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2. Sums and Products

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Homework0 due Feb 8, 2023 08:59 -03 Completed

Summation Notation

4/4 points (graded)

Compute the following sums.

(Enter closed-form expressions, without summation notation, in terms of the variables N , K , and T . Refer to the "Standard Notation" button for help with input.)

$$1. \sum_{i=0}^N 1 =$$

N+1

✓

$N + 1$

$$2. \sum_{k=1}^K \sum_{t=1}^T 1 =$$

K*T

✓

$K \cdot T$

$$3. \sum_{k=1}^K \sum_{t=1}^T 0.5^k =$$

$T - 2^{(-K)*T}$

✓

$T - 2^{-K} \cdot T$

$$4. \sum_{k=1}^{\infty} \sum_{t=1}^T 0.5^k =$$

T

✓

T

Hint: If you are unfamiliar, look up arithmetic and geometric series.

? STANDARD NOTATION

Submit

You have used 2 of 3 attempts

Product Notation

2.0/2.0 points (graded)

The notation $\prod_{i=1}^N p_i$ denotes the product with N factors:

$$\prod_{i=1}^N p_i = p_1 p_2 \cdots p_N$$

3.

 $\frac{1}{2} \ln \left(\frac{1 + \sqrt{1 + 4x}}{1 - \sqrt{1 + 4x}} \right) + C$

? STANDARD NOTATION

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