Chapter 9 Review

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Write the series using summation notation.

1) $9 - 27 + 81 - 243 + \ldots$ 1) _____

A) $\sum_{n=0}^{\infty} 9 \cdot 3^n$ B) $\sum_{n=0}^{\infty} 9(-3)^n$ C) $\sum_{n=0}^{\infty} 9(-3)^{n+1}$ D) $\sum_{n=0}^{\infty} 9 \cdot 3^{n+1}$

2) $-5 + 5 + 15 + 25 + \ldots + 145$ 2) _____

A) $\sum_{n=0}^{15} (-5 + n \cdot 10)$ B) $\sum_{n=0}^{\infty} -50n$

C) $\sum_{n=0}^{15} -50 \cdot n$ D) $\sum_{n=0}^{\infty} (-5 + n \cdot 10)$

Find the sum of the arithmetic series.

3) $13 + 15 + 17 + 19 + \ldots + 31$ 3) _____

A) 139 B) 120 C) 220 D) 33

Determine whether the infinite geometric series converges. If the series converges, determine the limit.

4) $5 + 10 + 20 + 40 + \ldots$ 4) _____

A) Converges; 35 B) Diverges C) Converges; 155 D) Converges; 75

5) $36 + 6 + 1 + \frac{1}{6} + \ldots$ 5) _____

A) Diverges B) Converges; $\frac{216}{7}$

C) Converges; $\frac{216}{5}$ D) Converges; - 9324