1
	$(5^x = 7$ or $5^x = 5)$ $x = 1.2$ (awrt)	A1 ft
	$x = 1$	B1 (4)
		(6 marks)

Question 8 : Jan 09 Q4

Question Number	Scheme	Marks
	$2\log_5 x = \log_5(x^2)$, $\quad \log_5(4-x) - \log_5(x^2) = \log_5 \frac{4-x}{x^2}$	B1, M1
	$\log\left(\frac{4-x}{x^2}\right) = \log 5 \quad 5x^2 + x - 4 = 0$ **or** $5x^2 + x = 4$ **o.e.**	M1 A1
	$(5x-4)(x+1) = 0 \quad x = \frac{4}{5} \quad (x = -1)$	dM1 A1 (6) **[6]**
Notes	**B1** is awarded for $2\log x = \log x^2$ anywhere. **M1** for correct use of $\log A - \log B = \log \frac{A}{B}$ **M1** for replacing 1 by $\log_k k$. **A1** for correct quadratic $(\log(4-x) - \log x^2 = \log 5 \Rightarrow 4 - x - x^2 = 5$ is **B1M0M1A0 M0A0**) **dM1** for attempt to solve quadratic with usual conventions. (Only award if previous two **M** marks have been awarded) **A1** for 4/5 or 0.8 or equivalent (Ignore extra answer).	
Alternative 1	$\log_5(4-x) - 1 = 2\log_5 x$ so $\log_5(4-x) - \log_5 5 = 2\log_5 x$	M1
	$\log_5 \frac{4-x}{5} = 2\log_5 x$	M1
	then could complete solution with $2\log_5 x = \log_5(x^2)$	B1
	$\left(\frac{4-x}{5}\right) = x^2 \quad 5x^2 + x - 4 = 0$	A1
	Then as in first method $(5x-4)(x+1) = 0 \quad x = \frac{4}{5} \quad (x = -1)$	dM1 A1 (6) **[6]**
Special cases	Complete trial and error yielding 0.8 is **M3** and **B1** for 0.8 **A1, A1** awarded for each of two tries evaluated. i.e. 6/6 Incomplete trial and error with wrong or no solution is 0/6 Just answer 0.8 with no working is **B1**	
	If log base 10 or base e used throughout - can score **B1M1M1A0M1A0**	

Question 9 : June 09 Q8

Question Number	Scheme	Marks
Q (a)	$\log_2 y = -3 \;\Rightarrow\; y = 2^{-3}$	M1
	$y = \frac{1}{8}$ or 0.125	A1 (2)
(b)	$32 = 2^5$ or $16 = 2^4$ or $512 = 2^9$	M1
	[or $\log_2 32 = 5\log_2 2$ or $\log_2 16 = 4\log_2 2$ or $\log_2 512 = 9\log_2 2$]	
	[or $\log_2 32 = \dfrac{\log_{10} 32}{\log_{10} 2}$ or $\log_2 16 = \dfrac{\log_{10} 16}{\log_{10} 2}$ or $\log_2 512 = \dfrac{\log_{10} 512}{\log_{10} 2}$]	
	$\log_2 32 + \log_2 16 = 9$	A1
	$(\log x)^2 = \ldots$ or $(\log x)(\log x) = \ldots$ (May not be seen explicitly, so M1 may be implied by later work, and the base may be 10 rather than 2)	M1
	$\log_2 x = 3 \;\Rightarrow\; x = 2^3 = 8$	A1
	$\log_2 x = -3 \;\Rightarrow\; x = 2^{-3} = \dfrac{1}{8}$	A1ft (5) [7]
(a)	M1 for getting out of logs correctly. If done by change of base, $\log_{10} y = -0.903\ldots$ is insufficient for the M1, but $y = 10^{-0.903}$ scores M1. A1 for the exact answer, e.g. $\log_{10} y = -0.903 \Rightarrow y = 0.12502..$ scores M1 (implied) A0. Correct answer with no working scores both marks. Allow both marks for implicit statements such as $\log_2 0.125 = -3$.	
(b)	1st M1 for expressing 32 or 16 or 512 as a power of 2, or for a change of base enabling evaluation of $\log_2 32$, $\log_2 16$ or $\log_2 512$ by calculator. (Can be implied by 5, 4 or 9 respectively). 1st A1 for 9 (exact). 2nd M1 for getting $(\log_2 x)^2$ = constant. The constant can be a log or a sum of logs. If written as $\log_2 x^2$ instead of $(\log_2 x)^2$, allow the M mark only if subsequent work implies correct interpretation. 2nd A1 for 8 (exact). Change of base methods leading to a non-exact answer score A0. 3rd A1ft for an answer of $\dfrac{1}{\text{their } 8}$. An ft answer may be non-exact. Possible mistakes: $\log_2(2^9) = \log_2(x^2) \Rightarrow x^2 = 2^9 \Rightarrow x = \ldots$ scores M1A1(implied by 9)M0A0A0 $\log_2 512 = \log_2 x \times \log_2 x \Rightarrow x^2 = 512 \Rightarrow x = \ldots$ scores M0A0(9 never seen)M1A0A0 $\log_2 48 = (\log_2 x)^2 \Rightarrow (\log_2 x)^2 = 5.585 \Rightarrow x = 5.145,\ x = 0.194$ scores M0A0M1A0A1ft No working (or 'trial and improvement'): $x = 8$ scores M0 A0 M1 A1 A0	

