Question Number	Answer	Notes	Marks
2	(a) $2x^2-8x+5=$ $=2\left(\left(x-2\right)^2-2^2\right)+5$ | $a\left(x-b\right)^2+c=ax^2-2ab+ab^2+c$ $=2\left(x-2\right)^2-3$ | $a=2,\ \ b=2,\ \ c=-3$ (b) (i) min $=-3$, (ii) $x=2$	M1 A2,1,0 B1, B1	**(5)**

Notes

Method 1

(a)

M1 for taking out a factor of 2 and completing the square.

A1 for two correct of *a*, *b*, or *c*. Accept embedded values in $2\left(x-2\right)^2-3$

A1 for fully correct *a*, *b*, or *c*, or $2\left(x-2\right)^2-3$.

(b)

B1ft for (i) a value of -3 follow through their value of *c*

B1ft for (ii) a value of 2. Follow through their value of *b*.

Do not accept a value of 2 for (i) or -3 for (ii).

If part (b) is completed by differentiation, then it must be fully correct for B marks to be awarded.

Method 2

(a)

M1 for an attempt at expanding $a\left(x-b\right)^2+c$ to give $ax^2-2ab+ab^2+c$
AND setting the expanded expression equal to $2x^2-8x+5$.

A1 for two correct of *a*, *b*, or *c*. Accept embedded values in $2\left(x-2\right)^2-3$

A1 for fully correct *a*, *b*, or *c*, or $2\left(x-2\right)^2-3$.

(b)

As in Method 1