**Sequences, functions and graphs (H)**

Post-Intervention Assessment

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

Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Question** | **Objective** | **RAG** |
|  1 | Recognise parallel graphs using their gradients |  |
|  2 | Sketch quadratic, cubic and reciprocal graphs |   |
|  3 | Recognise and interpret the equation of a circle |   |
|  4 | Recognise transformations of graphs |   |
|  5 | Calculate the nth term of a quadratic sequence |   |

**1.** Which of the following graphs are parallel? Circle the 2 you have chosen.

 y = 4x + 1 y = ¼x +1 y = 2x + 4 y = 4x - 1

Explain your reasoning.

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**2. (a)** Complete this table of values for *y* = *x*3 + 2*x* – 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **x** | -2 | -1 | 0 | 1 | 2 |
| **y** |  | -4 |  |  | 11 |

 **(b)** On the grid, draw the graph of *y* = *x*3 + 2*x* – 1



**3.** On the grid, construct the graph of *x*2 + *y*2 = 9


**4.** Here are the first 5 terms of a quadratic sequence.

6 8 12 18 26

Find an expression, in terms of *n*, for the *n*th term of this quadratic sequence.

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[Glue here]