

ECON221 V26 Quiz 02

For reference, you will find the definition of the mean and the standard deviation. Let $x_1, \dots, x_n$ be a given list of numbers.

- The mean is $\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$.
- The standard deviation is $s = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2}$.

Questions

1. (2 points) You are given a list of numbers $\{-1, 3, 5, 7\}$. Find the standard deviation of this list of numbers. Make sure to show how you used the definition to compute this value.
2. The table presents the distribution of waiting times in minutes for a customer service counter.

Interval	Frequency
10-13	3
13-16	14
16-19	23
19-22	12
22-25	8
25-28	4
28-31	1

You have two tasks:

- (a) (1 point) If a histogram were drawn on a density scale, what would be the value of the height of the rectangle drawn for the interval 16-19? Indicate the units.
- (b) (2 points) Provide one value of the 75th percentile, making full use of information obtained from a histogram on a density scale.

ECON221 V27 Quiz 02

For reference, you will find the definition of the mean and the standard deviation. Let $x_1, \dots, x_n$ be a given list of numbers.

- The mean is $\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$.
- The standard deviation is $s = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2}$.

Questions

1. (2 points) You are given a list of numbers $\{-3, -1, 1, 5\}$. Find the standard deviation of this list of numbers. Make sure to show how you used the definition to compute this value.
2. The table presents the distribution of tuition in dollars for a set of colleges in the United States during 2008.

Interval	Frequency
2000-3000	6
3000-4000	8
4000-5000	14
5000-6000	18
6000-7000	17
7000-8000	13
8000-9000	4

You have two tasks:

- (a) (1 point) If a histogram were drawn on a density scale, what would be the value of the height of the rectangle drawn for the interval 6000-7000? Indicate the units.
- (b) (2 points) Provide one value of the 25th percentile, making full use of information obtained from a histogram on a density scale.