

NAME: _____

A2.N.10: Know and apply sigma notation

1. 060201b, P.I. A2.N.10

What is the value of $\sum_{m=2}^5 (m^2 - 1)$?

[A] 54 [B] 53 [C] 58 [D] 50

2. 080823b, P.I. A2.N.10

Evaluate: $3 \sum_{x=2}^4 (x^2 - 5)$

3. 060903b, P.I. A2.N.10

What is the value of $\sum_{k=1}^3 (2 - k)^2$?

[A] 2 [B] 3 [C] 0 [D] 1

4. 080521b, P.I. A2.N.10

Evaluate: $\sum_{n=1}^5 (n^2 + n)$

5. 060117b, P.I. A2.N.10

What is the value of $\sum_{m=1}^3 (2m + 1)^{m-1}$?

[A] 245 [B] 15 [C] 55 [D] 57

6. 060624b, P.I. A2.N.10

Evaluate: $\sum_{k=1}^2 \frac{(-1)^{k-1}}{(2k-1)!}$

7. 080213b, P.I. A2.N.10

If ${}_nC_r$ represents the number of combinations of n items taken r at a time, what is the value of $\sum_{r=1}^3 {}_4C_r$?

[A] 24 [B] 14 [C] 6 [D] 4

8. 010505b, P.I. A2.N.10

The value of $\sum_{r=2}^4 {}_5C_r$ is

[A] 45 [B] 10 [C] 5 [D] 25

9. 010922b, P.I. A2.N.10

Evaluate: $\sum_{n=1}^3 \left(\sin \frac{n\pi}{2} \right)$

10. 060523b, P.I. A2.N.10

Evaluate: $\sum_{k=0}^3 (3 \cos k\pi + 1)$

11. 010304b, P.I. A2.N.10

What is the value of $\sum_{b=0}^3 (2 - (b)i)$?

[A] $2-5i$ [B] $2-6i$ [C] $8-6i$ [D] $8-5i$

12. 010825b, P.I. A2.N.10

If $i = \sqrt{-1}$, what is the value of the expression $\sum_{n=1}^{20} i^{4n}$?

A2.N.10: Know and apply sigma notation

[1] D _____

[2] 42, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 42, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[2] incorrect procedure.

[3] A _____

[2] 70, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] The values for $n = 1$ through $n = 5$ are computed correctly, but they are not added.

or [1] 70, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[4] incorrect procedure.

[5] C _____

[2] $\frac{5}{6}$ or $0.8\bar{3}$, and appropriate work is shown.

[1] Appropriate work is shown, but one computational or rounding error is made, such as representing $\frac{5}{6}$ as a terminating decimal.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] $\frac{5}{6}$ or $0.8\bar{3}$, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[6] incorrect procedure.

[7] B _____

[8] D _____

[2] 0, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 0, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[9] incorrect procedure.

[2] 4, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 4, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[10] incorrect procedure.

[11] C _____

[2] 20, and appropriate work is shown or an appropriate explanation is written.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 20, but no work is shown or no explanation is written.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[12] incorrect procedure.