

Section 17.1
(Day 1 notes)

DESCRIPTIVE STATISTICS

Descriptive Statistics

Involves collecting, organizing and summarizing numerical facts (data) about some group

Inferential Statistics

Involves making suggestions or decisions based on the data

STEM-and-LEAF PLOT

Summarize the following data in a stem-and-leaf plot

Team	Padres	Cubs	Brewers	Astros	Dodgers	Cardinals	Diamondbacks	Reds
AB	103	61	98	102	71	74	98	70
Team	Pirates	Phillies	Mets	Braves	Rockies	Nationals	Giants	Marlins
AB	69	74	65	64	104	70	106	77

6 | ~~1~~ 9 5 4
 7 | ~~1~~ ~~4~~ ~~0~~ ~~4~~ ~~0~~ 7
 8 |
 9 | 8 8
 10 | ~~3~~ 2 4 6

6 | 1 4 5 9
 7 | 0 0 1 4 4 7
 8 |
 9 | 8 8
 10 | 2 3 4 6

6 | 1
 represents
 61 AB

Alg III 17.1 lesson

SAT Mathematics scores for 30 seniors

480 570 670 580 500 570 600 540 690 500
520 450 570 540 620 450 460 690 580 610
550 630 460 470 510 630 510 620 470 630

Summarize data in a stem-and-leaf plot

```
4 | 8 5 5 6 6 7 7
5 | 7 8 0 7 4 0 2 7 4 8 5 1 1
6 | 7 0 9 2 9 1 3 3 2 3
```

```
4 | 5 5 6 6 7 7 8
5 | 0 0 1 1 2 4 4 5 | 7 7 7 8 8
6 | 0 1 2 2 3 3 3 7 9 9
```

Find the following...

$$\text{Mean} = \frac{16,670}{30} = \boxed{555.67}$$

$$\text{Median} = \frac{550+570}{2} = \boxed{560}$$

$$\text{Mode} = 570 \ \& \ 630$$

Bimodal

4|5 represents 450 SAT score

Averages - Measures of Central Tendency

Mean of a set of data is the sum of the data divided by the number of items of data; denoted \bar{x} "x bar"

Median of a set of data is the middle number of the data in arranged order

Mode of a set of data is the item that occurs most often

If there are two modes - bimodal

If there are three modes - trimodal

If there are more than 3 - multimodal

Alg III 17.1 lesson

Example

Find the mean, median, and mode for the following set of data.

Minutes to take a history test

1		2 2
2		0 0 0 0 8
3		0 2 2 3 8 8 9
4		0 0 2 2 4 8
5		2 2 4 4 9

$$\text{Mean} = \frac{901}{25} = \boxed{36.04}$$
$$\text{Median} = \boxed{38}$$
$$\text{Mode} = \boxed{20}$$

1|2 represents 12 minutes

Example

Find the mean, median, and mode for the following set of data.

2 37 41 | 44 45 46

$$\text{Mean} = \frac{215}{6} = \boxed{35.83}$$

$$\text{Median} = \frac{41+44}{2} = \boxed{42.5}$$

Mode = None

Does the mean represent the data well? Explain.

No, the mean does not fall within the interval where most data is.

Which measure of central tendency best represents this set of data?

Median