Quadratic Sequences

Worksheet 1

Try answering each of the following without a calculator.
Show all of your working and state any formula used.

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Exercise 1

Find the formula for the n^{th} term of the sequence whose first few terms are:

$$6,\ 11,\ 18,\ 27,\ 38,\ 51,\ \ldots$$

Exercise 2

Find the formula for the n^{th} term of the sequence whose first few terms are:

$$-3,\ 0,\ 5,\ 12,\ 21,\ 32,\ \ldots$$

Exercise 3

Find the formula for the n^{th} term of the sequence whose first few terms are:

$$-4,\ 2,\ 12,\ 26,\ 44,\ 66,\ \ldots$$

Exercise 4

Find the formula for the n^{th} term of the sequence whose first few terms are:

$$2,\ 6,\ 12,\ 20,\ 30,\ 42,\ \ldots$$

Exercise 5

Find the formula for the n^{th} term of the sequence whose first few terms are:

$$1,\ 0,\ -3,\ -8,\ -15,\ -24,\ \ldots$$

Exercise 6

Find the formula for the n^{th} term of the sequence whose first few terms are:

$$3,\ 7,\ 13,\ 21,\ 31,\ 43,\ \ldots$$