Emath Worksheet

1.   2

2.   4

3.   1

4. Female likes SS = 37%   Male likes math = 38%

    Not correct. Male slightly more likely to like math.

5. SS is Female = 58%   Female likes SS = 37%

    More likely that a person who likes SS is Female.

6.

	Car	Train	Walk	Total
NY	5%	25%	10%	40%
LA	18%	12%	5%	35%
Chic	8%	14%	3%	25%
Total	31%	51%	18%	100%

7.   3

8.   4

9.   1

10.   Person from NY rides train = 62.5%   <------- More likely

       Person from Chicago rides train = 56%
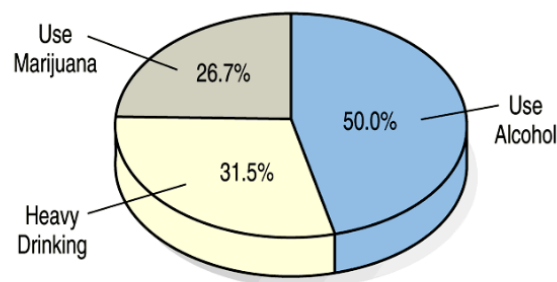
<u>Review:</u> What Can Go Wrong?

- Don't violate the area principle.
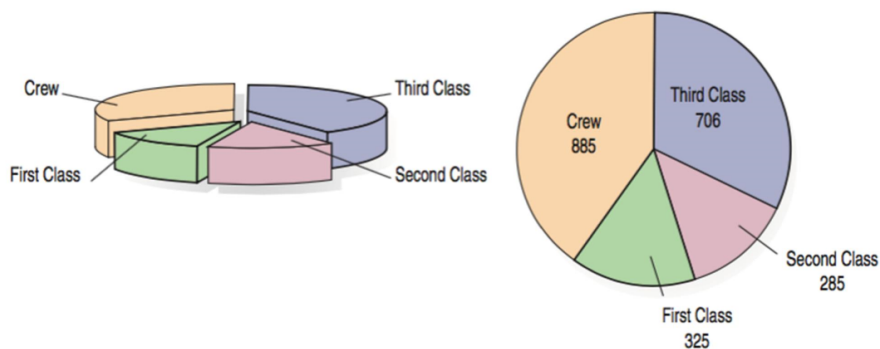
The graph on the left shows data on a slant, making it much more difficult to compare fractions of the whole made up of each class.

3

What Can Go Wrong? (cont.)

- Keep it honest—make sure your display shows what it says it shows.
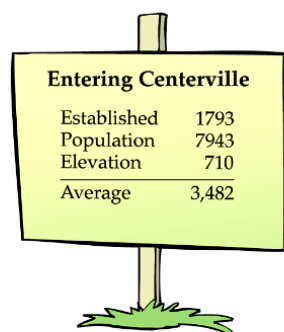

- This plot of the percentage of high-school students who engage in specified dangerous behaviors has a problem. Can you see it?

What Can Go Wrong? (cont.)

- Don't confuse similar-sounding percentages—
  pay particular attention to the wording of the
  context. For example: senior males/total seniors
  - What percentage of seniors are males?
  - What percentage of males are seniors?

                          senior males/total males

- Don't forget to look at the variables separately
  too—examine the marginal distributions, since it
  is important to know how many cases are in each
  category.

What Can Go Wrong? (cont.)

- Be sure to use enough individuals-when using percentages, take care that they are based on a large enough number of individuals.

- Don't overstate your case—don't claim something you can't. It is rare for two variables to be entirely independent.

Entering Centerville

Established	1793
Population	7943
Elevation	710
Average	3,482

PEARSON   Chapter 2, Slide 22

What have we learned?

- We can summarize categorical data by counting the number of cases in each category (expressing these as counts or percents).

- We can display the distribution in a bar chart or pie chart.

- And, we can examine two-way tables called contingency tables, examining marginal and/or conditional distributions of the variables.

Pro Tip

■ Labels and scales on all graphs are essential.
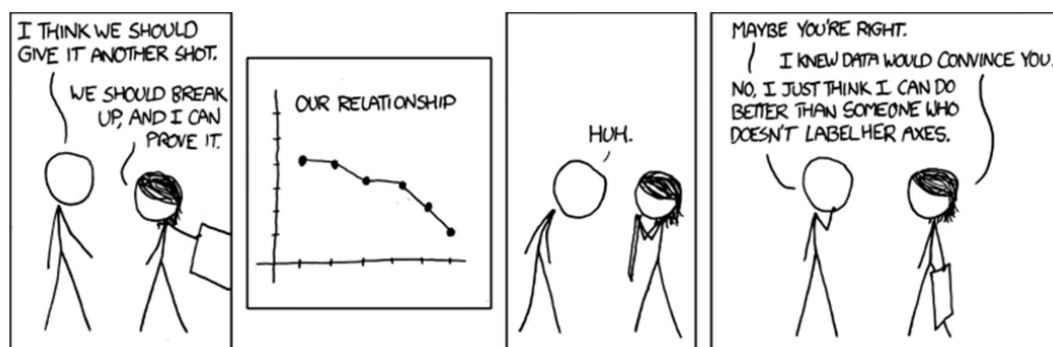
Review (pg. 30-33 in text):

🧩 Don't confuse similar sounding percentages (read carefully!) – pay particular attention to the wording of the context:

    a. What percentage of seniors are males? #male seniors/#seniors

    b. What percentage of males are seniors? #male seniors/#males

    c. What percentage of students are males? #males/#total students

🧩. Be able to define and use the following vocabulary words (see page 33):

    a. Frequency Table vs. Relative Frequency Table

    b. Distribution

    c. Bar and Pie charts

    d. Contingency Table

    e. Marginal Distribution vs. Conditional Distribution

    f. Independence vs. Association

Teen Driving Video

https://www.youtube.com/watch?v=DmIhjMwZs5A

Review Days!!!

- Textbook pg. 38 #24 and Pg. 39 #26

- Chapter Summary Worksheets **-Packet pg 39-42**

- ~~Review Worksheet~~ **Doing in class Monday**
  Packet pg.43