Arithmetic +/-

Recursive

a_1 = starting #

$a_n = a_{n-1} + d$

Explicit

$a_n = a_1 + d(n-1)$

Sum

$S_n = \frac{n}{2}(a_1 + a_n)$

Geometric x/÷

Recursive

a_1 = starting #

$a_n = r\,a_{n-1}$

Explicit

$a_n = a_1 r^{n-1}$

Sum

$S_n = a\left(\frac{1-(r)^n}{1-r}\right)$

$S_\infty = \frac{a}{1-r}$ $|r|<1$

Use an a_n formula when finding:

- d
- r
- n
- a_1
- a_n

Use an S formula when finding a <u>sum</u> or when given a <u>sum</u>.

Summation Notation

$$\sum_{n=1}^{\text{stopping \#}} a_n \leftarrow \text{Formula}$$