Name_____

Summation Notation Worksheet

Find the sum of the arithmetic series using a formula.

1) 1 + 2 + 3 + ... + 993

A) S_{993} = 986,049 B) S_{993} = 493,521 C) S_{993} = 987,042 D) S_{993} = 492,528

2) 2 + 4 + 6 + ... + 1920

A) S_{960} = 922,560 B) S_{960} = 920,640 C) S_{960} = 921,600 D) S_{960} = 923,521

3) The first 50 terms of the series whose terms are $a_n = 5n$

A) S_{50} = 6375 B) S_{50} = 6432 C) S_{50} = 6360 D) S_{50} = 12,750

Find the sum of the finite geometric series.

4) The first 10 terms of the series whose terms are $a_n = 2\left(\frac{1}{2}\right)^n$

A) S_{10} = 3.99609375 B) S_{10} = 1.99804688 C) S_{10} = 1.33203125 D) S_{10} = 58.9980469

5) The first 10 terms of the series whose terms are $a_n = 3(3)^{n-1}$

A) S_{10} = 88,472 B) S_{10} = 29,524 C) S_{10} = 88,572 D) S_{10} = 88,712

Find the sum of the infinite geometric series.

6) 4 + 16 + 64 + 256 + 1024 + ...

A) 1364 B) Does not exist C) 1,000,001,364 D) 13,364

7) $\frac{2}{3} + \frac{2}{9} + \frac{2}{27} + \frac{2}{81} + \ldots$

A) Does not exist B) S = 2 C) S = 1 D) S = $\frac{2}{3}$

Write out the terms of the series.

8) $\sum_{k=1}^{5} \frac{k+1}{k+2}$

A) $\frac{6}{7}$ B) $\frac{1}{2} + \frac{2}{3} + \frac{3}{4} + \frac{4}{5} + \frac{5}{6}$ C) $\frac{1}{3} + \frac{2}{4} + \frac{3}{5} + \frac{4}{6}$ D) $\frac{2}{3} + \frac{3}{4} + \frac{4}{5} + \frac{5}{6} + \frac{6}{7}$

Write the series using summation notation.

9) $1 + \frac{1}{4} + \frac{1}{16} + \frac{1}{64} + \frac{1}{256} + \ldots$

A) $\sum_{k=1}^{5} \left(\frac{1}{4^k}\right)$ B) $\sum_{k=0}^{\infty} \left(\frac{1}{4^k}\right)$ C) $\sum_{k=0}^{\infty} 4^k$ D) $\sum_{k=0}^{\infty} \left(\frac{1}{k^4}\right)$

Use the properties of summation notation to find the sum.

10) $\sum_{i=1}^{6} (i + i^2)$

A) 441 B) 462 C) 1764 D) 112

Answer Key
Testname: SUMMATIONREVIEW

1) B
2) A
3) A
4) B
5) C
6) B
7) C
8) D
9) B
10) D