AP Statistics | Activity 0819 | Name:
Dr. Paul L. Bailey | Monday, August 19, 2024

Problem 1. (Cowboys: Longevity)
A sample of 32 cowboys gave the following years of longevity:

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58  52  68  86  72  66  97  89  84  91  91
92  66  68  87  86  73  61  70  75  72  73
85  84  90  57  77  76  84  93  58  47
```

For simplicity, treat this as the population so that $N = 32$ and μ is the mean.

(a) Compute $\sum x$ and $\sum x^2$ for these data.

(b) Find the mean, median, and mode of these data.

(c) Compute the standard deviation using the formula

$$\sigma^2 = \frac{\sum x^2}{N} - \mu^2.$$

(d) Compute a 75% Chebyshev interval around μ.

Problem 2. (Environmental Studies: Death Valley)
How hot does it get in Death Valley? The following data are taken from a study conducted by the National Park System, of which Death Valley is a unit. The ground temperatures (°F) were taken from May to November in the vicinity of Furnace Creek.

146	152	168	174	180	178	179
180	178	178	168	165	152	144

For simplicity, treat this as the population so that $N = 14$ and μ is the mean.

(a) Compute $\sum x$ and $\sum x^2$ for these data.

(b) Find the mean, median, and mode of these data.

(c) Compute the standard deviation using the formula

$$\sigma^2 = \frac{\sum x^2}{N} - \mu^2.$$

(d) Compute a 75% Chebyshev interval around μ.