

Topic: Sequences and Series
Recursion and Special Sequences
Homework

Name: _____

Date: _____

Find the first six terms of each sequence..

1. $a_1 = 4, a_{n+1} = 2a_n + 1$

2. $a_1 = 16, a_{n+1} = a_1 + (n + 4)$

3. $a_1 = 1, a_{n+1} = \frac{n}{n+2} \cdot a_n$

Find the first three iterations of each function, using the given initial value.

4. $f(x) = 3x - 1, x_0 = 3$

5. $f(x) = 3x^2 + 1, x_0 = 1$

6. $f(x) = x^2 + 2x + 1; x_0 = -2$

7. $f(x) = 4x^2 - 9; x_0 = -1$

8. $a_n = a_{n-1} - 17, a_1 = 340$

9. $a_n = 2 \cdot a_{n-1} + 3, a_1 = 3$

10. $a_n = -3 \cdot a_{n-1}, a_1 = 2$