Name: Teacher: Class:

**8.3 Pattern Sniffing**

|  |  |  |
| --- | --- | --- |
| **You need to learn to:** | **Pre-learning assessment** | **Post-learning assessment** |
| 1. Generate a sequence from a term-to-term rule | *1,2,3* | *1,2,3* |
| 1. Understand the meaning of a position-to-term rule | *1,2,3* | *1,2,3* |
| 1. Use a position-to-term rule to generate a sequence | *1,2,3* | *1,2,3* |
| 1. Find the position-to-term rule for a given sequence | *1,2,3* | *1,2,3* |
| 1. Use algebra to describe the position-to-term rule of a linear sequence (the nth term) | *1,2,3* | *1,2,3* |
| 1. Use the nth term of a sequence to deduce if a given number is in a sequence | *1,2,3* | *1,2,3* |
| 1. Find the next three terms in any Fibonacci type sequence |  |  |

**Assessments**

|  |  |  |
| --- | --- | --- |
| Assessment | What score **I think** I’ll get out of 40  (complete **before** assessment) | What score **I did** get out of 40  (complete **after** assessment) |
| Diagnosis assessment | /25 = % | /25 = % |
| Test assessment | /25 = % | /25 = % |

Name: Teacher: Class:

**8.3 Pattern Sniffing**

|  |  |  |
| --- | --- | --- |
| **You need to learn to:** | **Pre-learning assessment** | **Post-learning assessment** |
| 1. Generate a sequence from a term-to-term rule | *1,2,3* | *1,2,3* |
| 1. Understand the meaning of a position-to-term rule | *1,2,3* | *1,2,3* |
| 1. Use a position-to-term rule to generate a sequence | *1,2,3* | *1,2,3* |
| 1. Find the position-to-term rule for a given sequence | *1,2,3* | *1,2,3* |
| 1. Use algebra to describe the position-to-term rule of a linear sequence (the nth term) | *1,2,3* | *1,2,3* |
| 1. Use the nth term of a sequence to deduce if a given number is in a sequence | *1,2,3* | *1,2,3* |
| 1. Find the next three terms in any Fibonacci type sequence |  |  |

**Assessments**

|  |  |  |
| --- | --- | --- |
| Assessment | What score **I think** I’ll get out of 40  (complete **before** assessment) | What score **I did** get out of 40  (complete **after** assessment) |
| Diagnosis assessment | /25 = % | /25 = % |
| Test assessment | /25 = % | /25 = % |

**8.3 Pattern Sniffing** Date:

**Diagnosis (to be taken before the topic is taught)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Question n.o.** | **Question** | **Workings and answer** | Macintosh HD:private:var:folders:65:l364j7q962v4_xf3302b347w0000gn:T:TemporaryItems:imgres.jpg |
| 1 | Write the first four terms of the following sequences:-   1. First term 4   Term to term rule +5   1. First term 11   Term to term rule -3   1. First term 8.2   Term to term rule -0.1 |  | (3) |
| 2 | Write a definition of the following:-   1. Term 2. Position 3. Position to term rule 4. Linear sequence |  | (4) |
| 3 | Write the first 4 terms of the following sequences:-   1. 3n + 2 2. 4n – 3 3. 10 – 2n 4. -4 + 3n |  | (4) |
| 4 | Describe the position to term rule for each sequence   1. 35, 39, 43, 47, … 2. 59, 56, 53, 50, … 3. -8, -6, -4, -2, ….. 4. 1.25, 1.5, 1.75, 2, …. |  | (4) |
| 5 | Write the nth term rule for each sequence   1. 35, 39, 43, 47, … 2. 59, 56, 53, 50, … 3. -8, -6, -4, -2, ….. 4. 1.25, 1.5, 1.75, 2, …. |  | (4) |
| 6 | Use the nth term rule to:-   1. Find the 50th term in the sequence 35, 39, 43, 47, … 2. Decide if 152 is in the sequence 55, 58, 61, 64, … 3. Decide if -54 is in the sequence 10 , 7 , 4 , 1 , … |  | (3) |
| 7 | Generate the first 5 terms of a Fibonacci style sequence with the following first two terms:-   1. 3 , 8 , …. 2. 9 , 1 , …. 3. 5 , -3 , …. 4. -5 , 11 , …. |  | (3) |

**8.3 Pattern Sniffing** Date:

**Test (to be taken after the topic is taught)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Question n.o.** | **Question** | **Workings and answer** | Macintosh HD:private:var:folders:65:l364j7q962v4_xf3302b347w0000gn:T:TemporaryItems:imgres.jpg |
| 1 | Write the first four terms of the following sequences:-   1. First term 19   Term to term rule +4   1. First term 23   Term to term rule -9   1. First term 6.3;   Term to term rule -0.2 |  | (3) |
| 2 | Write a definition of the following:-   1. Term 2. Position 3. Position to term rule 4. Linear sequence |  | (4) |
| 3 | Write the first 4 terms of the following sequences:-   1. 5n + 7 2. 2n – 3 3. 8 – 3n 4. -6 + 4n |  | (4) |
| 4 | Describe the position to term rule for each sequence   1. 23, 29, 35, 41, … 2. 23, 19, 15, 11, … 3. -4, -11, -18, -25, ….. 4. 3.2 , 3.5 , 3.8 , 4.1, …. |  | (4) |
| 5 | Write the nth term rule for each sequence   1. 23, 29, 35, 41, … 2. 23, 19, 15, 11, … 3. -4, -11, -18, -25, ….. 4. 3.2 , 3.5 , 3.8 , 4.1, …. |  | (4) |
| 6 | Use the nth term rule to:-   1. Find the 50th term in the sequence 23, 29, 35, 41, … 2. Decide if 152 is in the sequence 15, 18, 21, 24, … 3. Decide if -151 is in the sequence 9 , 5 , 1 , -3 , … |  | (3) |
| 7 | Generate the first 5 terms of a Fibonacci style sequence with the following first two terms:-   1. 7 , 11 , …. 2. 8 , 2 , …. 3. 8 , -5 , …. 4. -3, 7 , …. |  | (3) |