**Generating Quadratic Sequences**

By finding the first and second differences, decide whether each of these sequences is quadratic.

(a) 1, 5, 11, 19, 29, 41

(b) 2, 5, 8, 11, 14, 17

(c) 0, 8, 22, 41, 68, 98

(d) 2, 9, 20, 35, 54, 77

(e) 4, 1, 0, 1, 4, 9

(f) 6, 17, 36, 65, 98, 141

(g) 18, 37, 62, 93, 130, 173

(h) 3, 9, 23, 43, 75, 113

(i) −10, −4, 12, 38, 74, 120

(j) 17, 39, 69, 107, 153, 207

Generate the first five terms of each of these quadratic sequences.

(a) $n^{2}+10$ (b) $n^{2}-1$

(c) $n^{2}+n$ (d) $n^{2}+2n+1$

(e) $n^{2}-3n$ (f) $n^{2}-n-2$

(g) $2n^{2}+5$ (h) $3n^{2}-7$

(i) $2n^{2}+n-5$ (j) $4n^{2}+3n-1$

Find the 10th and 50th term of the following quadratic sequences.

(a) $n^{2}+5$ (b) $n^{2}-2$

(c) $n^{2}-n$ (d) $n^{2}+2n$

(e) $n^{2}-3n+1$ (f) $n^{2}-n-2$

(g) $4n^{2}+1$ (h) $3n^{2}$

(i) $2n^{2}+n-1$ (j) $5n^{2}+3n$

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