Name _____

5-43 Sequence Types- Arithmetic and Geometric

Arithmetic Sequence: A sequence that grows using addition or subtraction (line)

Geometric sequence: A sequence that grows by multiplication (curve)

Learning the Language of Sequences 5-56

The sequence is -9, -5 ,-1, 3 ,7,...

a) The sequence is arithmetic because it is adding 4 each time

b) The **first term of the sequence** is -9

c) The **common difference (or sequence generator) is** +4

d)

n	0	1	2	3	4	5
$t(n)$	-13	-9	-5	-1	3	7

+4 +4 +4

→ included for convenience to find a rule

a_n

a_0

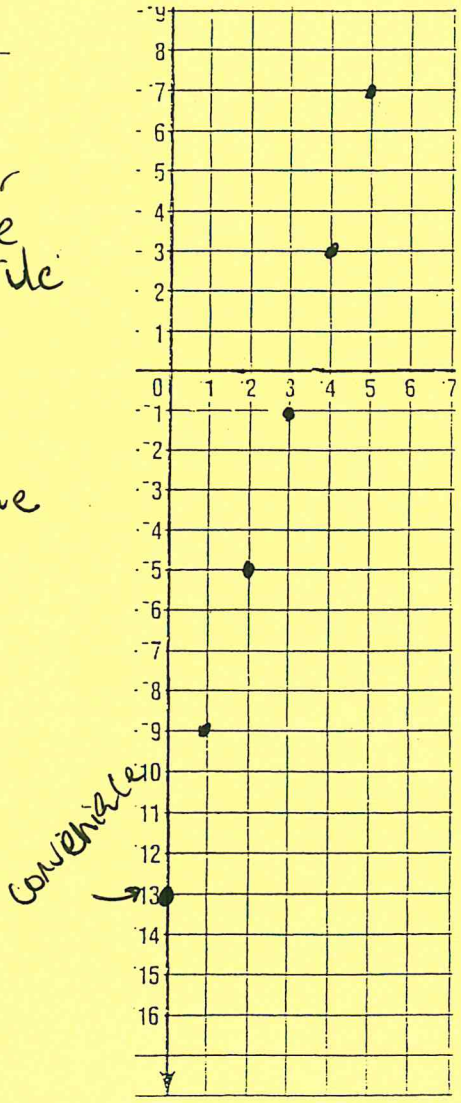
e) $t(0) = -13$

f) The graph is discrete because there are no $\frac{1}{2}$ terms... only have whole # terms

think: $y = mx + b$

g) $t(n) = 4n - 13$

h) Domain: all integers ≥ 1



i) The relationship between the **common difference**, the equation and the graph:

equation coefficient of n

graph slope