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| **Decode the Joke** | **Nth Term of a Linear Sequence** |

Find the nth term for each of the letters of the alphabet.

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| --- | --- | --- | --- | --- | --- | --- |
| **A** | $$2, 4, 6, 8, …$$ |  |  | **N** | $$-3, -6, -9, -12,…$$ |  |
| **B** | $$3, 5, 7, 9,…$$ |  |  | **O** | $$9, 8, 7, 6,…$$ |  |
| **C** | $$2, 5, 8, 11,…$$ |  |  | **P** | $$10, 8, 6, 4,…$$ |  |
| **D** | $$6, 11, 16, 21,…$$ |  |  | **Q** | $$-4, -8, -12, -16,…$$ |  |
| **E** | $$3, 6, 9, 12,…$$ |  |  | **R** | $$17, 14, 11, 8,…$$ |  |
| **F** | $$2, 6, 10, 14,…$$ |  |  | **S** | $$-6, -3, 0, 3,…$$ |  |
| **G** | $$9, 11, 13, 15,…$$ |  |  | **T** | $$-1, -2, -3, -4,…$$ |  |
| **H** | $$-2, 1, 4, 7,…$$ |  |  | **U** | $$0.5, 1, 1.5, 2,…$$ |  |
| **I** | $$9, 16, 23, 30,…$$ |  |  | **V** | $$-3, -4, -5, -6,…$$ |  |
| **J** | $$8, 16, 24, 32,…$$ |  |  | **W** | $$2.5, 4, 5.5, 7,…$$ |  |
| **K** | $$-2, -4, -6, -8,…$$ |  |  | **X** | $$2.5, 2, 1.5, 1,…$$ |  |
| **L** | $$-2, -1, 0, 1,…$$ |  |  | **Y** | $$0.5, -1, -2.5, -4,…$$ |  |
| **M** | $$-3, -1, 1, 3,…$$ |  |  | **Z** | $$2, 3.5, 5, 6.5,…$$ |  |

Now decode the joke….

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| $$1.5n+1$$ | $$3n-5$$ | $$2n$$ | $$-n$$ |  | $$7n+2$$ | $$3n-9$$ |  | $$2n$$ |  | $$2n+1$$ |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| $$7n+2$$ | $$20-3n$$ | $$5n+1$$ | ‘ | $$3n-9$$ |  | $$4n-2$$ | $$2n$$ | $$-n-2$$ | $$10-n$$ |
|  |  |  |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| $$0.5n$$ | $$20-3n$$ | $$7n+2$$ | $$-n$$ | $$3n$$ |  | $$-n$$ | $$2-1.5n$$ | $$12-2n$$ | $$3n$$ |
|  |  |  |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| $$10-n$$ | $$4n-2$$ |  | $$2n-5$$ | $$2n$$ | $$-n$$ | $$3n-5$$ | $$3n-9$$ | ? |
|  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| $$10-n$$ | $$1.5n+1$$ | $$n-3$$ | - | $$2n+7$$ | $$3n$$ | $$2n+1$$ | $$20-3n$$ | $$2n$$ | ! |
|  |  |  |  |  |  |  |  |  |  |