

1. Find the 24th term of the arithmetic sequence 10, 14, 18, ...

2. Find S_n for the sequence, $\sum_{n=1}^7 6(2)^{n-1}$

3. Find the four geometric means of 7, _____, _____, _____, _____, 224

4. Evaluate $\sum_{n=1}^5 -9 + 2n$

5. Evaluate $\sum_{n=1}^{10} 96\left(\frac{1}{2}\right)^{n-1}$

6. Find a_1 for the geometric Series for which $S_n = 93$, $r = 2$, and $n = 5$

7. Find the fifth term of the sequence in which $a_1 = 4$ and $a_{n+1} = 2a_n + n$

8. Find the sum of the series $4 + 3 + \frac{9}{4} + \frac{27}{16} \dots$

9. Find the sum of the geometric series in which $a_1 = 54$, $a_n = \frac{2}{9}$, and $r = \frac{1}{3}$
10. A water tank is emptied at a *constant* rate. At the end of the first hour, 36,000 gallons of water were in the tank. After six hours, 21,000 gallons remained. How many gallons of water were in the tank at the end of the *fourth* hour?
11. A rock climber climbs 90 feet of a steep rock face in the first half-hour of climbing. In each succeeding half-hour, the climber achieves only 80% of the height achieved in the previous half-hour. Find the *maximum* total height climbed?
12. Find an equation for a_n to represent the following sequence $2 - 6 + 18 - 54 \dots$
13. Find the first three terms of the geometric sequence in which $a_1 = 5$, $a_n = 640$, and $S_n = 1275$?
14. Use sigma notation to express the series $89 + 86 + 83 + 80 + \dots + 20$