

HW#3 - External Problem Set #2 (written by Dr. Maria Orive for BIOL570)

Show all your work!

Q1: A pharmacologist measured the amount of dopamine in the brains of seven rats. The levels (nmol/g) were as follows:

6.8 5.3 6.0 5.9 6.8 7.4 6.2

Calculate:

- (a) the mean.
- (b) the mode.
- (c) the standard deviation.
- (d) the range.
- (e) the median.

Q2: Replace the observation "7.4" with "10.4" and repeat parts Q1 parts (a) – (e).

Which of these statistics display "robustness" (or "resistance")?

[A statistic is "robust" or "resistant" if the value of the statistic is relatively unaffected by changes in a small portion of the data, even if the change is dramatic.]

Q3: Using the histogram shown in Problem #16 (Chapter 3, p. 90), and the fact that $n = 3207$, approximate the standard deviation of these data.