### Task 1 – Checking you can use the software

1. Plot the graph of *y* = *x* + 1
2. Delete this graph
3. Plot the graphs of the following functions on the same set of axes:

|  |  |
| --- | --- |
| 1. *y* = 2*x* + 1 | 1. *y* = 3*x* + 2 |
| 1. *y* = 4*x* + 3 | 1. *y* = 1/2*x* – 1 |

### Task 2

Open a new Autograph page. Open a ‘Word’ document too.

1. Plot the graphs of the following four functions on the same set of axes.

|  |  |
| --- | --- |
| 1. *y* = 2*x* | 1. *y* = 2*x* + 3 |
| 1. *y* = 2*x* + 1 | 1. *y* = 2*x* – 1 |

1. Copy the page into your Word document. Write down what you notice about the result.
2. Look at the functions for each line. Suggest a reason for your observation in (b)?
3. Delete the previous graphs. Write down four different functions which follow a similar pattern to that which you suggested in (c).
4. Plot the graphs to check your answers. Copy the page into your Word document.

***Add each of the following tasks to your Word document***

### Task 3

1. Plot the graph of *y* = *x*
2. Write down what you think the graph of *y* = -*x* might look like – **without plotting it**!
3. Plot this graph to see if you were right
4. Plot the graph of *y* = 2*x* + 1
5. Describe the graph of *y* = -2*x* + 1. Check by plotting.
6. Describe the slope of the following graphs

|  |  |
| --- | --- |
| 1. *y* = -3*x* + 1 | 1. *y* = 5*x* - 3 |
| 1. *y* = 3 – 5*x* | 1. *y* = 1 – *x* |

### Task 4

1. Plot the following graphs and write down the point at which each line crosses the *y*-axis:

|  |  |
| --- | --- |
| 1. *y* = 3*x* + 1 | 1. *y* = 2*x* – 2 |
| 1. *y* = *x* + 2 | 1. *y* = 2*x* |

1. Can you see a connection between the function and the point where each line crosses the *y*-axis?

### Task 5

1. Plot the graph of *x* = 1. Describe the graph in words.
2. What will the graph of *y* = 2 look like? Check your answer by plotting it.