**Function Machine Model**

|  |  |
| --- | --- |
| 1. If you input 4 into the function machine, the output is 5. If you input 5 into the function machine, then the output is 7 What is the input-output rule for the function machine?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Therefore, if the input is 8 the output would be \_\_\_\_\_\_\_\_\_\_\_ | Picture 5 |
| 2. If the input is 1, the output is 4.  If the input is 2, the output is 7. If the input is 3, the output is 10. What is the input-output rule for the function machine? \_\_\_\_\_\_\_\_\_\_\_\_\_ | Picture 5 |

**When looking at a sequence, an INPUT-OUTPUT formula connects the term number to the term, rather than connecting the term to the previous term like NOW-NEXT formulas.**

 Examples:

|  |  |
| --- | --- |
| **x** | **y** |
| 1 | 5 |
| 2 | 6 |
| 3 | 7 |
| 4 | 8 |

|  |  |
| --- | --- |
| **x** | **y** |
| 1 | -2 |
| 2 | -1 |
| 3 | 0 |
| 4 | 1 |
|  |

|  |  |
| --- | --- |
| **x** | **y** |
| 1 | 3 |
| 2 | 6 |
| 3 | 9 |
| 4 | 12 |

Now-Next: Now-Next: Now-Next:

Input-Output: Input-Output: Input-Output:

|  |  |
| --- | --- |
| **x** | **y** |
| 1 | 3 |
| 2 | 5 |
| 3 | 7 |
| 4 | 9 |

|  |  |
| --- | --- |
| **x** | **y** |
|  2 | 1 |
| 3 | 1.5 |
| 4 | 2 |
| 5 | 2.5 |

|  |  |
| --- | --- |
| **x** | **y** |
| 1 | 1 |
| 2 | 8 |
| 3 | 27 |
| 4 | 64 |

Now-Next: Now-Next: Now-Next:

Input-Output: Input-Output: Input-Output: