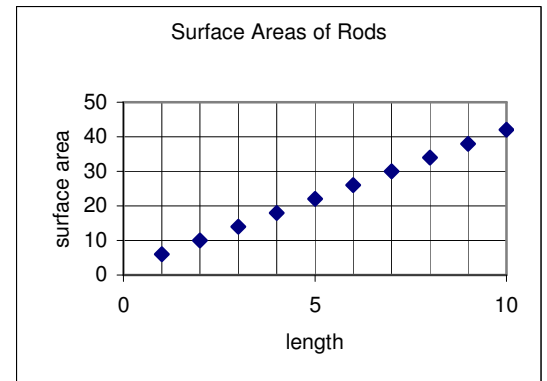


Curve Fitting – Some Examples

Example of Surface Areas of Cuisenaire Rods

The data:

Rod Color	Long Dimension (cm)	Surface Area (cm ²)	Area Change
white	1	6	
red	2	10	4
lt green	3	14	4
purple	4	18	4
yellow	5	22	4
dk green	6	26	4
black	7	30	4
brown	8	34	4
blue	9	38	4
orange	10	42	4



Let S_n = surface area of rod of length n

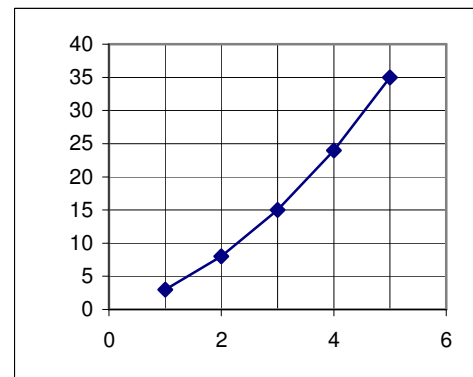
Difference Equation:

Functional Equation:

Quadratic Example:

The Data:

n	M_n	Change in M_n	Change in Change
0			
1	3		
2	8	5	
3	15	7	2
4	24	9	2
5	35	11	2



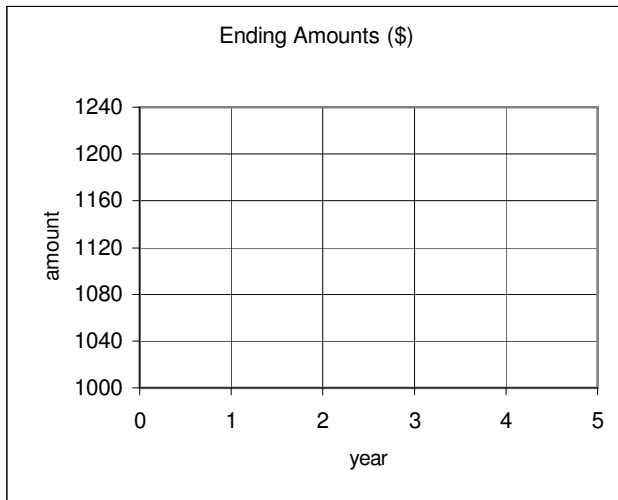
Difference Equation:

Functional Equation:

Example of Compound Interest

The Data:

Year (n)	Beginning Amount (\$) $A(n-1)$	Ending Amount (\$) $A(n)$	Year's Change (\$) $\Delta A(n)$	$\Delta\Delta A(n)$	Ratio $A(n)/A(n-1)$	Year's Percent Change
0		1000.00				
1	1000.00	1040.00	40.00			
2	1040.00	1081.60				
3	1081.60	1124.86				
4	1124.90	1169.86				
5	1169.90	1216.65				



Let A_n = Amount after n years

Difference Equation:

Functional Equation: