Homework Assignment: 1
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1. Summation Practice

   (a)

$$\sum_{k=3}^{n+1} 1 = n - 1$$

   (b)

$$\sum_{i=1}^{100}(4 + 3i)$$

$$n(a_1 + \frac{d(n-1)}{2}) \begin{cases} a_1 = 7 \\ n = 100 \\ d = 3 \end{cases}$$

$$\implies 100(7 + \tfrac{3(100-1)}{2}) = 15550 \textstyle\sum_{i=2}^{200}(i-3)^2$$

2.

$$\sum_{i=10}^{80}(i^3 + i^2)$$

3.

$$\sum_{j=0}^{n-1}(j + 1)$$

4. Create a summation for the following sequence: 2+4+8+16+32+64

$$\sum_{j=0}^{n-1}(j + 1)$$

5. Create a summation for the following sequence: 2+6+18+54+162

$$\sum_{j=0}^{n-1}(j + 1)$$

6. Create a summation for the following sequence: (-4)+(-1)+2+5+8+11+14

$$\sum_{j=0}^{n-1}(j + 1)$$

Order of Growth

(a)

$$\sum_{i=2}^{n-1} lgi^2$$

(b)

$$\sum_{i=0}^{n-1} \sum_{j=0}^{i-1} (i+j)$$