

Grade 8 Math Analyzing Linear Sequences

For each of the following, come up with the Generalized Algebraic Term given your analysis of the Sequence. The first is done for you.

#1 $+9 \ +9 \ +9 \ +9 \ +9 \ +9 \ +9 \ +9$
 12, 21, 30, 39, 48, 57, 66, 75, 84

Rule: Start at 12 and add 9 each time.

Chart:

Adjustment

Term Number n	Term Value V_n
1 $\times 9 = 9 + 3$	12
2	21
3	30
4	39
5	48
6	57
7	66
8	75
9	84

First, we look at the interval - how does the number change each time? In this case, it goes up by nine each time.

Second, we look at how we have to adjust the first term to get the first term value. In this case, 9×1 is 9 so we have to adjust this number by +3 to get 12

Generalized Algebraic Expression: $V_n = 9n + 3$

#2 88, 77, 66, 55, 44, 33, _____, _____, _____

Rule: _____

Chart:

Term Number n	Term Value V_n
1	
2	
3	
4	
5	
6	
7	
8	
9	

Generalized Algebraic Expression: $V_n =$

#3 51, 58, 65, 72, 79, 86, _____ , _____ , _____

Rule: _____

Chart:

Term Number n	Term Value V_n
1	
2	
3	
4	
5	
6	
7	
8	
9	

Generalized Algebraic Expression: $V_n =$

#4 8, 16, 24, 32, 40, 48, _____ , _____ , _____

Rule: _____

Chart:

Term Number n	Term Value V_n
1	
2	
3	
4	
5	
6	
7	
8	
9	

Generalized Algebraic Expression: $V_n =$

#5 179, 167, 155, 143, 131, 119, _____ , _____ , _____

Rule: _____

Chart:

Term Number n	Term Value V_n
1	
2	
3	
4	
5	
6	
7	
8	
9	

Generalized Algebraic Expression: $V_n =$

#6 2, 4, 8, 16, 32, 64, _____ , _____ , _____

Rule: _____

Chart:

Term Number n	Term Value V_n
1	
2	
3	
4	
5	
6	
7	
8	
9	

Generalized Algebraic Expression: $V_n =$

7 16.5, 24, 31.5, 39, 46.5, 54, _____ , _____ , _____

Rule: _____

Chart:

Term Number n	Term Value V_n
1	
2	
3	
4	
5	
6	
7	
8	
9	

Generalized Algebraic Expression: $V_n =$

#8 -656, -568, -480, -392, -304, -216, _____ , _____ , _____

Rule: _____

Chart:

Term Number n	Term Value V_n
1	
2	
3	
4	
5	
6	
7	
8	
9	

Generalized Algebraic Expression: $V_n =$