





Name: \_\_\_\_\_

### Patterns and sequences 1

Objective: To be able to find the general rule for a pattern/number sequence

#### Step by step instructions

Position Number	1	2	3	4	5
Pattern					
Terms	4	7			
Working out					

(a) In the box, draw the shape that is added on each time

(b) Complete the missing pattern and terms

(c) What do you add on each time? \_\_\_\_\_

(this is the term to term rule)

(d) Which multiplication table has the same adding on pattern? \_\_\_\_\_

(e) Fill in this multiplication table in the working out boxes

(f) What do you need to do to make your working out boxes into the terms? \_\_\_\_\_

(g) Use the information from (d) and (f) to form a general rule linking position number (N) and number of dots: \_\_\_\_\_

(h) Use your rule to find the 100<sup>th</sup> term: \_\_\_\_\_





Write any revision hints, notes or reminders to yourself here:

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## Patterns and sequences 2

Objective: To be able to find the general rule for a pattern/number sequence

### Structured question

Position Number	1	2	3	4	5
Terms	3	8	13	18	
Working out					

- Complete the missing pattern and terms
- What do you add on each time? \_\_\_\_\_  
(this is the term to term rule)
- Use part (b) to help fill in the multiplication table in the working out boxes
- What do you need to do to make your working out boxes into the terms? \_\_\_\_\_
- Use the information from (b) and (e) to form a general rule linking position number (N) and number of dots: \_\_\_\_\_
- What is the 100<sup>th</sup> term? \_\_\_\_\_

Use this structure to find the general rule (Nth term) for the following sequence:

Position Number	1	2	3	4	5	6	7
Terms	11	17	23	29			
Working out							

Rule: \_\_\_\_\_

Name: \_\_\_\_\_

## Patterns and sequences 2

Objective: To be able to find the general rule for a pattern/number sequence

### Structured question

Position Number	1	2	3	4	5
Terms	3	8	13	18	
Working out					

- Complete the missing pattern and terms
- What do you add on each time? \_\_\_\_\_  
(this is the term to term rule)
- Use part (b) to help fill in the multiplication table in the working out boxes
- What do you need to do to make your working out boxes into the terms? \_\_\_\_\_
- Use the information from (b) and (e) to form a general rule linking position number (N) and number of dots: \_\_\_\_\_
- What is the 100<sup>th</sup> term? \_\_\_\_\_

Use this structure to find the general rule (Nth term) for the following sequence:

Position Number	1	2	3	4	5	6	7
Terms	11	17	23	29			
Working out							

Rule: \_\_\_\_\_

Name: \_\_\_\_\_

### Patterns and sequences 3

Objective: To be able to find the general rule for a pattern/number sequence

#### Structured question

Position Number	1	2	3	4	5
Terms	27	35	43	51	
Working out					

- (a) Complete the missing pattern and terms  
(b) What do you add on each time? \_\_\_\_\_  
(this is the term to term rule)  
(c) Use part (b) to help fill in the multiplication table in the working out boxes  
(d) What is the general rule? \_\_\_\_\_  
(e) What is the 100<sup>th</sup> term? \_\_\_\_\_  
(f) Explain whether or not 87 is in this sequence:

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For the following questions:

- (i) Find the general rule (Nth term)  
(ii) Find the 100<sup>th</sup> term  
(ii) State whether 50 is in the sequence

- (a) 2, 15, 28, 41 ...  
(b) 112, 102, 92, 82, 72 ...  
(c) 5.9, 6.8, 7.7, 8.6, 9.5 ...  
(d) -8, -1, 6, 13, 20 ...

Name: \_\_\_\_\_

### Patterns and sequences 3

Objective: To be able to find the general rule for a pattern/number sequence

#### Structured question

Position Number	1	2	3	4	5
Terms	27	35	43	51	
Working out					

- (a) Complete the missing pattern and terms  
(b) What do you add on each time? \_\_\_\_\_  
(this is the term to term rule)  
(c) Use part (b) to help fill in the multiplication table in the working out boxes  
(d) What is the general rule? \_\_\_\_\_  
(e) What is the 100<sup>th</sup> term? \_\_\_\_\_  
(f) Explain whether or not 87 is in this sequence:

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For the following questions:

- (i) Find the general rule (Nth term)  
(ii) Find the 100<sup>th</sup> term  
(ii) State whether 50 is in the sequence

- (a) 2, 15, 28, 41 ...  
(b) 112, 102, 92, 82, 72 ...  
(c) 5.9, 6.8, 7.7, 8.6, 9.5 ...  
(d) -8, -1, 6, 13, 20 ...