

Recursion WS 2

1. Consider the sequence: 108 72 48 32 ...
 - a) Specify the type of sequence this represents.
 - b) Write a recursive formula for the sequence.
 - c) Determine the 23rd term of the sequence.
2. Consider the sequence: 5 13 37 109 325 ...
 - a) Specify the type of sequence this represents.
 - b) Write a recursive formula for the sequence.
 - c) Determine the 47th term of the sequence.
3. Consider the sequence: 3 2 5 7 12 ...
 - a) Specify the type of sequence this represents.
 - b) Write a recursive formula for the sequence.
 - c) Determine the 31st term of the sequence.
4. Consider the sequence: 5 7 10 14 19 ...
 - a) Specify the type of sequence this represents.
 - b) Write a recursive formula for the sequence.
 - c) Determine the 83rd term of the sequence.
5. Given the recursion formula below, find the 17th term.

$$\begin{cases} t_1 = 2 \\ t_k = 3t_{k-1} - 2k \end{cases}$$

6. Given the recursion formula below, find the 31st term. (remember, you need parentheses around the denominator since it involves a sum)

$$\begin{cases} a_1 = 60 \\ a_n = \frac{n}{n+1} a_{n-1} \end{cases}$$