

Question number	Scheme	Marks
8	$\log_x 3 = \frac{1}{\log_3 x}$ <p>Let $y = \log_3 x$</p> <p>So $y - \frac{2}{y} = 1$</p> $y^2 - y - 2 = 0$ $(y - 2)(y + 1) = 0$ <p>$\log_3 x = 2$ or $\log_3 x = -1$</p> <p>$x = 9$ or $x = \frac{1}{3}$</p>	<p>B1</p> <p>M1</p> <p>A1</p> <p>M1</p> <p>M1</p> <p>A1 A1</p> <p>[7]</p>
Notes		
B1	For use of $\log_a x = \frac{1}{\log_b a}$	
M1	For $y - \frac{2}{y} = 1$ oe	
A1	For rearranging to a 3 TQ	
M1	For solving the 3 TQ	
M1	For either $\log_3 x = 2$ or $\log_3 x = -1$	
A1	For $x = 9$	
A1	For $x = \frac{1}{3}$	