Name:_____ **TA:_____**

Math 11 Pre-Calculus LG 1 Ver A **/20**

1. Write the first 4 terms of the arithmetic sequence where $t_1 = 4$ and $d = -3$. *(2 marks)*

2. If $t_n = 3n - 1$, determine t_8. *(1 mark)*

3. If t_1 is 8 and t_7 is 80, determine t_2 and t_4. *(2 marks)*

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4. Determine the first term of an arithmetic sequence if the 16^{th} term is 112 and the difference is 6. *(2 marks)*

5. Determine the sum of the arithmetic series: 7 + 1 + (-5) + (-11) + …. + (-125). *(3 marks)*

6. Find the sum of the first 16 terms of the following series: 15 + 13 + 11 + …. *(2 marks)*

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7. Alan decided to join a fitness program that incorporated push-ups that followed an arithmetic sequence. He did 32 push-ups on the 4^{th} day and 65 push-ups on the 15^{th} day.

   a) Write a general term that relates the number of push-ups to the number of days. *(2 marks)*

   b) On what day will he have performed <u>at least</u> 100 push-ups? *(1 mark)*

8. The 12^{th} term of an arithmetic sequence is 71 and the sum of the first 12 terms is 456. Determine the first 4 terms of the series. *(2 marks)*

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9. The terms $x + 4$, $3x + 5$, and $7x - 4$ are consecutive terms in an arithmetic sequence. Determine the value of x and state the three terms. *(3 marks)*

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