**I. From a Table to a Rule:**

1.) The table below shows a relationship between *x* and *y*.

Questions to ask yourself:

1.) What is the sequence?

\_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

2.) What is the rate of change? \_\_

**That is the number in front of *x*!**

3.) What is the value of the output when the input is zero? \_\_\_

4.) Did you write the expression next to each answer choice?

5.) Eliminate Choices:\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 1 | 6 |
| 2 | 8 |
| 3 | 10 |
| 4 | 12 |
| 5 | 14 |

Which statement best represents this relationship?

A. The value of y is the value of x increased by five

B. The value of y is twice the value of x decreased by four.

C. The value of y is twice the value of x increased by four.

D. The value of y is the value of x increased by two.

2.) The table below shows a relationship between *x* and *y*.

Questions to ask yourself:

1.) What is the sequence?

\_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

2.) What is the rate of change? \_\_

**That is the number in front of *x*!**

3.) What is the value of the output when the input is zero? \_\_\_

4.) Eliminate Choices:\_\_\_\_\_\_\_\_\_\_

5.) Choose from the other choices

using substitution.

|  |  |
| --- | --- |
| ***Position*** | ***Value of Term*** |
| 1 | 13 |
| 2 | 8 |
| 3 | 3 |
| 4 | -2 |
| 5 | -7 |

Which expression best represents this relationship?

A.  C. 

B.  D. 

3.) The table below shows a relationship between *x* and *y*.

Questions to ask yourself:

1.) What is the sequence?

\_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

2.) What is the rate of change? \_\_

**That is the number in front of *x*!**

3.) What is the value of the output when the input is zero? \_\_\_

4.) Eliminate Choices:\_\_\_\_\_\_\_\_\_\_

5.) Choose from the other choices

using substitution.

|  |  |
| --- | --- |
| ***Position*** | ***Value of Term*** |
| 1 | 9 |
| 2 | 6 |
| 3 | 3 |
| 4 | 0 |
| 5 | -3 |

Which expression best represents this relationship?

A.  C. 

B.  D. 

4.) The table below shows a relationship between *x* and *y*.

Questions to ask yourself:

1.) What is the sequence?

\_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

2.) What is the rate of change? \_\_

**That is the number in front of *x*!**

3.) What is the value of the output when the input is zero? \_\_\_

4.) Eliminate Choices:\_\_\_\_\_\_\_\_\_\_

5.) Choose from the other choices

using substitution.

|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 1 | 0.50 |
| 2 | 0.75 |
| 3 | 1.0 |
| 4 | 1.25 |
| 5 | 1.5 |

Which expression best represents this relationship?

A.  C. **

B. **  D. **

**II. From a Sequence to a Rule:**

5.) Let *n* represent the position of a term in the sequence below.

Questions to ask yourself:

1.) What is the sequence?

\_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

2.) What is the rate of change? \_\_

**That is the number in front of *x*!**

3.) What is the value of the output when the input is zero? \_\_\_

4.) Eliminate Choices:\_\_\_\_\_\_\_\_\_\_

5.) Choose from the other choices

using substitution.

**8, 11, 14, 17, 20, 23, …**

Which statement can be used to find the *n*th term of the

sequence?

A. The value of *y* is twice the value of *n* plus 6.

B. The value of *y* is five times the value of *n* plus 3.

C. The value of *y* is three times the value of *n* plus 2.

D. The value of *y* is three times the value of *n* plus 5.

6.) Let *n* represent the position of a term in the sequence below.

Questions to ask yourself:

1.) What is the sequence?

\_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

2.) What is the rate of change? \_\_

**That is the number in front of *x*!**

3.) What is the value of the output when the input is zero? \_\_\_

4.) Eliminate Choices:\_\_\_\_\_\_\_\_\_\_

5.) Choose from the other choices

using substitution.

**7, 9, 11, 13, 15, 17, …**

Which algebraic expression can be used to find the *n*th

term of the sequence?

A.  C. 

B.  D. 

7.) Let *n* represent the position of a term in the sequence below.

Questions to ask yourself:

1.) What is the sequence?

\_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_

2.) What is the rate of change? \_\_

**That is the number in front of *x*!**

3.) What is the value of the output when the input is zero? \_\_\_

4.) Eliminate Choices:\_\_\_\_\_\_\_\_\_\_

5.) Choose from the other choices

using substitution.

**15, 12, 9, 6, 3, 0, …..**

Which algebraic expression can be used to find the *n*th

term of the sequence?

A.  C. 

B.  D. 

**II. From a Rule to a Sequence:**

8.) Which sequence follows the rule **8*n* – 4**, where *n* represents the position of a term in the sequence?

A. 4, 12, 20, 28, 36, … C. 8, 16, 24, 32, 40, …

B. 4, 16, 24, 32, 40, … D. 16, 12, 8, 4, 0, …

9.) Which sequence follows the rule **3*n* + 1***,* where *n* represents the position of a term in the sequence?

A. 3, 6, 9, 12, 15, … C. 4, 5, 6, 7, 8 …

B. 4, 16, 24, 32, 40, … D. 4, 7, 10, 13, 16 …

10.) Which sequence follows the rule **-2*n* + 3***,* where *n* represents the position of a term in the sequence?

A. 1, 4, 7, 10, 13 … C. 1, -1, -3, -5, -7, …

B. 5, 7, 9, 11, 13, … D. 4, 6, 8, 10, 12, …

11.) Which sequence follows the rule **2(*n* + 3)***,* where *n* represents the position of a term in the sequence?

A. 5, 7, 9, 11, 13, … C. 8, 10, 12, 14, 16, …

B. 4, 5, 6, 7, 8, … D. 8, 11, 14, 17, 20, …

12.) Which sequence follows the rule **8(*n* – 4)***,* where *n* represents the position of a term in the sequence?

A. 4, 12, 20, 28, 36, … C. -24, -16, -8, 0, 8, …

B. 4, 16, 24, 32, 40, … D. 24, 16, 8, 0, -8, …