

1. The function $f(x) = -450x + 35000$ models the value of a car x years after it is purchased. What is the meaning of the y-intercept?

the value of a brand new car

2. Identify the coordinate point(s) that satisfy the following system of inequalities:

$$y < -4x - 3$$

$$y \geq x + 7$$

A. (-7, 0)

B. (-3, 2)

C. (-4, 15)

D. (-4, 5)

3. What value of x satisfies the following system of equations?

$$2x - 3y = -18$$

$$5x + y = -11$$

- A box-and-whisker plot displays the maximum, minimum, and quartiles of the data set.

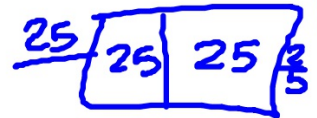
- Be sure to order the data from least to greatest when calculating by hand

- Quartiles are values that divide the data set into four equal parts.

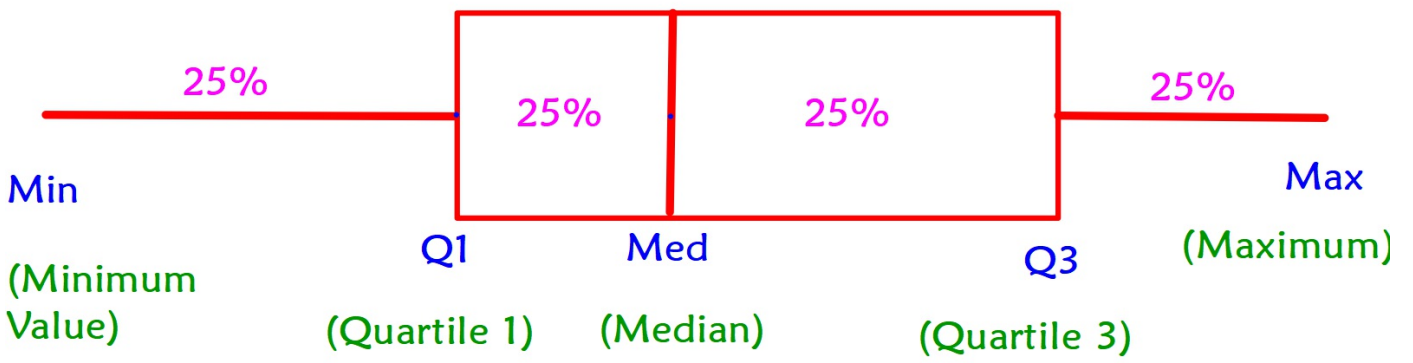
Box-and-Whisker Plots

- The Median (or second quartile) separates the data into upper and lower halves.
- The first quartile is the median of the lower half of the data. Q_1
- The third quartile is the median of the upper half of the data. Q_3
- The Interquartile range is the difference between the third and first quartiles. $Q_3 - Q_1$

- The left whisker extends from the minimum to the first quartile. It represents **25%** of the data.



- The box extends from the first quartile to the third quartile and has a vertical line through the median. The length of the box represents the interquartile range. It contains **50%** of the data.
- The right whisker extends from the third quartile to the maximum. It represents **25%** of the data.



Create a box and whisker plot using the following data:
125, 80, 140, 135, 126, 140, 350, 75

Minimum: 75
Q1: 102.5
Q2: 130.5
Q3: 140
Maximum: 350
Range: 275
Interquartile Range: 37.5

Trace

Then use arrow keys to
get other values

On calculator:

2nd Y= Enter Enter

Select the box and
whisker plot Enter

Zoom 9

*Put data into Stat Enter

What percentage of the data is between 102.5 and 130.5?

25%

Create a box and whisker plot using the following data:
95, 85, 75, 85, 65, 60, 100, 105, 75, 85, 75

Minimum: 60

Q1: 75

Q2: 85

Q3: 95

Maximum: 105

Range: 45

Interquartile Range: 20

What percentage of the data is between 95 and 105?

25%

Create a box-and-whisker plot for the following data set:
280, 220, 224, 270, 410, 290, 230, 220

What value is the outlier? **410**

How does it change the shape of the box-and-whisker plot? (Calculate with and without the outlier)

Makes the whisker on the right very long

Does it change the center? **yes, it changes the center by increasing the median**

Does it change the spread of the data?

yes, it effects the interquartile range and range

Making Comparisons Using Box-and-Whisker Plots

Create box and whisker plots using the following information:

Data Set A -

Minimum: 1.5, Q1: 2.5, Q2: 4.5, Q3: 7.5, Maximum: 8.5

Data Set B -

Minimum: 3, Q1: 5, Q2: 5.5, Q3: 6, Maximum: 7

What do the interquartile ranges tell you about the data sets?

where the majority of the data is located, its the middle 50% of the data

In which data set is the data less widely spread?

Data set B- smaller IQR and Range