Lab 6 ESC 110L Biodiversity Laboratory Exercise   Date _____

Name _____ Section _____

This laboratory exercise consists of the data analysis of endemic (naturally occurring) and non-endemic (brought in) species of plants or animals.

The following modified table is a sample of a very large body of data reported by R.A. Alford and S.J. Richards in their book *Extinction in our Times—Global Amphibian Decline.* It compares various areas of the world in terms of number of amphibian species found and the number of amphibian species that were endemic, or unique to each area. Scientists like to know these percentages because endemic species tend to be more vulnerable to extinction than do non-endemic species. Study the table below and then answer the questions that follow it.

To solve for Y in the first table, the formula is X/W x 100 = Y

	W	X	Y
Area (Identified by Alphabet and Name)	Number of Species	Number of Endemic Species	Percentage Endemic
A. Pacific/Cascades/Sierra Nevada Mountains-North America	52	43	?
B. Southern Appalachian Mountains-USA	101	37	?
C. Southern Coastal Plain-USA	68	27	?
D. Southern Sierra Madre-Mexico	118	74	?
E. Highlands of Western Central America	126	70	?
F. Highlands of Costa Rica and Western Panama	133	68	?
G. Tropical Southern Andes Mountains-Bolivia and Peru	132	101	?
H. Upper Amazon Basin-Southern Peru	102	22	?
Total for All Species	?	?	?

Part I. Endemic Species Analysis Where applicable, please respond with correct alphabet.

1. Calculate the answer for each cell with a question mark (?) and place your response in that cell.

2. Identify the alphabets for the two areas that have the highest numbers of endemic species. _____
3. What two areas have the highest percentages of endemic species? _____
4. What two areas have the lowest numbers of endemic species?_____
5. What two areas have the lowest percentages of endemic species? _____

Part II. Non Endemic Species Analysis
To solve for Y, the formula is W – X = Y; Then to solve for Z, the formula is Y/W x 100 = Z

Area	W Number of Species	X Number of Endemic Species	Y Number of Non Endemic Species	Z Percentage of Non Endemic Species
A. Pacific/Cascades/Sierra Nevada Mountains- North America	52	43	?	?
B. Southern Appalachian Mountains-USA	101	37	?	?
C. Southern Coastal Plain- USA	68	27	?	?
D. Southern Sierra Madre-Mexico	118	74	?	?
E. Highlands of Western Central America	126	70	?	
F. Highlands of Costa Rica and Western Panama	133	68	?	?
G. Tropical Southern Andes Mountains- Bolivia and Peru	132	101	?	?
H. Upper Amazon Basin- Southern Peru	102	22	?	?
Total for All Species	?	?	?	?

Part II. Non-Endemic Species Analysis
6. Based on the information in the table, please calculate the numbers for non-endemic species and place those in the cells with the question marks (?).
7. What two areas have the highest numbers of non-endemic species?_____
8. What two areas have the highest percentages of non-endemic species? _____
9. What two areas have the lowest percentages of non-endemic species? (hint: you should have already calculated this for another question._____
10. What is the percentage of non-endemic species for all species? _____