

Write the first five terms of each sequence defined by the following:

1. $a_n = n^2 + 7$

2. $a_n = -2n^2 - 1$

$a_1 = 1$
3. $a_n = -2a_{n-1} + 2$

$a_1 = 1$
4. $a_n = (2a_{n-1})^2$

Write out the terms of each series. Then evaluate.

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

6. $\sum_{n=1}^5 4$

7. $\sum_{n=3}^6 n^2 - 2n + 1$

Write a formula for the nth term of the arithmetic sequence, and then find the indicated term.

$a_1 = \frac{3}{2}$
 $a_7 = \frac{21}{2}$
8. $a_4 = \underline{\hspace{2cm}}$

$a_2 = \frac{-4}{5}$
 $a_5 = 1$
9. $a_6 = \underline{\hspace{2cm}}$

$a_3 = \frac{-2}{3}$
 $a_5 = 2$
10. $a_7 = \underline{\hspace{2cm}}$

Use the formula for an arithmetic series to find each sum. (Show how you set up the equation.)

11. $-10 + (-17) + (-24) + (-31) + (-38)$

12. $101 + 149 + 197 + 246 + 293$