| Question number | Scheme | Marks |
|---|---|---|
| 2 (a) | $7+4x-x^2=11-(x-2)^2$<br>[$a$ = 11, $b$ = 1, $c$ = –2]<br>**ALT**<br>$7+4x-x^2=a-b(x^2+2cx+c^2)$<br>$a-bc^2=7 \quad b=1 \quad bc=4$ So $a$ = 11, $b$ = 1, $c$ = –2<br>$7+4x-x^2=11-(x-2)^2$ | M1A1A1<br>[3]<br><br>{M1}<br>{A1}{A1}<br>[3] |
| (b) | (i) 11<br>(ii) 2 | B1ft<br>B1ft<br>[2] |
| | | **Total 5 marks** |

| | |
|---|---|
| **(a)** | |
| **M1** | An attempt to factorise to make $x^2$ positive e.g. $-(x\pm p)^2\pm q$ |
| **A1** | Complete the square to obtain an expression in the form $-(x\pm 2)^2\pm q$ **NB** Any expression in this form will score M1A1 |
| **A1** | $11-(x-2)^2$ or $a$ = 11, $b$ = 1, $c$ = –2 |
| **ALT** | |
| **M1** | Expands $a-b(x+c)$ |
| **A1** | $a-bc^2=7 \quad b=1 \quad bc=4$ |
| **A1** | $11-(x-2)^2$ or $a$ = 11, $b$ = 1, $c$ = –2 |
| **(b) (i) B1ft** | **Mark parts b(i) and b(ii) together**<br>11 follow through their a |
| **(b) (ii) B1ft** | 2 follow through their c<br>**NB** Answer of Max = (2, 11) score B1B1 |