

Algebra II Worksheet #2 Unit 9 Selected Homework Solutions

For each of the following sequences

- write the next 3 terms of the sequence;
- determine whether the sequence is arithmetic, geometric, or neither; and
- write an explicit formula for the sequence;

1. **3, 6, 9, 12, 15, ...**

a. **18, 21, 24** b. **arithmetic** c. **$a_n = 3n$**

2. **3, 6, 12, 24, 48, ...**

a. **96, 192, 384** b. **geometric** c. **$a_n = 3(2)^{n-1}$**

3. **3, 6, 11, 18, 27, ...**

a. **38, 51, 66** b. **neither** c. **$a_n = n^2 + 2$**

For each of the following sequences

- write the next 3 terms of the sequence;
- determine whether the sequence is arithmetic or geometric; and
- write a recursive formula for the sequence;

7. **5, 10, 20, 40, ...**

a. **80, 160, 320** b. **geometric** c. **$a_1 = 5$; $a_{n+1} = 2a_n$**

8. **5, 10, 15, 20, ...**

a. **25, 30, 35** b. **arithmetic** c. **$a_1 = 5$; $a_{n+1} = a_n + 5$**

For each of the following sequences

- write the first 5 terms of the sequence; and
- determine whether the sequence is arithmetic, geometric or neither.

11. **$a_1 = 3$; $a_{n+1} = a_n + 5$**

a. **3, 8, 13, 18, 23** b. **arithmetic**

12. **$a_1 = 3$; $a_{n+1} = 5a_n$**

a. **3, 15, 75, 375, 1875** b. **geometric**

16. **$a_n = 2n$**

a. **2, 4, 6, 8, 10** b. **arithmetic**

18. **$a_n = 3(2)^{n-1}$**

a. **3, 6, 12, 24, 48** b. **geometric**