Question	Answer	Marks	Partial Marks
1	Mid-point: $\left(-\frac{5}{2}, 8\right)$ soi	**B1**	
	Gradient: $-\frac{4}{5}$ soi or substitution of mid-point into e.g. $4x+5y=k$	**B1**	
	$y-8=-\frac{4}{5}\left(x+\frac{5}{2}\right)$ or $4x+5y=30$ oe, isw	**B1**	
2	$\log_5\left(\frac{8x+7}{2x}\right)=2$ or $\log_5\left(\frac{8x+7}{2x}\right)=\log_5 25$	**M1**	
	$\frac{8x+7}{2x}=5^2$ oe	**M1**	
	correct completion to $x=\frac{1}{6}$ oe, isw	**A1**	
3(a)	[7! =] 5040	**B1**	
3(b)	3! × 5! oe	**M1**	
	720	**A1**	
3(c)	5040 – (2! × 6!) oe	**M1**	
	3600	**A1**	
4	Eliminates one unknown e.g. $\frac{x^2}{4}+\frac{1}{9}\left(\frac{3}{2x}\right)^2=1$	**M1**	
	Rearranges to solvable form e.g. $x^4-4x^2+1=0$	**A1**	
	Solves : $\frac{-(-4)\pm\sqrt{(-4)^2-4(1)(1)}}{2}$	**M1**	**dep** on attempt to eliminate one unknown and having a 3-term quadratic in x^2
	$x^2=2\pm\sqrt{3}$ oe isw or 3.7320[5...] and 0.2679[4...]	**A1**	
	$x=\pm 1.932$ or $x=\pm 0.518$	**A1**	

Question	Answer	Marks	Partial Marks
5(a)	$f(x) = (x-1)(x-4)$ oe and $f(x) = -(x-1)(x-4)$ oe	**B2**	**B1** for either correct
5(b)	Factorised form: $(5x-1)(x-n)(x-(n+1))$ oe	**B1**	
	their $-1\times(-n)\times(-(n+1)) = -2$	**M1**	
	$n = -2$ as the only valid solution	**A1**	
	Multiplies out $(5x-1)(x+2)(x+1)$	**M1**	
	$5x^3+14x^2+7x-2$ or $a = 14$ and $b = 7$ following $n = -2$	**A1**	
	Alternative method 1:		
	Factorised form: $(5x-1)(x-n)(x-(n+1))$ oe	**(B1)**	
	Multiplies out $5x^3+(-10n-6)x^2+(5n^2+7n+1)x$ $-(n^2+n)$	**(M1)**	
	their $(n^2+n) = 2$ oe	**(M1)**	
	$n = -2$ as the only valid solution	**(A1)**	
	$5x^3+14x^2+7x-2$ or $a = 14$ and $b = 7$ following $n = -2$	**(A1)**	