Unit 2 Quiz 1 – Arithmetic Sequences & Series – A

Name: _____ **Date:** _____ **Period:** ____

*****SHOW ALL WORK.*****

$$\begin{cases} a_1 = \square \\ a_n = a_{n-1} + d \end{cases} \qquad a_n = a_1 + (n-1)d \qquad S_n = \frac{n(a_1 + a_n)}{2}$$

1) If $a_1 = 1000$ and $d = -4$, find a_{52} 1. _____

2) Write an explicit formula if $a_1 = 5$ and a_4 = 15 (Think!) 2. _____

3) Write an a) explicit and b) recursive formula for finding the *n*th term of the sequence 18, 16.2, 14.4, 12.6, …. 3a) _____

3b) _____

_____

4) Find S_{22} of the series 0 + 1.3 + 2.6 + … 4. _____

5) A retaining wall is being built out of bricks. The bottom row of the wall has 150 bricks. Each row contains 5 fewer bricks than the row below it. ***How many bricks should be ordered*** if the wall is to be 20 rows tall? 5. _____

EXTRA CREDIT (5 points):

Evaluate $\sum_4^{20}(2n-1)$ **EC**: _____