Biology 4605/7220                    Quiz #1        NAME_____

11 September 2007

1. $sum(X) = \sum_{i=1}^{n} X_i = X_1 + X_2 + \cdots + X_n$          n is number of observations (it has no units)

$mean(X) = \overline{X} = \dfrac{1}{n}\sum^{n} X$          $variance(X) = s^2 = \dfrac{1}{n-1}\sum\left((X - \overline{X})\right)^2$

*mode(X)* = most commonly occurring value in a set of data.

1a. Report the mean and modal values of the following quantity (don't forget units).

$P = [\ 65\ \ 5\ \ \ 5\ \ 10\ \ 15\ ]$ Pascals          *mean*(M) = _____

                                                        *mode*(M) = _____

1b.  What units does the variance of Pressure have?  _____

2.  Name a quantity of interest to you that has dimensions of concentration M/V (= $M\,L^{-3}$).
In the spaces below provide a complete five-part definition of the quantity (name, symbol, procedural statement, numbers, units).

|   |   | TYPICAL |   |
|---|---|---|---|
| NAME | SYMBOL | VALUES | SCALE (typical units) |

Procedural statement  (you may have to invent this)

3.  Give an example of a quantity on an ordinal type of scale.

|   |   | TYPICAL |   |
|---|---|---|---|
| NAME | SYMBOL | VALUES | SCALE |
|   |   |   | Not applicable |

Procedural statement  (Make sure it is clear, <u>from the procedure</u>, why the variable is on an ordinal type of scale)