

# Generating Sequences

## ANSWERS



**Section A:** Find the first five terms of the following sequences.

n =	1	2	3	4	5
$n + 2$	3	4	5	6	7
$n - 7$	-6	-5	-4	-3	-2
$4n$	4	8	12	16	20
$3n + 1$	4	7	10	13	16
$5n - 8$	-3	2	7	12	17
$2n + 0.5$	2.5	4.5	6.5	8.5	10.5
$12n - 1.5$	10.5	22.5	34.5	46.5	58.5

**Section B:** Find the first five terms of the following sequences.

n =	1	2	3	4	5
$2 - n$	1	0	-1	-2	-3
$13 - n$	12	11	10	9	8
$-3n$	-3	-6	-9	-12	-15
$1 - 2n$	-1	-3	-5	-7	-9
$-5n + 3$	-2	-7	-12	-17	-22
$\frac{1}{2}n$	$\frac{1}{2}$	1	$\frac{3}{2}$	2	$\frac{5}{2}$
$\frac{3}{4}n$	$\frac{3}{4}$	$\frac{3}{2}$ or $1\frac{1}{2}$	$\frac{9}{4}$ or $2\frac{1}{4}$	1	$\frac{15}{4}$ or $3\frac{3}{4}$

**Section C:** Find the first four terms of the following sequences.

- |  |                                      |  |   |
|--|--------------------------------------|--|---|
| 1) $2n - 12$<br><b>-10, -8, -6, -4</b>   | 4) $3n + 7$<br><b>10, 13, 16, 19</b> | 7) $8 - n$<br><b>7, 6, 5, 4</b>        | 10) $6n$<br><b>6, 12, 18, 24</b>  |
| 2) $6n - 10$<br><b>-4, 2, 8, 12</b>      | 5) $2.5n$<br><b>2.5, 5, 7.5, 10</b>  | 8) $0.5n + 3$<br><b>3.5, 4, 4.5, 5</b> | 11) $\frac{n}{2}$<br><b><math>2\frac{1}{2}, 1, 1\frac{1}{2}, 2</math></b> |
| 3) $n - 98$<br><b>-97, -96, -95, -94</b> | 6) $4 - 2n$<br><b>2, 0, -2, -4</b>   | 9) $6 - 3n$<br><b>3, 0, -3, -6</b>     | 12) $8 - 5n$<br><b>3, -2, -7, -12</b>                                     |

**Section D (Level 7!):** Find the first three terms of the following sequences.

- |  |   |   |                                       |
|--|---|---|---------------------------------------|
| 1) $2(n + 1)$<br><b>4, 6, 8</b>  | 4) $3(n + 5)$<br><b>18, 21, 24</b>  | 7) $10(n - 9)$<br><b>-80, -70, -60,</b> | 10) $25(1 - n)$<br><b>0, -25, -50</b> |
| 2) $n^2$<br><b>1, 4, 9</b>   | 5) $n^2 + 1$<br><b>2, 5, 10</b>   | 8) $n^2 + 5$<br><b>6, 9, 14</b>         | 11) $2n^2$<br><b>2, 8, 18</b>         |
| 3) $\frac{n+1}{n}$<br><b>2, <math>\frac{3}{2}</math>, <math>\frac{4}{3}</math></b> | 6) $\frac{3n}{2}$<br><b><math>\frac{3}{2}</math>, 3, <math>\frac{9}{2}</math></b> | 9) $n(n + 2)$<br><b>3, 8, 15</b>        | 12) $n^3$<br><b>1, 8, 27</b>          |