

Math Circles March 27, 2013

Exercises About Sequences

1. What is the next term in the below sequence?

3, 6, 10, 15,

2. Consider the first few terms of a sequence:

3, 6, 9, 12,

(a) What is the next term?

(b) What is the 10th term?

(c) Write a general formula for the n th term, depending on n .

3. What is the sum of $100 + 99 + 98 + \cdots + 2 + 1$?

4. What is the sum of $100 - 99 + 98 - 97 + 96 \cdots + 2 - 1$?

5. The sum of the first n terms of a sequence is $n(n + 1)(n + 2)$.

(a) Write out the first 5 terms of the sequence.

(b) What is the 18229th term of the sequence?

(c) Write a general formula for the n th term of the sequence, a_n .

6. The sum of fifty consecutive even integers is 3250. Determine the largest of the fifty integers.