Sequences (sections 1.2 and 9.3)

Strategies: Make a list and look for a pattern (find a rule).

1, 2, 3, 4, 5, . . . , n, . . .	Counting numbers
2, 4, 6, 8, 10, . . . , 2n, . . .	Even (counting) numbers
1, 3, 5, 7, 9, ... , 2n-1, ...	Odd (counting) numbers
1, 4, 9, 16, 25, ... , n^2, ... 1^2, 2^2, 3^2, 4^2, 5^2, … , n^2, …	Square (counting) numbers
2, 4, 8, 16, 32, ... , 2^n, ... 2^1, 2^2, 2^3, 2^4, 2^5, … , 2^n, …	Powers of two
1, 8, 27, 64, 125, ... , n^3, …	Cubes of counting numbers
3, 9, 27, 81, ... , 3^n, ... 3^1, 3^2, 3^3, 3^4, … , 3^n, …	Powers of three
1, 1, 2, 3, 5, 8, 13, ...	Fibonacci sequence (after the two 1s, each term is the sum of the two preceding terms.)

Function notation: **Shows a formula that describes the sequence.**

Counting numbers:	$f(n) = n$
Even numbers:	$f(n) = 2n$
Odd numbers:	$f(n) = 2n-1$
Squared numbers:	$f(n) = n^2$
Powers of 2:	$f(n) = 2^n$
Cubed numbers:	$f(n) = n^3$
Powers of 3:	$f(n) = 3^n$

See textbook for different representations of functions: Arrow diagrams, tables, machines, ordered pairs, graphs, formulas, geometric transformations.