(c)	M1	Perpendicular height $= 6\times\sin(69.4)^{\circ} = 5.61.....$ Area $= \dfrac{5.61.....\times 14}{2} = (39.3)$
	A1	$A = 39.3\ (\text{cm}^2)$

Question number	Scheme	Marks
5 (a)	$2x^2+7x-4 = 2\left(x+\dfrac{7}{4}\right)^2 - \dfrac{81}{8}$	M1M1A1
	Hence $A=2, B=\dfrac{7}{4}$ and $C=-\dfrac{81}{8}$	(3)
	ALT	
	$A(x+B)^2+C = Ax^2+2ABx+(AB^2+C)$	{M1M1A1}
	$\Rightarrow A=2, B=\dfrac{7}{4}$ and $C=-\dfrac{81}{8}$	{(3)}
(b)	(i) Min value of $f(x) = -\dfrac{81}{8}$	B1ft
	(ii) $-\dfrac{7}{4}$	B1ft (2)
(c)	$2x^2+7x-4 = px-6 \Rightarrow 2x^2+x(7-p)+2=0$	
	$b^2-4ac>0 \Rightarrow (7-p)^2-4\times2\times2 = p^2-14p+33$	B1
		M1
	$p^2-14p+33=0 \Rightarrow (p-11)(p-3)=0 \Rightarrow \text{c.v's } p=11,3$	dM1A1
	Outside region $p<3$ or $p>11$ Accept eg $\{p<3 \cup p>11\}$ Accept correct inequality shown on a number line	A1 (5) [10]

Additional Notes			
Part	**Mark**	**Guidance**	
(a)	M1	Takes out a common factor of 2 out leaving $2\left(x^2+\frac{7}{2}x\right)-4$ or $2\left(x^2+\frac{7}{2}x-2\right)$	
	M1	Attempts to complete the square- minimally acceptable attempt is as follows: $2x^2+7x-4=0=2\left(x\pm\frac{7}{4}\right)^2\pm q-4=0, \quad q\neq 0 \;\; p\neq 1$ **This is an A mark in Epen2**	
	A1	$A=2, B=1.75$ and $C=-10.125$ or $A=2$ and $B=\frac{7}{4}$ and $C=-\frac{81}{8}$	
ALT compares coefficients			
(a)	M1	Multiplies out $A(x+B)^2+C$ to give $Ax^2+2ABx+\left(AB^2+C\right)$ (must be correct) **AND** compares with $2x^2+7x-4$ to attempt to find the values of *A*, *B* and *C*. Minimum required is A = 2 for this mark.	
	M1	Finds either $A=2$ **and** $B=\frac{7}{4}$ **or** $C=-\frac{81}{8}$ **This is an A mark in Epen2**	
	A1	$A=2, B=\frac{7}{4}$ and $C=-\frac{81}{8}$	
(b)	B1ft	$-\frac{81}{8}$ ft their C	Some candidates may differentiate having not achieved a correct part (a). Accept correct answers that do not follow through from their (a)
	B1ft	$-\frac{7}{4}$ ft their $-B$	
(c)	B1	Sets $2x^2+7x-4=px-6$	
	For the next 3 marks allow <, > or =		
	M1	Forms 3TQ which must involve p in the term in x **AND** uses b^2-4ac with their 3TQ . b^2-4ac can be </>/= 0 for this mark.	
	dM1	Solves their resulting **3TQ** to find two critical values. See general guidance for an attempt to solve a 3TQ by any method. Accept correct use of letter in place of p for this mark	
	A1	Correct critical values of 11 and 3 seen even if given in terms of x or another letter.	
	A1	Correct inequality which must be in terms of p.	