Question 10 : Jan 10 Q5

Question Number	Scheme	Marks
(a)	$\log_x 64 = 2 \quad \Rightarrow \quad 64 = x^2$ So $x = 8$	M1 A1 (2)
(b)	$\log_2(11-6x) = \log_2(x-1)^2 + 3$ $\log_2\left[\frac{11-6x}{(x-1)^2}\right] = 3$ $\frac{11-6x}{(x-1)^2} = 2^3$ $\{11-6x = 8(x^2-2x+1)\}$ and so $0 = 8x^2 - 10x - 3$ $0 = (4x+1)(2x-3) \Rightarrow x = \ldots$ $x = \frac{3}{2}, \left[-\frac{1}{4}\right]$	M1 M1 M1 A1 dM1 A1 (6) [8]
(a)	M1 for getting out of logs A1 Do not need to see $x = -8$ appear and get rejected. Ignore $x = -8$ as extra solution. $x = 8$ with no working is M1 A1	
(b)	1st M1 for using the $n\log x$ rule 2nd M1 for using the $\log x - \log y$ rule or the $\log x + \log y$ rule as appropriate 3rd M1 for using 2 to the power– need to see 2^3 or 8 (May see $3 = \log_2 8$ used) **If all three M marks have been earned and logs are still present in equation do not give final M1.** So solution stopping at $\log_2\left[\frac{11-6x}{(x-1)^2}\right] = \log_2 8$ would earn M1M1M0 1st A1 for a correct 3TQ 4th dependent M1 for attempt to solve or factorize their 3TQ to obtain $x = \ldots$ (mark depends on three previous M marks) 2nd A1 for 1.5 (ignore -0.25) s.c 1.5 only – no working – is 0 marks	
(a)	<u>Alternatives</u> Change base : (i) $\frac{\log_2 64}{\log_2 x} = 2$, so $\log_2 x = 3$ and $x = 2^3$, is M1 or (ii) $\frac{\log_{10} 64}{\log_{10} x} = 2$, $\log x = \frac{1}{2}\log 64$ so $x = 64^{\frac{1}{2}}$ is M1 then $x = 8$ is A1 **BUT** $\log x = 0.903$ so $x = 8$ is M1A0 (loses accuracy mark) (iii) $\log_{64} x = \frac{1}{2}$ so $x = 64^{\frac{1}{2}}$ is M1 then $x = 8$ is A1	

Question 11 : June 10 Q7

Question Number	Scheme	Marks
	(a) $2\log_3(x-5) = \log_3(x-5)^2$	B1
	$\log_3(x-5)^2 - \log_3(2x-13) = \log_3 \dfrac{(x-5)^2}{2x-13}$	M1
	$\log_3 3 = 1$ seen or used correctly	B1
	$\log_3\left(\dfrac{P}{Q}\right) = 1 \Rightarrow P = 3Q \quad \left\{\dfrac{(x-5)^2}{2x-13} = 3 \Rightarrow (x-5)^2 = 3(2x-13)\right\}$	M1
	$x^2 - 16x + 64 = 0$ (*)	A1 cso
		(5)
	(b) $(x-8)(x-8) = 0 \Rightarrow x = 8$ Must be seen in part (b). Or: Substitute $x = 8$ into original equation and verify. Having additional solution(s) such as $x = -8$ loses the A mark. $x = 8$ with no working scores both marks.	M1 A1 (2) 7

(a) Marks may be awarded if equivalent work is seen in part (b).

