

1. (4) Write out all the terms in these sums

$$\sum_{i=1}^5 y_i =$$

$$\sum_{j=2}^6 a_j b_{j-1} =$$

$$\sum_{j=0}^4 (-2)^j =$$

2. (4) Write these in summation notation

$$a_1 + b_2 + a_2 + b_4 + a_3 + b_6 =$$

$$z_1 + z_2^2 + z_3^3 + z_4^4 =$$

$$b_0 x_{i0} + b_1 x_{i1} + b_2 x_{i2} =$$

3. (4) The Fibonacci sequence is a sequence of numbers f_0, f_1, f_2, \dots such that each number is the sum of the previous two numbers in the sequence. Write a formula for the j th number in the sequence in terms of the other numbers.
4. (4) If I told you that $f_0 = 0$ and $f_1 = 1$, what are f_2 and f_3 ?
5. (4) Explain why $\sum_{k=1}^n x = nx$.