IB PreHL Chapter 7 Test (Part 1) Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Calculator is allowed.**

**Arithmetic Sequences:  Geometric Sequences **

**Compound Interest Formula:  Arithmetic Series:** 

1. For the following sequences, a) Determine if the sequences are arithmetic, geometric, or neither. b) Write explicit formula, and c) find the number of terms, n, for each sequence. [3 each]

i). -12, -7, -2, 3, ……… 123.

a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ii) . 9, 25, 49, ………..729

a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

iii) -5, 10, -20, ……. +640

a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Find the value(s) of K when a geometric sequence has the three consecutive terms: k+1, 4k, and 3k + 5. [3]

3. The sum of three consecutive terms of a geometric sequence is 39 and their product 729. Find these terms.[3]

4. $3000 is invested today at 5% (annual interest) compounded monthly. How long (in years) would it take the investment reach $20,000? Round down your final answer to whole number of years. [3]

5. Evaluate [2] 