Math 1303 - Math in the Liberal Arts

Quiz #5 - 2008.02.07

Solutions

---

1. Determine if the following sequence is arithmetic or geometric. State your reasons why.

$$-9, 4, 17, 30, 43, 56, 69, \ldots$$

Each of the terms in the above sequence differ by a common factor of 13. Therefore the sequence is an arithmetic sequence.

2. Write a formula for the nth term in sequence given above.

$$a_n = -9 + 13(n-1)$$

3. What is the 501st term in the sequence?

$$a_{501} = -9 + 13(501 - 1) = -9 + 6500 = 6491$$

4. What is the sum of the first 501 terms in the sequence?

$$s = \frac{501}{2}(-9 + 6491) = 1623741$$