

How much do you understand about Arithmetic Sequences?

For each sequence, complete the following.

1. 3, 9, 15, 21, 27, 33, ...

- a. Is this sequence an arithmetic sequence? yes
- b. Describe how consecutive terms of the sequence change. add 6
- c. Describe the sequence by stating a rule that can be used to continue the sequence. Use the formula for finding the nth term - $a_n = a_1 + d(n-1)$.

$$a_n = 3 + 6(n-1)$$

$$a_n = 3 + 6n - 6$$

$$a_n = 6n - 3$$

d. Use your rule to make a table to illustrate the sequence.

Term	1	2	3	4	5	6	7	8	9
Value	3	9	15	21	27	33	39	45	51

- e. Plot the ordered pairs from your table on graph paper.
- f. Describe the shape of the graph. straight line
- g. Does your graph represent a linear function? yes

2. 100, 90, 80, 70, 60, ...

- a. Is this sequence an arithmetic sequence? yes
- b. Describe how consecutive terms of the sequence change. subtract 10
- c. Describe the sequence by stating a rule that can be used to continue the sequence. Use the formula for finding the nth term - $a_n = a_1 + d(n-1)$.

$$a_n = 100 - 10(n-1)$$

$$100 - 10n + 10$$

$$110 - 10n$$

$$a_n = -10n + 110$$

d. Use your rule to make a table to illustrate the sequence.

Term	1	2	3	4	5	6	7	8	9
Value	100	90	80	70	60	50	40	30	20

- e. Plot the ordered pairs from your table.
- f. Describe the shape of the graph. straight line
- g. Does your graph represent a linear function? yes

3. 1, 4, 9, 16, 25, 36, 49, ...

a. Is this sequence an arithmetic sequence? *no*

b. Describe how consecutive terms of the sequence change. *\times^2*

c. Describe the sequence by stating a rule that can be used to continue the sequence. Use the formula for finding the n th term -
 $a_n = a_1 + d(n - 1)$.

d. Use your rule to make a table to illustrate the sequence.

Term									
Value									

e. Plot the ordered pairs from your table.

f. Describe the shape of the graph.

g. Does your graph represent a linear function?

