

## Arithmetic Series

$n$  = first  $n$  terms

$$S_n = \frac{n}{2} (2a + (n-1)d)$$

$a$  = first term

$d$  = common difference

Find first 10 terms of the Arithmetic series w/ first term ( $S_0 = 3$ ) and common difference ( $d = 4$ )

$$S_{10} = \frac{10}{2} (2 \times 3 + (10-1) \times 4)$$

↓

$$\begin{aligned} S_{10} &= 5(6 + 36) \\ &= 30 + 180 \\ &= \underline{210} \end{aligned}$$