1st M: $\log_3(x-5)^2 - \log_3(2x-13) = \dfrac{\log_3(x-5)^2}{\log_3(2x-13)}$ is M0

$2\log_3(x-5) - \log_3(2x-13) = 2\log\dfrac{x-5}{2x-13}$ is M0

2nd M: After the first mistake above, this mark is available only if there is 'recovery' to the required $\log_3\left(\dfrac{P}{Q}\right) = 1 \Rightarrow P = 3Q$. Even then the final mark (cso) is lost.

'Cancelling logs', e.g. $\dfrac{\log_3(x-5)^2}{\log_3(2x-13)} = \dfrac{(x-5)^2}{2x-13}$ will also lose the 2nd M.

A typical wrong solution:

$$\log_3\frac{(x-5)^2}{2x-13} = 1 \Rightarrow \log_3\frac{(x-5)^2}{2x-13} = 3 \Rightarrow \frac{(x-5)^2}{2x-13} = 3 \Rightarrow (x-5)^2 = 3(2x-13)$$

(Wrong step here)

This, with no evidence elsewhere of $\log_3 3 = 1$, scores B1 M1 B0 M0 A0

However, $\log_3\dfrac{(x-5)^2}{2x-13} = 1 \Rightarrow \dfrac{(x-5)^2}{2x-13} = 3$ is correct and could lead to full marks.

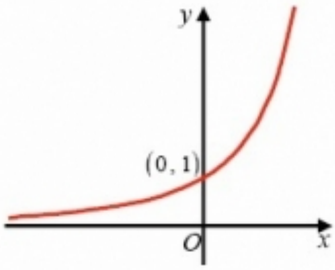
(Here $\log_3 3 = 1$ is implied).

No log methods shown:

It is not acceptable to jump immediately to $\dfrac{(x-5)^2}{2x-13} = 3$. The only mark this scores is the 1st B1 (by generous implication).

(b) M1: Attempt to solve the given quadratic equation (usual rules), so the factors $(x-8)(x-8)$ with no solution is M0.

Question 12 : Jan 11 Q8

Question Number	Scheme	Marks
(a)	Graph of $y = 7^x,\ x \in \mathbb{R}$ and solving $7^{2x} - 4(7^x) + 3 = 0$  At least two of the three criteria correct. **(See notes below.)**	B1
	All three criteria correct. **(See notes below.)**	B1
		(2)
(b)	$y^2 - 4y + 3\ \{= 0\}$ Forming a quadratic {using $"y" = 7^x$}.	M1
	$y^2 - 4y + 3\ \{= 0\}$	A1
	$\{(y-3)(y-1) = 0$ or $(7^x - 3)(7^x - 1) = 0\}$ $y = 3,\ y = 1$ or $7^x = 3,\ 7^x = 1$ Both $y = 3$ and $y = 1$.	A1
	$\{7^x = 3 \Rightarrow\}\ x\log 7 = \log 3$ or $x = \dfrac{\log 3}{\log 7}$ or $x = \log_7 3$ A valid method for solving $7^x = k$ where $k > 0,\ k \neq 1$	dM1
	$x = 0.5645....$ 0.565 or awrt 0.56	A1
	$x = 0$ $x = 0$ stated as a solution.	B1
		(6) [8]
	Notes	
(a)	B1B0: Any two of the following three criteria below correct. B1B1: All three criteria correct. Criteria number 1: Correct shape of curve for $x \geq 0$. Criteria number 2: Correct shape of curve for $x < 0$. Criteria number 3: $(0, 1)$ stated or 1 marked on the y-axis. Allow $(1, 0)$ rather than $(0, 1)$ if marked in the "correct" place on the y-axis.	

