Name: _____ Date: 11/16/25

Session 12 (sigma notation)

Warm-up!

a) $\sum_{n=2}^{4} (n+1)^2 = ?$

$\sum_{k=1}^{n}$ ← ending value

"index" a counter

starting value

b) $\sum_{n=1}^{100} (4n+5) = ?$

expand letter c!

c) $\sum_{n=1}^{7} 4 = ?$

1. Write as a summation

$1^2 + 2^2 + 3^2 + 4^2 + 5^2 + 6^2 + 7^2 + 8^2 = ?$

arithmetic sequences

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

2. Find a formula for the following arithmetic sequence

3, 7, 11, 15, 19, 23, ...

partial sums of arithmetic sequences

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

$S_n = n\left(\frac{a + a_n}{2}\right)$

3 Find the 150th partial sum of the arithmetic sequence