If your parents tell you this:

I will let you use the car under one condition....

What does it mean?

The are placing some kind of restriction on you

	Snickers	Reeses	KitKat	Skittles	Total
Male	18	32	28	13	91
Female	20	29	19	22	90
Total	38	61	47	35	181

What is the probability that the next person you select likes Reeses under the one condition you must select a female?

$= \frac{29}{90}$

Conditional Probability:

Probability that has a restriction limiting the sample space. (# of total outcomes)

P(B | A): "The probability of B given condition A must be true." "Probability of B given A"

	Snickers	Reeses	KitKat	Skittles	Total
Male	18	32	28	13	91
Female	20	29	19	22	90
Total	38	61	47	35	181

Find each conditional probability. Give answer as a fraction.

1. P(Male | Reeses) = $\frac{32}{61}$ (male → 32, Reeses → 61)
2. P(KitKat | Female) = $\frac{19}{90}$

Find each probability as a percent rounded to the nearest tenth.

Municipal Waste Collected (millions of tons)

Material	Recycled	Not Recycled
Paper	36.7	45.1
Metal	6.3	11.9
Glass	2.4	10.1
Plastic	1.4	24.0
Other	21.2	70.1

SOURCE: U.S. Environmental Protection Agency.

1. P(Paper | Recycled)

$\frac{36.7}{68} \rightarrow 54.0$

2. P(Not Recycled | Metal)

$= \frac{11.9}{18.2} = 65.4\%$

Find each probability as a fraction.

	Cartoon	Action	Mystery	
Child	55	15	6	76
Adult	12	28	31	71
	67	43	37	147

1. P(Cartoon | Adult) = $\frac{12}{71}$

2. P(Child | Action) = $\frac{15}{43}$

3. P(Mystery and Adult) = $\frac{31}{147}$

4. P(Action or Cartoon) = $\frac{110}{147}$

You can now finish Hwk #17

Sec 12-2

due Monday

Pages 656-658

Problems 1-8, 25-27

change from the original plan

Some Statistics Vocabulary:

Measures of Central Tendency (the 3 M's):

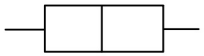
- Mean
- Median
- Mode

Gives and indication of where the "middle" of the data is.

Box-and-Whisker Plot:

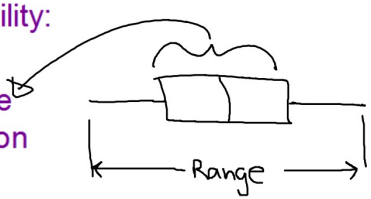
- Quartiles
- Extremes
- Median
- Upper 25%
- Lower 25%
- Middle 50%

- Outlier
- Percentiles



Measures of Variability:

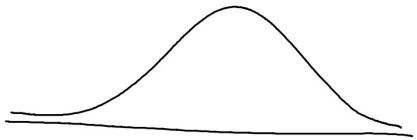
- Range
- Interquartile range
- Standard Deviation
- Z-score



Gives an indication of how spread out the data is, or how much variation there is in the data.

- Sample
- Sample Proportion
- Margin of Error → Ex: ± 3%

- Normal Distributions
- Standard Normal Curve



"bell-shaped" curve

Section 12-3: Analyzing Data

Measures of Central Tendency:

- Mean — $\frac{\text{Sum of data}}{\text{\# of data items}}$ — Symbol for Mean: $\overline{x}$ "x bar"
- Median — The middle # or the mean of the middle two #'s (#'s must be in order!)
- Mode — The # or #'s that occur the most often