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| Arithmetic Sequence: A sequence of terms that have a common difference between them.* Formula: $a\_{n}=a\_{1}+d(n-1)$ where $a\_{1}$ is the 1st number in the sequence and *d* is the common difference.

Geometric Sequence: A sequence of terms that have a common ratio between them.* Formula: $a\_{n}=a\_{1}\left(r\right)^{n-1}$ where $a\_{1}$ is the 1st number in the sequence and *r* is the common ratio.
 |
| **Are the following sequences arithmetic or geometric? If they are arithmetic, stated the value of *d*. If they are geometric, state the value of *r*.**1. 6, 12, 18, 24, … type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d or r: \_\_\_\_\_\_2. 6, 11, 16, … type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d or r: \_\_\_\_\_\_3. 2, 14, 98, 686, … type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d or r: \_\_\_\_\_\_4. 160, 80, 40, 20, … type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d or r: \_\_\_\_\_\_5. -40, -25, -10, 5, … type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d or r: \_\_\_\_\_\_6. 7, -21, 63, -189, … type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d or r: \_\_\_\_\_\_ |
| **For the following sequences, find** $a\_{1}$ **and d and state the formula for the general term.**7. -10, -4, 2, 8, 14, … $a\_{1}$ = \_\_\_\_\_\_ d = \_\_\_\_\_\_ Formula: 8. 10, 8, 6, 4, … $a\_{1}$ = \_\_\_\_\_\_ d = \_\_\_\_\_\_ Formula: 9. 36, 31, 26, 21, … $a\_{1}$ = \_\_\_\_\_\_ d = \_\_\_\_\_\_ Formula: |
| 10. Use the formula from #9 to find the seventh term and the 20th term. |
| For the following sequences, find $a\_{1}$ and r and state the formula for the general term.11. 4, 20, 100, 5000, … $a\_{1}$= \_\_\_\_\_\_ r = \_\_\_\_\_\_ Formula:12. 3, -6, 12, -24, 48, … $a\_{1}$= \_\_\_\_\_\_ r = \_\_\_\_\_\_ Formula: 13. 1, 3, 9, 27, … $a\_{1}$= \_\_\_\_\_\_ r = \_\_\_\_\_\_ Formula:   |
| 14. Use the formula from question #13 to find the value of the fifth term and the twelfth term. |