

Worksheet 6
Math 3206

Name: _____

- 1 Determine if each sequence is arithmetic, quadratic, cubic, Fibonacci, Fibonacci-like or neither. If it is arithmetic or quadratic find its equation. For arithmetic sequences use the formula $t_n = t_1 + d(n-1)$. If it is quadratic use your calculator to find the equation for t_n . Then use you equation to find t_{28} .

A) $\{-2, 1, 4, 7, 10, 13, \dots\}$

B) $\{1, 1, 2, 3, 5, 8, 13 \dots\}$

C) $\{2, 5, 10, 17, 26, 37, \dots\}$

D) $\{-4, -9, -14, -19, -24, -29, \dots\}$

E) $\{-3, -6, -12, -24, -48, -96, \dots\}$

F) $\{7, 9, 16, 28, 45, 67, \dots\}$

G) $\{-1, 3, 11, 27, 59, 123, \dots\}$

H) $\{0.2, 0.8, 1.4, 2.0, 2.6, 3.2, \dots\}$

2. Use each quadratic function to generate the first 5 terms of the sequence. Show your workings.

A) $t_n = n^2 + 3n + 1$

B) $t_n = -2n^2 - n - 3$

3. Use your calculator to generate the first five terms of each quadratic sequence.

A) $t_n = -n^2 + 3n$

B) $t_n = 3n^2 - 1$

4. Create a Fibonacci-like sequence whose first two terms are 5 and 6.

5. Create an arithmetic sequence of five terms that have the following properties:

A) $t_2 = 7$ and $d = -3$

B) $t_4 = 35$ and $d = 8$

6. Create a quadratic sequence of five terms that have the following properties.

A) $t_1 = 17$ and $d_2 = 8$

B) $t_1 = -12$ and $d_2 = -4$