Question Number	Scheme	Marks
(b)	1st M1 is an attempt to form a quadratic equation {using $"y" = 7^x$.} 1st A1 mark is for the correct quadratic equation of $y^2 - 4y + 3\ \{= 0\}$. Can use any variable here, eg: y, x or 7^x. Allow M1A1 for $x^2 - 4x + 3\ \{= 0\}$. Writing $(7^x)^2 - 4(7^x) + 3 = 0$ is also sufficient for M1A1. Award M0A0 for seeing $7^{x^2} - 4(7^x) + 3 = 0$ by itself without seeing $y^2 - 4y + 3\ \{= 0\}$ or $(7^x)^2 - 4(7^x) + 3 = 0$. 1st A1 mark for both $y = 3$ and $y = 1$ or both $7^x = 3$ and $7^x = 1$. Do not give this accuracy mark for both $x = 3$ and $x = 1$, unless these are recovered in later working by candidate applying logarithms on these. Award M1A1A1 for $7^x = 3$ and $7^x = 1$ written down with no earlier working. 3rd dM1 for solving $7^x = k,\ k > 0,\ k \neq 1$ to give either $x\ln 7 = \ln k$ or $x = \dfrac{\ln k}{\ln 7}$ or $x = \log_7 k$. dM1 is dependent upon the award of M1. 2nd A1 for 0.565 or awrt 0.56. B1 is for the solution of $x = 0$, from ***any*** working.	

Question 13 : June 11 Q3

Question Number	Scheme		Marks
	(a) $5^x = 10$ and (b) $\log_3(x-2) = -1$		
(a)	$x = \dfrac{\log 10}{\log 5}$ or $x = \log_5 10$		M1
	$x\{=1.430676558...\} = 1.43$ (3 sf)	1.43	A1 cao
			[2]
(b)	$(x-2) = 3^{-1}$	$(x-2) = 3^{-1}$ or $\frac{1}{3}$	M1 oe
	$x\left\{= \frac{1}{3} + 2\right\} = 2\frac{1}{3}$	$2\frac{1}{3}$ or $\frac{7}{3}$ or $2.\dot{3}$ or awrt 2.33	A1
			[2]
			4
(a)	M1: for $x = \dfrac{\log 10}{\log 5}$ or $x = \log_5 10$. Also allow M1 for $x = \dfrac{1}{\log 5}$ 1.43 with no working (or any working) scores M1A1 (even if left as $5^{1.43}$). Other answers which round to 1.4 with no working score M1A0. **Trial & Improvement Method:** M1: For a method of trial and improvement by trialing f(value between 1.4 and 1.43) = Value below 10 and f(value between 1.431 and 1.5) = Value over 10. A1 for 1.43 cao. **Note**: $x = \log_{10} 5$ by itself is M0; but $x = \log_{10} 5$ followed by $x = 1.430676558...$ is M1.		
(b)	M1: Is for correctly eliminating log out of the equation. **Eg 1:** $\log_3(x-2) = \log_3(\frac{1}{3}) \Rightarrow x - 2 = \frac{1}{3}$ only gets M1 when the logs are correctly removed. **Eg 2:** $\log_3(x-2) = -\log_3(3) \Rightarrow \log_3(x-2) + \log_3(3) = 0 \Rightarrow \log_3(3(x-2)) = 0$ $\Rightarrow 3(x-2) = 3^0$ only gets M1 when the logs are correctly removed, but $3(x-2) = 0$ would score M0. Note: $\log_3(x-2) = -1 \Rightarrow \log_3\left(\dfrac{x}{2}\right) = -1 \Rightarrow \dfrac{x}{2} = 3^{-1}$ would score M0 for incorrect use of logs. **Alternative: changing base** $\dfrac{\log_{10}(x-2)}{\log_{10} 3} = -1 \Rightarrow \log_{10}(x-2) = -\log_{10} 3 \Rightarrow \log_{10}(x-2) + \log_{10} 3 = 0$ $\Rightarrow \log_{10} 3(x-2) = 0 \Rightarrow 3(x-2) = 10^0$. At this point M1 is scored. A correct answer in (b) without any working scores M1A1.		