Stats 10
Homework 1
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1A

1.1. There are 9 variables in Table 1A.

1.2. There are observations on 11 people.

1.4. a. This variable is numerical because the measurement and it has meaning of measurement. the shoe size is measured as a number valued variable!
b. This variable is categorical because its value are categories. Each different eye color is a category.

1.12. a. The format of this dataset is unstacked.
b. ~~The table gives ages of some of the students in two classes.~~

Age	Meeting Time
18	Noon
20	Noon
20	Noon
21	Noon
24	Noon
31	5 p.m.
34	5 p.m.
46	5 p.m.
47	5 p.m.
50	5 p.m.

1.16. a.

	Men	Women	Total
Work	15	65	80
Not Work	23	28	51
	38	93	131

15+65=80
65+28=93
80+51=131

b. 15/38 ≈ 39%
∴ 39% of the men worked.
c. 23/38 ≈ 61%
∴ 61% of the men did not work.
d. 65/93 ≈ 70%
∴ 70% of the women worked.
e. 80/131 ≈ 61%
∴ 61% of the people worked.
f. 65/80 ≈ 81%
∴ 81% of the worked people were female
g. 15/80 ≈ 19%
∴ 19% of the worked people were male
h. 70% × 800 = 560
∴ 560 of the 800 women would work.

1.24. 12608000 / 5.5% = 12608000 / 0.055
= 229236364
∴ The total population (of this group) in 2007 is 229236364.

1.34. This study is an controlled experiment.

1.36. This study is an observational study.

2.2. a. There are 21 people in this group with unhealthy cholesterol levels.
b. 21/93 ≈ 23% 23% > 18%
The percentage of people with unhealthy cholesterol levels ~~in the~~ is 23%.
This percentage is a little larger than the estimate from 2010.

2.6. a. The two possible values of the maximum number of hours are ~~0 and 1~~ 18 and 19.
b. 8 people exercised 0 or 1 hour.
c. 3+1+1=5
∴ 5 people exercised 10 or more hours.
d. 5/50 = 10%
∴ 10% people exercised 10 or more hours.

2.8. a. In the dotplots, the centers ~~is the median~~ are the medians.
The center of Denver: (650+700) ÷ 2 = 675
The center of Seattle: (780+800) ÷ 2 = 790
The center of Detroit: (400+400) ÷ 2 = 400

675

∵ 400 < [redacted] < 790

∴ Detroit has the lowest rents.

b. The IQR is used as the spread.

IQR of Denver: $\frac{720+730}{2} - \frac{580+600}{2} = 135$

IQR of Seattle: $\frac{800+800}{2} - \frac{700+700}{2} = 100$

IQR of Detroit: $\frac{430+450}{2} - \frac{390+390}{2} = 65$

According to the graphs, Seattle has the largest spread.

c. The distribution of rental prize in Seattle is skewed to the left.

2.16 a. Both of the distributions are bimodal. The distribution of dollars per month of women is symmetric.

b. The men group tends to spend more.

$10\times1+50\times1+100\times5+150+200\times4+250+350=2100$, $0+4\times50+8\times100+150+5\times200=2150$, $2150>2100$

c. The women group has more variation.

2.18. a. The shape of the distribution is skewed to the right.

b. The median is 3.

∴ The typical number of siblings is 3.

c. About 90 people in this survey have no siblings.

d. $90/2000 = 4.5\%$

∴ 4.5% of the 2000 adults have no siblings.

2.22. 1. (A)

2. (B)

3. (C)

2.28. a. About 7500000 preventable deaths result from high blood pressure.

b. About 5000000 preventable deaths result from tobacco use.

c. No, because according to the graph, instead of overweight and obesity, high blood pressure is the mode.

d. The name is Pareto chart.

2.48. Bar chart would be a better choice, because these data are categorical, and bar chart instead of histogram is suitable to display categorical data.