

# STATISTICS I

SECTION R3

SPRING 2010

FEBRUARY 3, 2010

# TODAY'S PLANS

- Homework
  - Hand in your 3 questions
  - Questions on HW on pages 27 and 102?
- Finish up displays
  - Discuss scatterplots
- Measures of central tendency
  - Mean, median, mode
    - Applications and uses

# SCATTER PLOTS

- A picture of the relationship between:
  - $x$  (the independent variable)
  - $y$  (the dependent variable)
- Positive relationship:
  - $x$  and  $y$  increase at the same time
- Negative relationship:
  - As  $x$  increases,  $y$  decreases
- No relationship

# A Positive Relationship



# A Negative Relationship



# No Relationship



# MEASURES OF CENTRAL TENDENCY

- Mean
  - Add up  $n$  numbers and divide by  $n$
- Median
  - Arrange the numbers from smallest to largest and take the one in the middle
  - If there are two numbers in the middle, average them
- Mode
  - The number that appears most often
  - There might be 0, 1, or 2 modes

# APPLICATIONS

- Which measure of central tendency to use?
- How do changes in individual values affect the mean, median, and mode?
- Problem solving using the mean

# NEXT TIME

- Weighted average
- Measures of variation