

DIRECTIONS To receive full credit, you must provide complete legible solutions to the following problems in the space provided. No Attached papers. Transfer all your answers to the space provided.

1. Determine whether the geometric series is convergent or divergent.
If it converges find the sum. Ans: _____

$$4 - 5 + \frac{25}{4} - \frac{125}{16} + \dots$$

2. Determine whether the geometric series is convergent or divergent.
If it converges find the sum. Ans: _____

$$10 - 4 + 1.6 - 0.64 + \dots$$

3. Determine whether the geometric series is convergent or divergent.
If it converges find the sum. Ans _____

$$\sum_{n=0}^{\infty} \frac{1}{(\sqrt{10})^n}$$

4. Determine whether the series is convergent or divergent.
If it converges find the sum.

Ans: _____

$$\sum_{k=0}^{\infty} \frac{k(k+5)}{(k+1)^2}$$

5. Determine whether the series is convergent or divergent.
If it converges find the sum.

Ans: _____

$$\sum_{n=1}^{\infty} \frac{1+4^n}{5^n}$$

6. Determine whether the series is convergent or divergent by
expressing s_n as a telescoping sum. If it converges find the sum.

Ans: _____

$$\sum_{n=1}^{\infty} \frac{12}{n(n+3)}$$