

All answers need to be written in a clear, succinct manner. Write a brief paragraph summarizing the answers to the problems with each answer clearly stated in a sentence. Supporting graphs should be provided when asked for, but you should not include printouts of spreadsheets. You can create an appendix to a problem, but that should only include significant material to back up your answers.

1. Work the Allometric Models and Dimensional Analysis problems in WeBWorK, including written work and graphs in your assignment.

2. In Jonathan Swift's *Gulliver's Travels*, the Lilliputians decided to feed Gulliver 1728 times as much food as a Lilliputian ate. They reason that since Gulliver was 12 times their height, his volume was $12^3 = 1728$ times the volume of a Lilliputian.

a. Determine the amount of food Gulliver should eat if the only energy lost is through the skin and provide details for your argument.

b. Use Kleiber's Law to determine the amount of food that Gulliver should eat and write more details why this is the best estimate for the food needs of Gulliver.