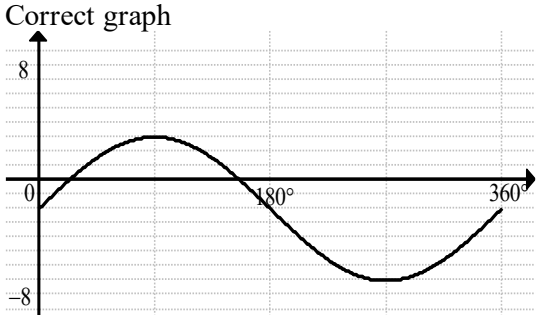
Question	Answer	Marks	Partial Marks
4(b)	$x+2y=1$	**B1**	
	Correctly eliminates one unknown	**M1**	**Dep** on **B1** allow unsimplified e.g. $x=1-2y$ or $y=\frac{1-x^2}{4x+1}$
	Correct quadratic in solvable form: $y-4y^2\,[=0]$ oe or $2x^2-3x+1[=0]$ oe	**A1**	
	Factorises or solves *their* quadratic to get two solutions	**M1**	**Dep** on previous **M1**
	$y = 0$, $x = 1$ and $y = \frac{1}{4}$, $x = \frac{1}{2}$	**A1**	
5(a)	$2x – 1 = –3$ and $2x – 1 = 3$	**M1**	
	$x = 2$, $x = –1$	**A2**	**A1** for either correct
	Alternative		
	$4x^2-4x-8=0$ oe	**(B1)**	
	Solves or factorises *their* 3-term quadratic	**(M1)**	
	$x = –1$, 2	**(A1)**	
5(b)	Correct graph 	**2**	**B1** for a correct sine curve one cycle **and** with correct amplitude at 3 and –7 **B1** for a correct sine curve one cycle **and** with correct midline $y = –2$

Question	Answer	Marks	Partial Marks
6(a)	Correct derivative $\frac{\mathrm{d}}{\mathrm{d}x}\left(\frac{x^2-1}{x^2+1}\right)=\frac{(x^2+1)(2x)-(x^2-1)(2x)}{(x^2+1)^2}$ or $2x\left(x^2+1\right)^{-1}-2x\left(x^2-1\right)\left(x^2+1\right)^{-2}$	**2**	**M1** for an attempt at the quotient or product rule **A1** fully correct
	Correct derivative $\frac{\mathrm{d}y}{\mathrm{d}x}=4\left(\frac{x^2-1}{x^2+1}\right)^3\left(\frac{(x^2+1)(2x)-(x^2-1)(2x)}{(x^2+1)^2}\right)$ or $4\left(\frac{x^2-1}{x^2+1}\right)^3\left(2x\left(x^2+1\right)^{-1}-2x\left(x^2-1\right)\left(x^2+1\right)^{-2}\right)$	**2**	**Dep M1** for $\frac{\mathrm{d}y}{\mathrm{d}x}=k\left(\frac{x^2-1}{x^2+1}\right)^3\times \mathrm{f}(x)$ where f(x) is *their* attempt to differentiate **A1** fully correct
	Correct completion to $\frac{16x(x^2-1)^3}{(x^2+1)^5}$	**A1**	
	Alternative		
	Correct derivatives $u=(x^2-1)^4 \quad \mathrm{d}u=4(x^2-1)^3\times(2x)$ oe and $v=(x^2+1)^4 \quad \mathrm{d}v=4(x^2+1)^3\times(2x)$ oe	**(2)**	**M1** for either correct OR for $\mathrm{d}u=4(x^2-1)^3\times \mathrm{g}(x)$ where g(x) is an attempt to differentiate x^2-1 and $\mathrm{d}v=4(x^2+1)^3\times \mathrm{h}(x)$ where h(x) is an attempt to differentiate x^2+1
	Correct derivative $\frac{\mathrm{d}y}{\mathrm{d}x}=$ $\frac{(x^2+1)^4\times4(x^2-1)^3(2x)-(x^2-1)^4\times4(x^2+1)^3(2x)}{\left((x^2+1)^4\right)^2}$ or $4(2x)\left(x^2-1\right)^3\left(x^2+1\right)^{-4}-$ $4(2x)\left(x^2-1\right)^4\left(x^2+1\right)^{-5}$	**(2)**	**M1** for an attempt at the product or quotient rule
	Correct completion to $\frac{16x(x^2-1)^3}{(x^2+1)^5}$	**(A1)**	