

NAME: _____

P.I. A2.A.35: Determine the sum of the first n terms of an arithmetic or geometric series

1. Evaluate the following expression:

$$\sum_{k=4}^8 (2k - 1)$$

[A] 48 [B] 55 [C] 25 [D] 64

2. Evaluate the following expression:

$$\sum_{k=3}^9 (3k - 3)$$

[A] 108 [B] 105 [C] 27 [D] 99

3. Evaluate the following expression to three

decimal places: $\sum_{k=4}^6 \left(\frac{3}{5}\right)^k$

[A] 0.207 [B] 1.43
[C] 0.254 [D] 0.152

4. Find the sum of the first 12 terms of the sequence $-9, -5, -1, 3, \dots$

[A] 156 [B] 312 [C] 152 [D] 160

5. Find the sum of the first 15 terms of the sequence $-8, -2, 4, 10, \dots$

[A] 1020 [B] 516 [C] 504 [D] 510

6. Find the sum of the first 12 terms of the sequence $-11, -6, -1, 4, \dots$

[A] 193 [B] 203 [C] 198 [D] 396

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7. Find the sum of the first five terms of the

series: $\frac{40}{27} + \frac{20}{9} + \frac{10}{3} + \dots$

[A] $24\frac{29}{54} \approx 24.537$ [B] $19\frac{29}{54} \approx 19.537$

[C] $16\frac{11}{54} \approx 16.204$ [D] $21\frac{29}{54} \approx 21.537$

8. Find the sum of the first five terms of the

series: $\frac{27}{16} + \frac{9}{4} + 3 + \dots$

[A] $16\frac{13}{48} \approx 16.271$ [B] $20\frac{13}{48} \approx 20.271$

[C] $18\frac{13}{48} \approx 18.271$ [D] $13\frac{13}{48} \approx 13.271$

9. Find the sum of the first five terms of the

series: $\frac{32}{27} + \frac{16}{9} + \frac{8}{3} + \dots$

[A] $12\frac{26}{27} \approx 12.963$ [B] $15\frac{17}{27} \approx 15.630$

[C] $14\frac{17}{27} \approx 14.630$ [D] $19\frac{17}{27} \approx 19.630$

10. Compare the quantity in Column A with the quantity in Column B.

Column A	Column B
$\sum_{n=1}^6 (2n-1)$	$\sum_{n=1}^6 (n+6)$

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

- [1] B
- [2] B
- [3] C
- [4] A
- [5] D
- [6] C
- [7] B
- [8] A
- [9] B
- [10] B