

Did you take advantage of the prep quiz + its key?

Name KEY

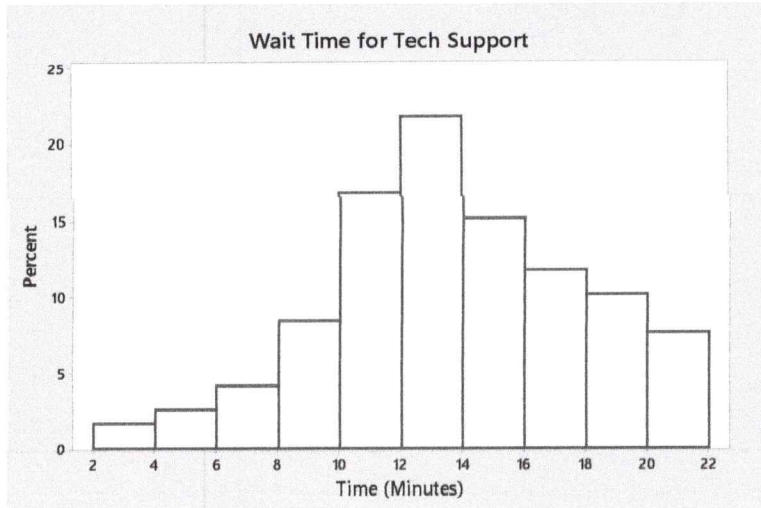
Row # (from the door) 0 Seat # (from the front) 0

Quiz 4

Note

Always show enough of your set up and work to indicate how you arrived at your answer. If it is not clear how you got your answer, you may not get full credit for the problem.

(4) I. The following is a histogram of a sample of the wait times to get tech support at a computer company.



2/3 - 3/4 of all values
vast majority would be better wording

not a single class I accepted "12-14" time frame

1. Describe the spread of the distribution (state minimum to the maximum and a region that contains the most values).
The wait times range from about 2 minutes to around 22 minutes with most between 10 to 20 minutes.

not shape

2. What are the class limits for the first two classes?

2-3
4-5

cutpoints are 2, 4, 6, ...

since cutpoint are whole numbers we should assume data was whole numbers if tenths the class limit would be 2.0-3.9, 4.0-5.9 etc

(4) II. A biologist collects a sample of 15 giant millipedes (*Narceus americanus*) and obtains the following for their length in cm: 7.9, 5.2, 6.3, 6.6, 4.6, 7.5, 8.3, 6.1, 5.0, 7.7, 6.4, 5.7, 7.0, 6.8, 6.1. Construct an ordered stem-and-leaf display for this data.

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4 | 6
5 | 2 0 7
6 | 3 6 1 4 8 1
7 | 9 5 7 0
8 | 3

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4 | 6
5 | 0 2 7
6 | 1 1 3 4 6 8
7 | 0 5 7 9
8 | 3

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LEAF UNIT = 0.1

spacing
horiz.
spacing
not even - 1

decimal pts here - 1
commas - 1

many didn't do this first - harder to try to order whole set

spacing is critical so that the shape of the dist. is discernable

- (10) IV. The following is a stem-and-leaf display of the ages of buyers of automobiles at a dealership in May 2018 (note that this is Minitab output and includes the 'depth' column on the left, use it to help find positions or ignore it) (Round answers, if necessary, to the nearest tenth.)

Stem-and-leaf of Age N = 20
Leaf Unit = 1.0

1	1	8
1	2	
6	3	34888
(8)	4	01124699
6	5	2579
2	6	02

Stem = show how u got it

1. compute the mean (Hint: $\Sigma x = 896$)

$$\frac{896}{20} = 44.8 \quad \text{w/o work}$$

$$\bar{x} = \underline{44.8}$$

2. find the median

$$\frac{42 + 44}{2} = 43 \quad \text{w/o work}$$

$$Md = \underline{43}$$

3. compute the 5% trimmed mean (hint: to make the computations easier make use of the fact that $\Sigma x = 896$ for all x is known)

$$\frac{896 - 18 - 62}{18} = \frac{816}{18} = 45.333... \quad \text{without work}$$

$$\bar{x}_t = \underline{45.3}$$

4. compute the midrange

$$\frac{18 + 62}{2} = \frac{80}{2} \quad \text{w/o work}$$

$$midR = \underline{40}$$

5. find the mode (if there is one)

no work to show

$$mode = \underline{38}$$

- (3) V. An investment group has bought Priceline stock over a period of time, they bought 500 shares in November 2001 for \$15 per share, 300 shares in December 2006 for \$40 per share, and 200 shares in May 2009 for \$100 per share. Use a weighted mean to compute their mean cost per share of Priceline stock. (Note that as of February 6, 2020 the stock is selling for around \$1950 per share!! Why wasn't I buying in 2001? A 1000 shares bought for \$15,000 is now worth almost \$2,000,000!)

$$\frac{15 \times 500 + 40 \times 300 + 100 \times 200}{500 + 300 + 200} = \frac{39500}{1000}$$

N.B. the mean of 15, 40 and 100 can't be < 15 or > 100 \$25480??

The mean price of a share of their Priceline stock is \$39.50

Their 1000 shares now worth \approx \$2,000,000!!