Practice quiz on Simplification Rules and Sigma Notation
Quiz pour s'exercer • 20 min

QUIZ POUR S'EXERCER • 20 MIN

Practice quiz on Simplification Rules and Sigma Notation

Soumettre votre devoir — Essayer à nouveau

Recevoir une note
POUR RÉUSSIR 75 % ou plus

Note
100 %
Voir les commentaires
Nous conservons votre score le plus élevé

Félicitations ! Vous avez réussi !
POUR RÉUSSIR 75 % ou plus

Continuer à apprendre

NOTE
100%

Practice quiz on Simplification Rules and Sigma Notation

TOTAL DES POINTS 6

1. Which of the numbers below is equal to the following summation: $\Sigma_{i=1}^{3} i^2$? — 1 / 1 point

- 30
- 14 ✓
- 1
- 9

Correct
We compute $\Sigma_{i=1}^{3} i^2 = 1^2 + 2^3 + 3^2 = 14$

2. Suppose that $A = \Sigma_{k=1}^{100} k^4$ and $B = \Sigma_{j=1}^{100} j^4$ — 1 / 1 point

Which of the following statements is true?

- There is not enough information to do the problem
- $A = B$ ✓
- $B > A$
- $A > B$

Correct
A = B. Both summations evaluate to the same number, since k and j are just dummy indices.

3. Which of the numbers below is equal to the summation $\Sigma_{i=1}^{10} 7$? — 1 / 1 point

- 70 ✓
- 7
- 55
- 0

Correct
According to one of our Sigma notation simplification rules, this summation is just equal to 10 copies of the number 7 all added together, and so we get $10 \times 7 = 70$.

4. Suppose that $X = \Sigma_{i=1}^{5} i^3$ and $Y = \Sigma_{i=1}^{5} i^4$. — 1 / 1 point

Which of the following expressions is equal to the summation $\Sigma_{i=1}^{5} (2i^3 + 5i^4)$?

- $X + Y$
- 3375
- 7
- $2X + 5Y$ ✓

Correct
To get here, you apply two of our Sigma notation simplification rules $\Sigma_{i=1}^{5} 2i^3 + 5i^4 = 2\left(\Sigma_{i=1}^{5} i^3\right) + 5\left(\Sigma_{i=1}^{5} i^4\right) = 2X + 5Y$.

5. Which of the following numbers is the mean μ_Z of the set $Z = \{-2, 4, 7\}$? — 1 / 1 point

- 4
- 3 ✓
- $\frac{13}{3}$
- 9

Correct
To get the mean of a set of numbers, you need to perform two steps: first add them all up (in this case getting $-2 + 4 + 7 = 9$), and then divide by the number of elements in the set (in this case that number is 3).

So you should obtain $\mu_Z = \frac{9}{3} = 3$, which you did!

6. Suppose the set X has five numbers in it: $X = \{x_1, x_2, x_3, x_4, x_5\}$. Which of the following expression represents the mean of the set X? — 1 / 1 point

- $\frac{1}{5}[\sum_{i=1}^{5}(x_i - \mu_X)^2]$
- $\sum_{i=1}^{5} x_i$
- $\frac{1}{N}[\sum_{i=1}^{N} x_i]$
- $\frac{1}{5}[\sum_{i=1}^{5} x_i]$ ✓

Correct
To obtain the mean of a set of numbers, you first add them all up (which is expressed here by the sigma operation inside the square brackets) and then you divide by the number of numbers in the set (which is expressed here by the $\frac{1}{5}$ outside the square brackets).