Math 153 - Quiz 5

September 25, 2018

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is worth 5 points. YOU MUST WORK INDIVIDUALLY.

1. (5 points) The following table summarizes the blood platelet counts (in 1000 cells per μL) from a sample of adult females.

CLASS WIDTH = 100

Platelet Count	Frequency
100–199	25
200–299	92
300–399	28
400–499	0
500–599	2

$25+92+28+2 = 147$

(a) Determine the class midpoints.

$\frac{100+199}{2} = 149.5,\ 249.5,\ 349.5,\ 449.5,\ 549.5$

(b) Use class midpoints to estimate the (weighted) mean.

$$\tilde{\bar{X}} = \frac{149.5(25) + 249.5(92) + 349.5(28) + 549.5(2)}{147} = \frac{37576.5}{147}$$

$$\approx 255.6$$

(c) Use class midpoints to estimate the (weighted) median.

147 VALUES $\Rightarrow$ 74TH VALUE IS MEDIAN

74TH VALUE $\approx$ 249.5

(d) Estimate the range.

USING MIDPOINTS: $549.5 - 149.5 = 400$

(e) Do you think the range is an appropriate measure of spread in this example? Briefly explain.

NO, THE RANGE IS ARTIFICIALLY LARGE BECAUSE OF THE 2 EXTREME VALUES IN THE 500-599 CLASS.