Name: _____

Arithmetic Sequences and Series

Exercise 1: Find S_{25} for each arithmetic sequence

1) $a_n = 7n - 1$
2) $a_n = 8n + 9$
3) $a_n = 3n + 5$
4) $a_n = 3n + 12$
5) $a_n = 2n + 1$
6) $a_n = n + 13$
7) $a_n = 5n + 7$
8) $a_n = 5n + 15$
9) $a_n = 9n - 3$
10) $a_n = n + 11$
11) $a_n = 6n + 8$
12) $a_n = 6\sqrt{2}n$

Exercise 2: Find the specified terms of the indicated arithmetic sequence.

1) 45^{th} term of 2, 5, 8, ...
2) 29^{th} term of 7, 11, 15, ...
3) 51^{st} term of 18, 14, 10, ...
4) 68^{th} term of 95, 92, 89, ...
5) Thirtieth term of $\frac{1}{3}, 1, 1\frac{2}{3}$
6) Seventeenth term of $3\sqrt{2}, 7\sqrt{2}, 11\sqrt{2}$, ...
7) a_{64}, a_{65}, and a_{66}, for 8, 11, 14, ...
8) a_{95}, a_{96}, and a_{97}, for 136, 131, 126, ...

Exercise 3: Find out which term the given numbers is in the indicated sequence.

1) 101 in the arithmetic sequence with $a_1 = 5$ and d =3
2) 111 in the arithmetic sequence with $a_1 = 7$ and d = 4
3) 13 in the arithmetic sequence with $a_1 = 88$ and d = -5
4) 0 in the arithmetic sequence with $a_1 = 57$ and d = -3

Exercise 4: Writes a computer program to calculate and print terms of an arithmetic sequence. The input should be the first term, the common difference, and the number of terms. The output should be the term number and term value for each term. Test your program using $a_1 = 7\frac{2}{3}$ and d = $\frac{1}{3}$. This is the sequence of men's shoe size, where n is the size and a_n is the foot length in inches.