Quadratic sequences (A)

Find an expression, in terms of n, for the nth term of this sequence.

-1, 5, 13, 23, 35

6 8 10 12

2 2 2

$2a = 2$

$a = 1$

$3a + b = 6$

$3(1) + b = 6$

$b = 6 - 3$

$b = 3$

$a + b + c = -1$

$(1) + (3) + c = -1$

$c = -1 - 4$

$c = -5$

$n^2 + 3n - 5$

Find an expression, in terms of n, for the nth term of this sequence.

12, 18, 28, 42, 60

6 10 14 18

4 4 4

$2a = 4$

$a = 2$

$3a + b = 6$

$3(2) + b = 6$

$b = 6 - 6$

$b = 0$

$a + b + c = 12$

$(2) + (0) + c = 12$

$c = 12 - 2$

$c = 10$

$2n^2 + 10$

Find an expression, in terms of n, for the nth term of this sequence.

-3, -10, -19, -30, -43

-7 -9 -11 -13

-2 -2 -2

$2a = -2$

$a = -1$

$3a + b = -7$

$3(-1) + b = -7$

$b = -7 + 3$

$b = -4$

$a + b + c = -3$

$(-1) + (-4) + c = -3$

$c = -3 + 5$

$c = 2$

$-n^2 - 4n + 2$

Find an expression, in terms of n, for the nth term of this sequence.

2, 12, 30, 56, 90

10 18 26 34

8 8 8

$2a = 8$

$a = 4$

$3a + b = 10$

$3(4) + b = 10$

$b = 10 - 12$

$b = -2$

$a + b + c = 2$

$(4) + (-2) + c = 2$

$c = 2 - 2$

$c = 0$

$4n^2 - 2n$

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