

Pre-Cal CW 8.1-8.3 Sequences and Series

Write an nth term formula for each Sequence:

1. $12, 3, \frac{3}{4}, \dots$

2. $3, \frac{3}{4}, \frac{3}{7}, \frac{3}{10}, \dots$

3. $6, \frac{9}{2}, 3, \frac{3}{2}, \dots$

Simplify each:

4. $\frac{8!9!}{6!5!4!}$

5. $\frac{2(n+1)!}{n(n-2)!}$

Evaluate:

6. $\sum_{n=1}^4 \frac{2^{2n} - n^2}{(n-1)!}$

7. $a_4 = -1; a_5 = 5; a_k = a_{k-2} + a_{k-1}$

Find a_6 and a_7 .

Given: $-8, -11, -14, -17, \dots$

8. Find the 312th term in the above arithmetic sequence.

Find the nth partial sum for each:

9. $\sum_{n=1}^{234} 4n - 11 =$

10. $4 + 15 + 26 + \dots + 213 =$

Given: $9, 3, 1, \frac{1}{3}, \dots$

11. Write the nth term formula for the given sequence.

12. Use the formula to find the 11th term.

13. Find S_7

14. Find S_∞ , if possible. If not possible, say why not.