1. Which sequence follows the rule 2*n* + 3, where *n* represents the position of a term in the sequence?
2. 5, 7, 9, 11, 13, …
3. 6, 7, 8, 9, 10, …
4. 1, 2, 3, 4, 5, …
5. 4, 5, 6, 7, 8, …
6. Which description shows the relationship between a term and *n*, its position in the sequence?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | 4 | 5 | n |
| **Value of Term** | 1 | 4 | 7 | 10 | 13 |  |

1. Add 1 to *n*
2. Multiply 2 by *n* then subtract 1
3. Multiply 3 by *n* then subtract 2
4. Add 2 to *n*
5. Look at the following sequence of number.

 4, 9, 14, 19, …

Find the expression that can be used to find the value of the *n*th term in the sequence.

1. Find the first 4 terms for the following rule: (*n* – 1)2 + 1.Show your work.

**Use the table below to answer questions 5 and 6.**

|  |  |
| --- | --- |
| **Position** | **Value of Term** |
| 1 | 6 |
| 2 | 9 |
| 3 | 12 |
| 4 | 15 |
| 5 | 18 |
| 6 |  |
| 7 |  |
| 8 |  |
| n |  |

1. What is the value of the eighth term in the sequence?
2. Find the expression that can be used to find the *n*th term in this sequence.
3. Which description shows the relationship between a term and *n*, its position in the sequence?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | *n* |
| **Value of Term** | 4 | 7 | 10 |  |

1. Add 3 to each value of *n*
2. Multiply *n* by 3 then add 1
3. Add 1 to *n* then multiply by 3
4. Add 3 to the square of *n*
5. Which sequence follows the rule 4*n* – 1, where *n* represent the position of a term in the sequence?
6. 4, 5, 6, 7, 8, …
7. 3, 7, 11, 15, 19, …
8. -1, 3, 6, 9, 12, …
9. 5, 9, 13, 17, 21, …
10. Find the first 4 terms for the following expression: 6*n* + 1. Show your work.
11. Look at the following sequence of numbers.

 2, 5, 10, 17, 26, …

Which expression can be used to find the value of the nth term in the sequence?

1. 2*n*
2. 2*n* + 1
3. 3*n* – 1
4. *n*2 + 1
5. Which sequence follows the rule 3*n* – 2, where *n* represents the position of a term in the sequence?
6. 1, 4, 7, 10, 13, …
7. 2, 3, 4, 5, 6, …
8. 5, 8, 11, 14, 17, …
9. 3, 6, 9, 12, 15, …
10. Which description shows the relationship between a term and *n*, its position in the sequence?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | 4 | 5 | *n* |
| **Value of Term** | 3 | 5 | 7 | 9 | 11 |  |

1. Multiply 3 by *n*
2. Add 2 to *n*
3. Multiply 2 by *n* then add 1
4. Multiply 3 by *n* then subtract 1
5. Which sequence follows the rule *n* + 7, where *n* represents the position of a term in the sequence?
6. 1, 2, 3, 4, 5, …
7. -6, -5, -4, -3, -2, …
8. 7, 14, 21, 28, 35, …
9. 8, 9, 10, 11, 12, …
10. Which description shows the relationship between a term and *n*, its position in the sequence?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | 4 | 5 | *n* |
| **Value of Term** | 3 | 4 | 5 | 6 | 7 |  |

1. Add 2 to *n*
2. Multiply 2 by *n* then add 1
3. Multiply 3 by *n*
4. Multiply 2 by *n* then subtract 1
5. Which description shows the relationship between a term and n, its position in the sequence?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | 4 | *n* |
| **Value of Term** | 2 | 5 | 10 | 17 |  |

1. Subtract 1 from the square of *n*
2. Add 1 to the square of *n*
3. Start with 2 and add 3 each time
4. Add 3 to *n*

**Use the table below to answer questions 16 and 17.**

|  |  |
| --- | --- |
| **Position** | **Value of Term** |
| 1 | 4 |
| 2 | 8 |
| 3 | 12 |
| 4 | 16 |
| 5 | 20 |
| 6 | 24 |
| 7 |  |
| 8 |  |
| 9 |  |
| n |  |

1. What is the value of the ninth term in the sequence?
2. Find the rule that can be used to find the *n*th term in this sequence.

Pre-AP/GT Supplement:

1. Find the rule that can be used to find the *n*th term in this sequence.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | *n* |
| **Value of Term** | -5 | -13 | -21 |  |

1. Use the pattern shown in the table.

|  |  |
| --- | --- |
| **Position** | **Value of Term** |
| 1 | -2 |
| 2 | -4 |
| 3 | -6 |
| 4 | -8 |

By which rule can you get the value of the term from the value of *n*?

1. Multiply the value of *n* by 2
2. Multiply the value of *n* by -2
3. Subtract 3 from *n*
4. Multiply the value of *n* by 2 then add -4
5. Which description shows the relationship between a term and *n*, its position in the sequence?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | n |
| **Value of Term** | 4 | 11 | 30 |  |

1. Cube *n*, then subtract 1
2. Raise 4 to the *n*th power
3. Cube *n* then add 3
4. Multiply *n* by 4