**Basic Sequences  - www.m4ths.com – Steve Blades ©**

## Section 1 – Generating terms in a sequence.

Find the first 5 terms in each sequence below:

(1) $3n - 1$

(2) $n^2$

(3) $4n + n^2$

(4) $(n - 1)^2$

(5) $n^3 - 10$

(6) $2n^2 + 3$

(7) $5^n$

(8) $4 - n^4$

(9) $n + 7n^2$

(10) $\frac{12}{n}$

## Section 2 – Writing a term – to – term rule.

(a) Write the term-to-term rule for each sequence below such as "Add 2 each time"

(b) Write down the next two terms in each sequence

(1) 12, 10, 8, 6, 4......

(2) 10, 20, 40, 80.....

(3) 4, 20, 100, 500.....

(4) 80, 40, 20, 10.....

(5) 3, 6, 9, 15, 24......

(6) 4, -8, 16, -32, 64

## Section 3 – Finding the $nth$ term (Linear).

For each ARITHMETIC or LINEAR sequence below find the $nth$ term formula such as $5n - 1$

(1) 5, 9, 13, 17....

(2) 3, 8, 13, 18, 23....

(3) 11, 13, 15, 17, 19....

(4) 2, 5, 8, 11, 14....

(5) 7, 11, 15, 19, 23....

(6) 8, 6, 4, 2....

(7) 16, 13, 10, 7, 4.....

(8) 20, 15, 10, 5, 0.....

(9) 2, 6, 10, 14, 18.....

(10) 7, 5, 3, 1......

## Section 4 – Fibonacci Type Sequences

For each sequence below, find the missing terms.

(1) 6, 7, 13, ___, ___

(2) 10, 12,___, ___, ___,

(3) 3, 5, ___, ___, 21

(4) ___, ___, ___, 22, 36

(5) A, B, A+B, ____, ____

(6) ___, ___, ___, ___, ___, 60, 97

(7) P, Q, ____, ____, ____

(8) 0, 1,___, ___, ___,

(9) M, -N, ____, ____, ____

(10) B – A , A, ____, ____, ____