NC Math IB Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 6 Review Packet

**I. Short Answer**

1. An ordered list of numbers is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. There are two types of sequences, what are they? What makes them different?

3. A sequence can be represented using a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ equation which means you move from one term in the sequence to the next by taking one step at a time.

4. A sequence can also be represented using an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ equation. This means you move from the first term in the sequence directly to any other term in the sequence.

5. Fill in the blanks with the correct recursive notation.

Next = \_\_\_\_\_\_\_\_\_\_ Now = \_\_\_\_\_\_\_\_\_\_ Previous = \_\_\_\_\_\_\_\_\_\_ Start at = \_\_\_\_\_\_\_\_\_\_

6. Complete the Table:

|  |  |  |
| --- | --- | --- |
|  | **Arithmetic** | **Geometric** |
| **Next-Now** |  |  |
| **Recursive Notation** |  |  |
| **Explicit Formula** |  |  |

**II. Determine if the sequence is arithmetic, geometric, or neither. If it is arithmetic, find the common difference (d). If it is geometric, find the common ratio (r).**

1. 2.

3. 4.

5. 6.

7. 8.

**III. Complete each table:**

1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| n |  |  |  |  | … |  | … |  |
|  |  |  |  |  | … |  | … |  |

Common Difference: \_\_\_\_\_\_\_\_\_\_

NEXT-NOW Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Recursive Formula (using recursive notation): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explicit Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| n |  |  |  |  | … |  | … |  |
|  | 3 | 12 | 48 |  |  |  |  |  |

2.

Common Ratio: \_\_\_\_\_\_\_\_\_\_

NEXT-NOW Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Recursive Formula (using recursive notation): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explicit Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| n |  |  |  |  | … |  | … |  |
|  |  |  |  |  |  |  |  | 304 |

3.

Common Difference: \_\_\_\_\_\_\_\_\_\_

NEXT-NOW Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Recursive Formula (using recursive notation): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explicit Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IV. Find the indicated term**

1. Find the 52nd term in the sequence:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Common Ratio/Common Difference Explicit Equation (with numbers) Solution

2. Find the 19th term in the sequence:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Common Ratio/Common Difference Explicit Equation (with numbers) Solution

3. Find if the first term in the sequence is and .

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Arithmetic or Geometric Explicit Equation (with numbers) Solution

4. Find if the first term in the sequence is and .

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Arithmetic or Geometric Explicit Equation (with numbers) Solution

5. Write the first seven terms of the sequence:

6. Write the first five terms of the sequence: