**Explicit Formulas** – \*\*\*most commonly used\*\*\*

* Used to find any term in either type of sequence
* Need to know $a\_{1}$, *d* (common difference for arithmetic) or *r* (common ratio for geometric)
* Arithmetic Formula:
	+ $a\_{n}=a\_{1}+d(n-1)$
* Geometric Formula:
	+ $a\_{n}=a\_{1}\left(r\right)^{n-1}$

**Recursive Formulas**

* Allows you to find the $n^{th}$ term in a sequence if you know the value of the $\left(n-1\right)^{th}$ term of the sequence
* Need to know $a\_{1}, a\_{n-1}$, *d* (common difference for arithmetic) or *r* (common ratio for geometric)
* Arithmetic Formula:
	+ $a\_{n}=a\_{n-1}+d$
* Geometric Formula:
	+ $a\_{n}=\left(r\right)a\_{n-1}$

**Practice (Arithmetic Sequences):** Write the recursive rule for each sequence.

1. 7, 13, 19, 25, …
2. 30, 26, 22, 18, …
3. -5, -8, -11, -14, …
4. -2, 0, 2, 4, …
5. 8, 6, 4, 2, …

**Practice (Geometric Sequences):** Write the recursive rule for each sequence.

1. 3, 9, 27, …
2. 1, 5, 25, …
3. 6, -12, 24, …
4. 5, -15, 45, -135, …
5. 729, -243, 81, …