

Date 2/19/19
Mr. Aguirre
Math 1342-13

③ Numerically Summarizing Data:

3.4 # population z-score = $\frac{x - \mu}{\sigma}$

Sample z-score = $\frac{x - \bar{x}}{s}$

Percentile divide a set of data, written in ascending order, into 100 parts.

P_{30} divides the bottom 30%.

* Q_1 = median of the bottom half.

Q_2 = Median

Q_3 = median of the top half.

The interquartile range, IQR is the range between $Q_3 - Q_1$.



Example

$$Q_1 = P_{25}$$

$$Q_3 = P_{75}$$





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3.5.16

Do store-brand chocolate chip cookies have fewer chips per cookie than Keebler's? To find out, students randomly selected 21 cookies of each brand and counted the number of chips in the cookies. The results are shown below.

Keebler	Store
32 23 28	21 23 24
28 28 29	24 25 27
25 20 25	26 26 21
22 21 24	18 16 24
21 24 21	21 30 17
26 28 24	23 28 31
33 20 31	27 33 29

(a) Draw side-by-side boxplots for each brand of cookie.

(b) Does there appear to be a difference in the number of chips per cookie?

(3) Does one brand have a more consistent number of chips per cookie?

3.4.25 Fraud Protection

A cellular phone company monitors its customers' monthly phone usage. A program identifies unusual use and alerts the customers that their account may have been used by another person. The company uses the upper fence as the cutoff point for number of minutes at which the customer should be notified. Find this value.

The data below represent the monthly phone use in minutes for customers over the past 20 months.

346, 345, 489, 358, 471

442, 466, 505, 466, 372

442, 461, 515, 549, 437

480, 490, 429, 470, 516

Also determine which value is closest to P_{60} .