

2012 Summer Workshop, College of the Holy Cross
Foundational Mathematics Concepts for the High School to College Transition

Day 3 – July 11, 2012

Allometric Fitting: Oxygen consumption of organs.

The goal of this activity is to determine the allometric equation for a data set on the oxygen consumption of organs.

- Choose an organ.
- Plot the rate of O_2 consumption for your organ vs. body mass of the 9 animals. Is there a pattern to the data?
- Plot the logarithms of the data.
- Find a best fit line for the data. (If you do not have it programmed in your calculator or laptop, estimate the line visually.) What is the slope of your line? What is the intercept?
- What is the corresponding allometric relationship?
- Compare this to relationship for the other organs in the chart computed by other groups.