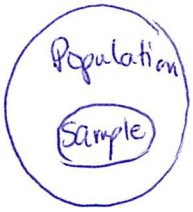
In statistics, the term **population** includes all members of a defined group that we are studying for data driven decisions

A part of the populations is called a sample.

- It is a subset of the population, a selection of individuals from the population.
- Random Samples 2 characteristics
  - Every individual has an equal opportunity of selection
  - The sample has essentially the same characteristics as the population



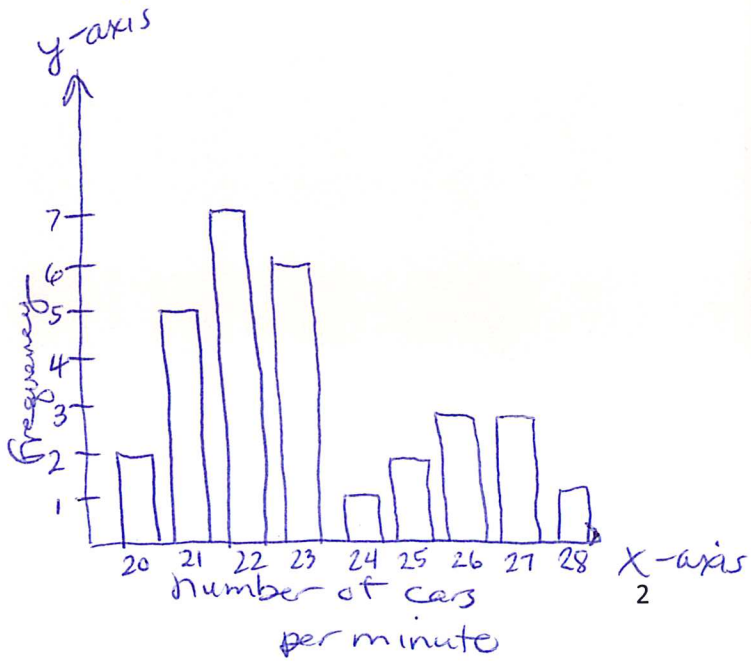
Exercise 8A

8.2 Presenting data

Two quick and easy was to view data quickly and look for patterns is a frequency table and a bar chart.

Example:
A student counted how many cars passed his house in one-minute intervals for 30 minutes. His results were: 23, 22, 22, 22, 24, 22, 21, 21, 23, 23, 27, 21, 21, 22, 23, 25, 27, 26, 23, 22, 27, 26, 25, 28, 26, 22, 20, 21, ~~and~~ 20, 23
Display the data in a frequency table.
Draw a bar chart for this data.

# of cars per min	Frequency
20	2
21	5
22	7
23	6
24	1
25	2
26	3
27	3
28	1



When there is a lot of data, you can organize it into groups in a grouped frequency table.

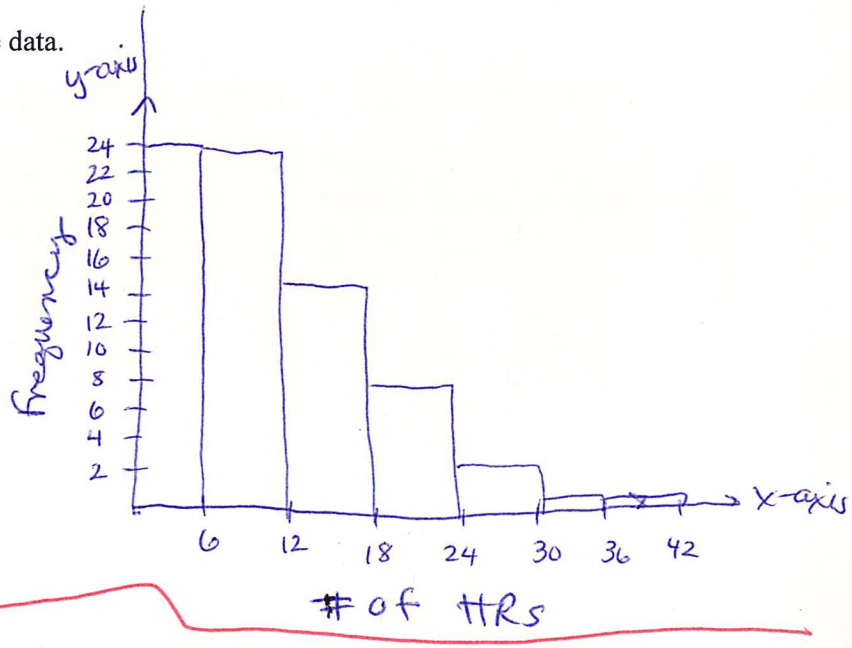
For Continuous data, you can draw a histogram. It is similar to a bar chart but it doesn't have gaps between the bars.

- Why are there no gaps in continuous data?
- **Only frequency histograms with equal class intervals will be examined.**
- You can use your GDC to draw histograms. → Show how to use - See calc directions

Example:
The homerun totals of 76 players (not including pitchers) (players played in a minimum of 40 games) of teams in the NL Central division in 2013 are:
8, 23, 7, 10, 12, 17, 6, 21, 13, 6, 6, 9, 11, 6, 1, 8, 9, 24, 18, 12, 19, 9, 21, 30, 2, 7, 0, 1, 0, 2, 18, 13, 10, 12, 12, 9, 24, 8,13 ,4 ,1 ,6 , 4, 5 , 11, 1, 4, 15, 7, 16, 5, 36, 12, 21, 5, 15, 8, 6, 3, 3, 1, 3, 12, 13, 11, 1, 9, 22, 7, 24, 5, 17, 2, 1, 0, 0

Draw a frequency table and histogram for the data.

# of HRs	Frequency
$0 \leq HR < 6$	24
$6 \leq HR < 12$	24
$12 \leq HR < 18$	15
$18 \leq HR < 24$	8
$24 \leq HR < 30$	3
$30 \leq HR < 36$	1
$36 \leq HR < 42$	1



Exercise 8B

8.3 Measures of central tendency

The three most common measures of central tendency are

1. mean
2. median
3. mode