Question	Answer	Marks	Partial Marks
1(a)	$w-1=\log_5 12$ or $w-1=\frac{\log 12}{\log 5}$	**M1**	
	$w=2.54$ cao	**A1**	
1(b)	Rewrites in quadratic form e.g.: $y=x^{\frac{1}{3}}\quad y^2-5y+6=0$ or $\left(x^{\frac{1}{3}}\right)^2-5x^{\frac{1}{3}}+6=0$	**M1**	
	and factorises or solves e.g. : $(y-2)(y-3)=0$	**M1**	Factorising *their* 3 term quadratic
	$x=8$ and $x=27$	**A1**	
2(a)	$\lg\frac{x^2}{3(x+6)}$ oe, nfww	**B2**	**B1** for any two log laws applied correctly e.g. $\lg\frac{x^2}{x+6}-\lg 3$
2(b)	$\lg\frac{x^2}{3(x+6)}=\lg 1$ or $10^0=\frac{x^2}{3(x+6)}$	**B1**	FT *their* $\lg\frac{x^2}{3(x+6)}$ providing a single logarithm
	$x^2-3x-18=0$	**B1**	**dep** on **B2** in **part (a)**
	Factorises or solves their 3-term quadratic	**M1**	
	$x=6$ indicated as only solution	**A1**	**dep** on **B2** in **part (a)**
3	Valid method to find m $m=\frac{8-1}{9-16}[=-1]$	**M1**	
	Valid method to find c e.g. $1=their(-1)\times 16+c$	**M1**	**FT** *their m*
	$\sqrt[3]{y}=their(-1)x^2+their17$	**A1**	Equation with correct variables and $\sqrt[3]{y}=$
	$y=\left(-x^2+17\right)^3$ oe, isw	**A1**	