INTERPRETING ECOLOGICAL DATA

Graph 1: Rabbits Over Time

a. The graph shows a _____ growth curve.

b. The carrying capacity for rabbits is _____

c. During which month were the rabbits in exponential growth?

Graph 2: Average Toe Length

a. In 1800, about how many people surveyed had a 3 cm toe? _____ How many in 2000? _____

b. The data shows the _____ selection has occurred?

c. In 2000, what is the average toe length? _____ What is the average toe length in 1800

_____

Graph 3: Mexico and US

a. In Mexico, what percentage of the population is between 0-4 years of age? _____ In the US?

_____

b. Which population is growing the fastest? _____

c. Which age group has the smallest number in both countries?

_____

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Chart 4: Trapping Geese

In order to estimate the population of geese in Northern Wisconsin, ecologists marked 10 geese and then released them back into the population. Over a 6 year period, geese were trapped and their numbers recorded.

a. Use the formula to calculate the estimated number of geese in the area studied? _____

b. This technique is called _____ & _____

c. Supposing more of the geese found in the trap had the mark, would the estimated number of geese in the area be greater or lesser? _____

Year	Geese Trapped	Number with Mark
1980	10	1
1981	15	1
1982	12	1
1983	8	0
1984	5	2
1985	10	1

$$\frac{(\text{Total number captured}) \times (\text{number marked})}{(\text{total number recaptured with mark})}$$

Chart 5: Mushroom Plots

Another ecologist uses a different method to estimate the number of mushrooms in a forest. She plots a 10x10 area and randomly chooses 5 spots, where she counts the number of mushrooms in the plots and records them on the grid.

a.Calculate the number of mushrooms in the forest based on the grid data: _____
b. Thie technique is called _____

Chart 6: Snakes & Mice

The data shows populations of snake and mice found in an experimental field.

a. During which year was the mouse population at zero population growth? _____
b. What is the carrying capacity for snakes ? _____
c. What is the carrying capacity for mice? _____
d. What is the rate of growth (r) for mice during 1970? _____ During 1980? _____

Year	Snakes	Mice born	Mice died
1960	2	1000	200
1970	10	800	300
1980	30	400	500
1990	15	600	550
2000	14	620	600
2001	15	640	580