What is similar about the following sequences?

1. $3,5,7,9,11$
2. $-1,4,9,14,19$
3. 20, 17, 14, 11, 8

All of these sequences are classified as arithmetic sequences since each term is generated by adding a $\qquad$ or $\qquad$ to the previous term. The first term is designated as $\qquad$ .

An arithmetic sequence looks like :

$$
a, a+d, a+2 d, a+3 d, a+4 d, \ldots \text { or }
$$

In general,

$$
t_{n}=a+(n-1) d
$$

$t_{n}=\quad a=$
$n=\quad d=$

Examples:

1. Determine $t_{n}$ and $t_{50}$ for the following arithmetic sequences:
a) $2,6,10,14 \ldots$
b) $10, \frac{19}{2}, 9, \frac{17}{2}, \ldots$
2. Determine the number of terms in the sequence

3, 7, 11, 15 . . . 199.
3. Determine $t_{50}$ if $t_{4}=5$ and $t_{11}=26$ for an arithmetic sequence.
4. Describe the arithmetic sequence $t_{n}=3 n-2$ as a recursive sequence.

