Question	Answer	Marks	Guidance
7(b)	$a(2\mathbf{i} - 3\mathbf{j}) + b(-\mathbf{i} + 5\mathbf{j}) = 10\mathbf{i} + 6\mathbf{j}$ oe	**B1**	
	$2a - b = 10$ oe, $-3a + 5b = 6$ oe or for $\frac{10-2a}{6+3a} = \frac{-1}{5}$ or $\frac{10+b}{6-5b} = \frac{-2}{3}$	**M1**	**Dep** on previous **B1** for equating like vectors
	$a = 8$ or $b = 6$	**A1**	
	$16\mathbf{i} - 24\underline{\mathbf{j}}$ oe	**A1**	Allow $8(2\mathbf{i} - 3\underline{\mathbf{j}})$ or $8\begin{pmatrix} 2 \\ -3 \end{pmatrix}$
8	$-x^4 + 3x^2 + 4$ (= 0)	**M1**	For attempt to solve simultaneously Allow one term error
	$(x^2 - 4)(x^2 + 1) = 0$ oe	**M1**	**Dep** for an attempt to solve *their* 3-term quadratic equation in terms of x^2
	$x = 2$ and -2 only	**A1**	
	$\int(-x^4 + 3x^2 + 4)\mathrm{d}x$	**M1**	For an attempt to integrate *their* quadratic–quartic or the other way around with one term correctly integrated Allow without limits
	$\left[-\frac{x^5}{5} + x^3 + 4x\right]_{-2}^{2}$	**A1**	All correct with correct limits of 2 and -2 or with limits of 0 and 2 or -2 and 0 then double the area of the integral
	$-\frac{32}{5} + 8 + 8 - (\frac{32}{5} - 8 - 8)$	**M1**	**Dep** for correct use of *their* limits into *their* integral substituted correctly If *their* integration – must see substitution of limits to award the mark
	$= \frac{96}{5}$ or 19.2	**A1**	

Question	Answer	Marks	Guidance
9(a)	$\log_5(5x-2)^2 - \log_5 x = 1$ oe	**2**	**B1** for $\log_{25} x = \frac{\log_5 x}{\log_5 25} = \frac{\log_5 x}{2}$ **B1** for $2\log_5(5x-2) = \log_5(5x-2)^2$ oe
	$\log_5 \frac{(5x-2)^2}{x} = 1$	**M1**	**Dep** on one of the previous **B1** For correct use of rules of logarithms e.g. dividing *their* logarithms to the same base Accept $\log_5 5$ for 1
	$25x^2 - 25x + 4 = 0$ oe	**M1**	**Dep M1** for forming a 3-term quadratic equation, with an attempt to solve must have at least 2 **B** marks
	$x = \frac{4}{5}$ only	**A1**	
	Alternative method 1		
	$\log_{25}(5x-2)^2 - \log_{25} x = \frac{1}{2}$	**(2)**	**B1** for $\log_5(5x-2) = \frac{\log_{25}(5x-2)}{\log_{25} 5} = \frac{\log_{25}(5x-2)}{\frac{1}{2}}$ oe **B1** for $\frac{1}{2} = \log_{25} 5$ or for $\frac{1}{2} = \frac{1}{2}\log_{25} 25$ soi
	$\log_{25} \frac{(5x-2)^2}{x} = \frac{1}{2}$ or $\log_{25}(5x-2) = \frac{1}{2}\log_{25} 5x$	**(M1)**	**Dep** on one of the previous **B1** For correct use of rules of logarithms e.g. dividing *their* logarithms to the same base or multiplying Accept $\log_{25} 5$ for $\frac{1}{2}$
	$25x^2 - 25x + 4 = 0$ oe	**(M1)**	**Dep M1** for forming a 3-term quadratic equation, with an attempt to solve must have at least 2 **B** marks
	$x = \frac{4}{5}$ only	**(A1)**	

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