Question	Answer	Marks	Guidance
1(b)	$1 \leqslant x \leqslant 2.5$	**B1**	Mark final answer
	$x \geqslant 5$	**B1**	Mark final answer
2(a)	$\left(\text{p}(-2) =\right)\ -16+4a-26+b=0$	**B1**	
	$\left(\text{p}(-1) =\right)\ -2+a-13+b=6$	**B1**	
	$a=7,\ b=14$	**2**	**M1** to solve *their* equations to obtain at least one value, must be using $\text{p}(-2)$ or $\text{p}(-1)$
2(b)	$(x+2)\left(2x^2+3x+7\right)=0$ soi	**2**	**M1** for attempt to factorise or use of long division on *their* $\text{p}(x)$
	Correct use of discriminant on *their* quadratic factor or correct attempt to solve *their* quadratic factor equated to zero with valid conclusion	**B1**	**FT** on *their* quadratic factor. Quadratic factor must have a negative discriminant and have a correct value if evaluated
3(a)	$a+ar=9$ or $\dfrac{a\left(1-r^2\right)}{1-r}=9$ or $\dfrac{a\left(r^2-1\right)}{r-1}=9$	**B1**	
	$\dfrac{a}{1-r}=25$	**B1**	
	$r^2=\dfrac{16}{25}$	**B1**	**Dep B** mark on both previous **B** marks
	$r=\pm\dfrac{4}{5}$ or ± 0.8	**B1**	**Dep B1** mark on all previous **B** marks
3(b)	$a=5,\ 45$	**2**	**B1** for each
4(a)	$2\left(x+\dfrac{5}{4}\right)^2-\dfrac{1}{8}$	**2**	**B1** for $2\left(x+\dfrac{5}{4}\right)^2$ **B1** for $-\dfrac{1}{8}$
4(b)	$\left(-\dfrac{5}{4},\ -\dfrac{1}{8}\right)$	**2**	**B1FT** on *their* – *a* **B1FT** on *their b* **B0** if calculus used as question says 'Hence'
4(c)(i)	$-\dfrac{5}{4}$ or $p=-\dfrac{5}{4}$ or $x \geqslant -\dfrac{5}{4}$	**B1**	**FT** on *their* – *a* from part **(a)**. Allow if from calculus