**AP Biology Lab: Walruses and Whales and Seals, Oh My!**

**(30 points)**

Lab Report Guidelines

Part A: (5 points)

* Copy your phylogenetic tree into a Word document – right click over the image in the browser and choose “save as”, save the file, and then insert into your Word document.
* Include a paragraph discussing what you can conclude from this Part A phylogenetic tree that compares the evolutionary relationships of whales, seals, cows and dogs. Is the hypothesis discussed in the lab handout supported or refuted? Which mammals are more closely related?

Part B: (10 points)

* Copy your phylogenetic tree into a Word document – right click over the image in the browser and choose “save as”, save the file, and then insert into your Word document.
* Include a couple paragraphs discussing what you can conclude from this Part B phylogenetic tree that compares even more marine and land mammals. Again, is the hypothesis from the lab handout supported or refuted? Which mammals are more closely related?

Part C: (15 points)

* Do some research on marine mammal evolution. Use at least three sources. Include a few paragraphs discussing whether current research on marine mammal evolution supports or refutes the evolutionary relationships shown in your phylogenetic trees. Remember, we *only* compared hemoglobin beta protein sequences. Evolutionary biologists will use many more genes and pieces of evidence to determine evolutionary relationships and build phylogenetic trees.
* Include in-text and MLA citations for your sources.