

# Chapter 2 - Exploring Data with Tables and Graphs

## Categorical data

Bar graph (bar chart)

Pie chart

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## Numerical data

Scatterplot ( $x, y$ )

Dotplot

Stem-and-leaf display

Boxplot

Histogram (frequency histogram,  
relative frequency histogram,  
density histogram)

Remark: Visual displays of numerical data can be used to describe features of the data such as

- center
- variability
- shape
- outliers

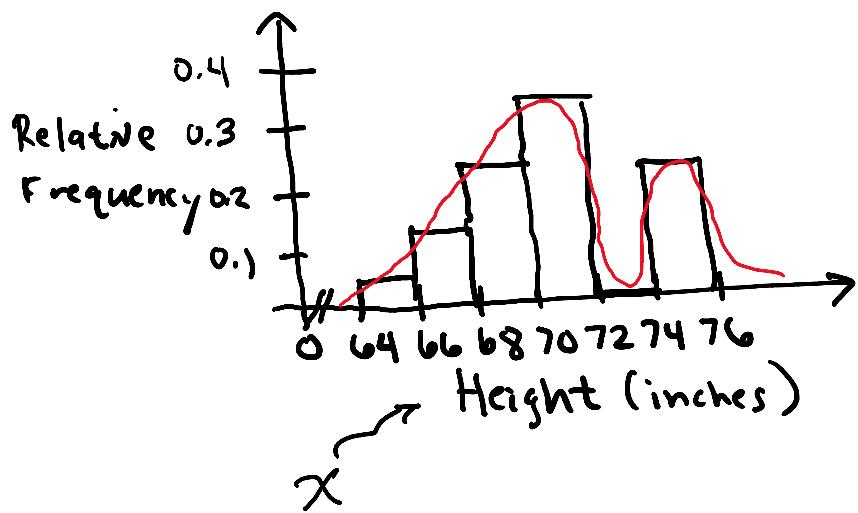
Ex : MTH 115 Students (see in-class handout)

$x$  = height of student (inches)

$n = 22$

Height Interval	Frequency	Relative frequency
64 - < 66	1	$\frac{1}{22} \approx 0.045$
66 - < 68	3	$\frac{3}{22} 0.136$
68 - < 70	5	$\frac{5}{22} 0.227$
70 - < 72	8	$\frac{8}{22} 0.364$
72 - < 74	0	$\frac{0}{22} 0.000$
74 - < 76	$\frac{5}{22}$	$0.227$
	$\frac{22}{22}$	1

Relative Frequency Histogram



## Histogram Shapes

Unimodal



Unimodal

Bimodal/multimodal

Symmetric

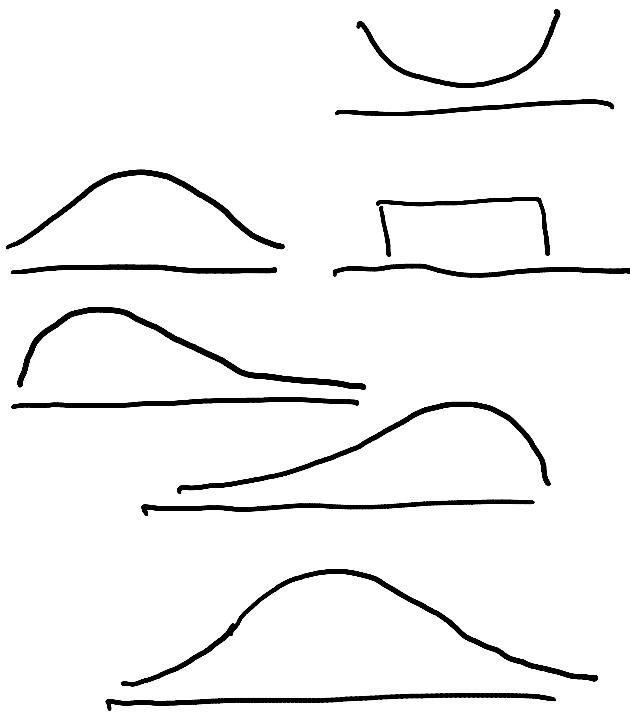
positively skewed

negatively skewed

Uniform

belt-shaped (normal)

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(NOTE: Chapter 2 notes will be posted in Canvas)