

# CATastrophe Solutions

## Answers to Question #2

6 months:  $n + (3n) = Y$ .  $1 + \{(3)(1)\} = 1 + 3 = 4$

12 months  $n + (3n) = Y$ .  $4 + \{(3)(4)\} = 4 + 12 = 16$

18 months  $n + (3n) = Y$ .  $16 + \{(3)(16)\} = 16 + 48 = 64$

24 months  $n + (3n) = Y$ .  $64 + \{(3)(64)\} = 64 + 192 = 256$

30 months  $n + (3n) = Y$ .  $256 + \{(3)(256)\} = 256 + 768 = 1,024$

36 months  $n + (3n) = Y$ .  $1,024 + \{(3)(1,024)\} = 1,024 + 3,072 = 4,096$

## Bar Graph Coordinates for Question #3:

X = time in months graph in 6 mo. intervals	Y = population graph in units of 100
X	6    12    18    24    30    36
Y	4    16    64    256    1024    4096

## CATastrophe Chart

<u>Number of Months</u>	<u># of Descendants</u>	<u>Total # of Cats</u>
6 months	3	4
12 months (1 year)	12	16
18 months	48	64
24 months (2 years)	192	256
30 months	768	1,024
36 months (3 years)	3,072	4,096
42 months	12,288	16,384
48 months (4 years)	49,152	65,536
54 months	196,608	262,144
60 months (5 years)	786,432	1,048,576
66 months	3,145,728	4,194,304
72 months (6 years)	12,582,912	16,777,216
78 months	50,331,648	67,108,864
84 months (7 years)	201,326,592	268,435,456
90 months	805,306,368	1,073,741,824
96 months (8 years)	3,221,225,472	4,294,967,296
102 months	12,884,901,888	17,179,869,184
108 months (9 years)	51,539,607,552	68,719,476,736

