Name:

QUIZ – MATH GRADE 11 IB SL

1. (16%), 2% for each completely correct row, 2% for each correct general term. General term should be written only if the sequence is geometric or arithmetic.

    a. 3, 1, –1, _____Pattern:_____ Geo. / Ari. / Nei. (circle the

    right option) General term: _____

    b. 5, 52, 522, _____Pattern:_____ Geo. / Ari. / Nei. (circle

    the right option)General term: _____

    c. 150,–90,54 _____Pattern:_____ Geo. / Ari. / Nei. (circle

    the right option)General term: _____

    d. $\dfrac{2}{3}, \dfrac{4}{3}, \dfrac{8}{3}, , ,$ _____Pattern:_____ Geo. / Ari. / Nei. (circle

    the right option)General term: _____

2. (22%) The 9th term of an arithmetic sequence is 1 and the 15th term is -2.

    a. (8%) Find the difference of the sequence.

    b. (4%) Find a_1

    c. (5%) Write the sum of the first 20 terms using sigma notation.

    d. (5%) Find the sum of the first 20 terms Simplify the result as much as possible.

3. (22%) The 3rd term of a geometric sequence is 5 the 7th term is 80

    a. (8%) Find the possible ratio(s) of the sequence, simplify the answer as much as possible.

    b. (6%) Write the general term(s)

    c. (8%) Find the sum of the first 9 terms in both cases.

4. (12%) Find the sum $\displaystyle\sum_{n=3}^{26} 2n - 4$

5. (12%) Given the sum $16 + 11 + 6 + \ldots\ldots -74$

    a. (8%) Write it using sigma notation.

    b. (4%) Find the sum.

6. (12%) Given that a certain amount M is put in a deposit for 7 years. Find the interest rate in case the amount multiplies by 5 assuming it is compounded every 3 months. Give your answer as an expression.

7. (6%) The sum of the first n terms of an arithmetic sequence is $S_n = 3n^2 - 2n$. Find the nth term u_n.

BONUS (10%)

8. The second term of an arithmetic sequence is 6. The sum of the first four terms of the arithmetic sequence is 23. Find the first term, a, and the common difference, d, of the sequence.