

1) Find the first 3 terms of the sequence with $a_1 = 5$ and $a_n = 3a_{n-1} + 1$.

2) Evaluate.

$$\sum_{k=1}^3 10k - 2$$

3) Expand and evaluate.

$$\sum_{n=2}^4 (-1)^n (3 - n)$$

4) Find the missing terms of the arithmetic sequence.

$$_, 1, _, _, -14$$

5) Find the 22nd term of the sequence $-2, -4, -6, -8, -10, \dots$

6) Evaluate

$$\sum_{k=6}^{20} 10$$

7) Write the explicit rule for the sequence $2, 0.2, 0.02, 0.002, \dots$

8) Show that the series converges and then find the sum of the infinite geometric series

$$2 + \frac{2}{5} + \frac{2}{25} + \frac{2}{125} + \dots$$

9) Write the series $8 + 5 + 2 - 1 - 4 - 7$ in summation notation.

10) Find S_7 for $-8 + 1.6 - 0.32 + 0.064 - \dots$

11) Find the 1st term of the geometric sequence with $a_5 = 96$ and $a_{11} = 384$.

12) Write the explicit rule for the sequence $\frac{2}{3}, \frac{4}{6}, \frac{6}{9}, \frac{8}{12}, \frac{10}{15}, \dots$

13) A meeting room has 5 rows of seats. There are 40 seats in the first row and 3 less seats in each subsequent row. How many seats are in the meeting room?

14) When a member first joins a health club, he or she pays \$300 for the first year. Each year after that the yearly fee is reduced by \$5. How much would a member have paid after belonging to the health club for 10 years?