

| Quadratic Sequences Mark Scheme | | |
|---------------------------------|---|----------------------------|
| 1(a) | 27 | [1] |
| 1(b) | 38 | [1] |
| 1(c) | 7, 0, -5, -8, -9 | [1] ($x^2 - 10x + 16$) |
| 2(a) | -3, | [1] Correct first term |
| | -3, 6, 17, 30, 45 | [1] All 5 terms correct |
| 2(b) | Yes, 765 is the 25th term in the sequence | [1] |
| 3(a) | $a = 1$ | [1] – Correct a value |
| | $n^2 + 3n + c$ | [1] - Correct b value |
| | $n^2 + 3n + 10$ | [1] – Correct answer |
| 3(b) | $a = 1$ | [1] – Correct a value |
| | $n^2 - 3n + c$ | [1] - Correct b value |
| | $n^2 - 3n + 2$ | [1] – Correct answer |
| 3(c) | $a = 1$ | [1] – Correct a value |
| | $n^2 - 2n + c$ | [1] - Correct b value |
| | $n^2 - 2n + 5$ | [1] – Correct answer |
| 3(d) | $a = -1$ | [1] – Correct a value |
| | $-n^2 - n + c$ | [1] - Correct b value |
| | $-n^2 - n + 102$ | [1] – Correct answer |
| 4(a) | $a = 1$ | [1] – Correct a value |
| | $n^2 + n + c, c = 0$ | [1] - Correct band c value |
| | $n^2 + n$ | [1] – Correct answer |
| 4(b) | $a = 2$ | [1] – Correct a value |
| | $2n^2 + n + c, c = 0$ | [1] - Correct b value |
| | $2n^2 + n$ | [1] – Correct answer |
| 4(c) | $a = 1$ | [1] – Correct a value |
| | $n^2 + 2n + c$ | [1] - Correct b value |
| | $n^2 + 2n - 3$ | [1] – Correct answer |
| | | |

Turn over ►

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|------|---|-----------------------|
| 4(d) | $a = 1$ | [1] – Correct a value |
| | $n^2 + 5n + c$ | [1] - Correct b value |
| | $n^2 + 5n - 5$ | [1] – Correct answer |
| 5 | When $n = 1$, $1^2 - 1 + 5 = x$ $x = 5$ | [1] |
| | When $n = 2$ $2^2 - 2 + 5 = (x + y)$ $2^2 - 2 + 5 = (5 + y)$ $y = 2$ | [1] |

END