Question	Answer	Marks	Guidance
3(a)	Correctly eliminates $\log_2 x$ or $\log_2 y$	**M1**	A correct equation in $\log_2 x$ only or $\log_2 y$ only
	$x = 16$ or $y = 64$	**A2**	**A1** for $\log_2 x = 4$ or $\log_2 y = 6$
	$y = 64$ or $x = 16$	**A2**	**A1** for $\log_2 y = 6$ or $\log_2 x = 4$
	Alternative method		
	$x^3y^2 = 2^{24}$ **and** $\frac{x^5}{y^3} = 2^2$ oe	**(M1)**	
	$y = 64$ or $x = 16$	**(A2)**	**A1** for $y^{19} = 2^{114}$ oe or $x^{19} = 2^{76}$ oe
	$x = 16$ or $y = 64$	**(A2)**	**A1** for $x^3 \times 64^2 = 2^{24}$ oe or $\frac{x^5}{64^3} = 2^2$ oe OR $16^3 \times y^2 = 2^{24}$ oe or $\frac{16^5}{y^3} = 2^2$ oe
3(b)	$2^{t+4-(1-2t)} = 2^9$ or $2^{t+4} = 2^{9+1-2t}$ oe, soi OR $t + 4 - (1 - 2t) = \log_2 512$ oe, soi or $t + 4 - (1 - 2t) = \frac{\log_a 512}{\log_a 2}$ oe	**B2**	**B1** for $2^{t+4-(1-2t)} = 512$ or $\frac{2^{t+4}}{2^{1-2t}} = 2^9$ soi OR $(t + 4)\log_a 2 - (1 - 2t)\log_a 2 = \log_a 512$
	$3t + 3 = 9$ or better	**M1**	
	$t = 2$	**A1**	