Find the nth term rule for the following using the difference method

|  |  |  |  |
| --- | --- | --- | --- |
| 0,4,10,18,28 | 3,8,15,24,35 | 4,12,22,34,48 | 7,16,31,52,79 |
| -3,0,5,12,21 | 5,11,19,29,41 | 2,8,18,32,50 | 9,18,31,48,69 |
| 4,7,12,19,28 | 5,9,15,23,33 | 5,16,33,56,85 | 2,6,12,20,30 |
| -2,-2,0,4,10 | 7,12,21,34,51 | 3,12,27,48,75 |  |

* Colour in the letters above the correct solutions to find the correct title!

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| T | E | A | M | S | N |
| n2  - 5 | n2  + n + 3 | n2 + n | 4n2 | 3n2 + 4 | 4n2 - 6 |
| Y | S | Q | U | E | A |
| n2 – 4 | 2n2 – 3n - 7 | n2  + 3n + 1 | 3n2 + 2n | n2  - 2n | 2n2  - n + 6 |
| D | R | Y | V | A | L |
| n2 + n - 2 | 3n2 | 3n2 + 3n | 3n2 + 3n + 3 | n2  + 2n | 2n2 + 4n + 3 |
| G | E | N | T | I | L |
| n2 – n – 1 | n2 + 7 | 2n2 – n | 2n2 | n2 + 5n – 2 | 3n2 – 3n – 3 |
| O | C | S | P | ! | ? |
| 2n2 + 4 | n2 – 3n | 2n2 + 3n + 4 | 4n2 – 4 | n2 + 3 | 2n2  - 2n – 2 |

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|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| T | E | A | M | S | N |
| n2  - 5 | n2  + n + 3 | n2 + n | 4n2 | 3n2 + 4 | 4n2 - 6 |
| Y | S | Q | U | E | A |
| n2 – 4 | 2n2 – 3n - 7 | n2  + 3n + 1 | 3n2 + 2n | n2  - 2n | 2n2  - n + 6 |
| D | R | Y | V | A | L |
| n2 + n - 2 | 3n2 | 3n2 + 3n | 3n2 + 3n + 3 | n2  + 2n | 2n2 + 4n + 3 |
| G | E | N | T | I | L |
| n2 – n – 1 | n2 + 7 | 2n2 – n | 2n2 | n2 + 5n – 2 | 3n2 – 3n – 3 |
| O | C | S | P | ! | ? |
| 2n2 + 4 | n2 – 3n | 2n2 + 3n + 4 | 4n2 – 4 | n2 + 3 | 2n2  - 2n – 2 |