

# Math 153 - Quiz 3

February 7, 2019

Name \_\_\_\_\_

Score \_\_\_\_\_

Show all work to receive full credit. Supply explanations when necessary.

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1. (3 points) The salaries of the six employees at a local small business are shown below.

\$42,350, \$45,100, \$43,000, \$44,700 \$225,125, \$42,350

(a) Compute the mean salary.

(b) Compute the median salary.

(c) Which of your answers above is a more appropriate measure of center and why?

2. (1 point) The mean of 18 scores is 72.45. If a single new score of 92.5 is added to the collection, what is the new mean?

3. (1 point) In the following stem-and-leaf plot,  $4|5$  means 4.5.

|   |  |   |   |   |   |   |   |
|---|--|---|---|---|---|---|---|
| 3 |  | 1 | 6 |   |   |   |   |
| 4 |  | 1 | 2 | 5 |   |   |   |
| 5 |  | 0 | 0 | 2 | 6 | 7 | 8 |
| 6 |  | 3 | 8 | 8 |   |   |   |
| 7 |  | 0 | 4 |   |   |   |   |

**Without computing the mean or the median**, which one of these would you expect? Circle your choice and briefly explain.

- mean  $>$  median
- mean  $<$  median
- mean  $\approx$  median

TAKE-HOME PORTION OF QUIZ 3. DUE TUESDAY.

4. (3 points) In a study of dogs' reaction times to a specific stimulus, an animal trainer obtained the following data.

| Reaction time (seconds) | Frequency |
|-------------------------|-----------|
| 2.3–2.9                 | 10        |
| 3.0–3.6                 | 12        |
| 3.7–4.3                 | 6         |
| 4.4–5.0                 | 8         |
| 5.1–5.7                 | 4         |
| 5.8–6.4                 | 2         |

- (a) Estimate the mean reaction time by using class midpoints to compute a weighted mean.
- (b) Estimate the median reaction time by using class midpoints to compute a weighted median.
- (c) Which was greater, your mean or median? Did you expect this? Explain.
5. (2 points) These data were obtained from tests of two different brands of battery.

Brand A: 638, 645, 636, 651, 639, 649, 654, 627, 644

Brand B: 519, 513, 477, 540, 415, 529, 571, 569, 536

Compute the CV (coefficient of variation) for each brand. Which brand produced data with greater spread?