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| **Topic/Skill** | **Definition/Tips** | **Example**  **Topic: Sequences** |
| 1. Linear Sequence | A number pattern with a **common difference**. | 2, 5, 8, 11… is a linear sequence |
| 2. Term | **Each value** in a sequence is called a term. | In the sequence 2, 5, 8, 11…, 8 is the third term of the sequence. |
| 3. Term-to-term rule | A rule which allows you to **find the next term** in a sequence if you **know the previous term**. | First term is 2. Term-to-term rule is ‘add 3’  Sequence is: 2, 5, 8, 11… |
| 4. nth term | A rule which allows you to **calculate the term** that is in the **nth position** of the sequence.  Also known as the ‘position-to-term’ rule.  **n** refers to the **position** of a term in a sequence. | nth term is  The 100th term is |
| 5. Finding the nth term of a linear sequence | 1. Find the **difference**.  2. **Multiply that by**  3. Substitute to **find out what number you need to add or subtract to get the first number in the sequence**. | Find the nth term of: 3, 7, 11, 15…  1. Difference is +4  2. Start with  3. , so we need to subtract 1 to get 3.  nth term = |
| 6. Fibonacci type sequences | A sequence where the next number is found by **adding up the previous two terms** | The Fibonacci sequence is:  An example of a Fibonacci-type sequence is: |
| 7. Geometric Sequence | A sequence of numbers where each term is found by **multiplying the previous one** by a number called the **common ratio, r**. | An example of a geometric sequence is:  The common ratio is 5  Another example of a geometric sequence is:  The common ratio is |
| 11. Triangular numbers | The sequence which comes from a pattern of dots that form a triangle. |  |

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| **Topic/Skill** | **Definition/Tips** | **Example**  **Topic: Coordinates and Linear Graphs** |
| 1. Coordinates | Written in **pairs**. The **first** term is the **x-coordinate** (movement **across**). The **second** term is the **y-coordinate** (movement **up or down**) | A: (4,7)  B: (-6,-3) |
| 2. Midpoint of a Line | Method 1: **add the x coordinates and divide by 2**, **add the y coordinates and divide by 2**  Method 2: Sketch the line and find the values half way between the two x and two y values. | Find the midpoint between (2,1) and (6,9)  and  So, the midpoint is (4,5) |
| 3. Linear Graph | **Straight line** graph.  The general equation of a linear graph is  where  **is the gradient** and  **is the y-intercept**.  The **equation** of a linear graph can contain an **x-term**, a **y-term** and a **number**. | Example:  Image result for linear graphOther examples: |
| 4. Plotting Linear Graphs | Method 1: **Table of Values**  Construct a table of values to calculate coordinates.  Method 2: **Gradient-Intercept Method** (use when the equation is in the form )  1. Plots the y-intercept  2. Using the gradient, plot a second point.  3. Draw a line through the two points plotted.  Method 3: **Cover-Up Method** (use when the equation is in the form )  1. Cover the term and solve the resulting equation. Plot this on the  2. Cover the term and solve the resulting equation. Plot this on the  3. Draw a line through the two points plotted. | Image result for gradient intercept method  Image result for cover up method straight line graphs |

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