

Name:

## QUIZ - MATH GRADE 11 SL

1. (20%), 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. 7, 21, 63, \_\_\_\_\_ Pattern: \_\_\_\_\_ Geo. / Ari. / Nei. (circle the right option) General term: \_\_\_\_\_
- b. -4, 3, 10, \_\_\_\_\_ Pattern: \_\_\_\_\_ Geo. / Ari. / Nei. (circle the right option) General term: \_\_\_\_\_
- c. -4, 12, -36, \_\_\_\_\_ Pattern: \_\_\_\_\_ Geo. / Ari. / Nei. (circle the right option) General term: \_\_\_\_\_
- d.  $-\frac{7}{6}, -\frac{5}{6}, -\frac{1}{2},$  \_\_\_\_\_ Pattern: \_\_\_\_\_ Geo. / Ari. / Nei. (circle the right option) General term: \_\_\_\_\_
- e. 5, 2, 3, 0, \_\_\_\_\_ Pattern: \_\_\_\_\_ Geo. / Ari. / Nei. (circle the right option) General term: \_\_\_\_\_
2. (20%) The 9<sup>th</sup> term of an arithmetic sequence is 7 and the 21<sup>st</sup> term is 4.
- a. (10%) Find the difference of the sequence.
- b. (5%) Find  $a_1$
- c. (5%) Sum the first 100 terms. Simplify the result as much as possible.

3. (20%) Sum:  $166 + 157 + 148 + \dots + (-104)$

4. (20%) The 3<sup>rd</sup> term of a geometric sequence is 60 the 5<sup>th</sup> term is  $\frac{5}{3}$ .

- a. (10%) Find the ratio of the sequence, simplify the answer as much as possible
- b. (10%) In case the sequence is convergent, sum all the terms, otherwise sum the first 4 terms. Simplify the answer as much as possible.

5. (20%) In a certain bank account the interest rate paid is 5% per year. Juan invests 2000\$ in the account.

d.(2%) Find the amount of money in the account after 1 year (compounded annually).

e.(3%) Find the amount of money in the account after 2 years (compounded annually).

f.(3%) If this pattern follows, its terms follow a \_\_\_\_\_ sequence. Write the general term of this sequence.

g.(4%) Write an expression for the amount in the account after 3 years compounded every 2 months.

h.(4%) Find the interest rate need for the amount to double in 10 years compounded annually.

i.(4%) Find the number of years it will take the amount to double assuming interest rate is 4% compounded annually.