Math 107 Statistics Homework Solutions

1. Stratified. Valid if the samples are random.
2. Convenience. Not valid. The people who sent in ballots voluntarily might not be representative of the population.
3. Systematic. Valid.
4. Random. Valid.
5. Convenience. Not Valid.
6. Population: HIV positive. Sample 17517 North American patients. Sample statistic: 35% death rate and 15% death rate.
7. Population: Americans: Sample 900 registered voters. Sample statistics: 215, 16%
8. Population: American households, Sample: 400 households: Sample statistic 29%, 8%.
9. 50.5%-55.5%. It is likely the republican candidate will win.
10. 57.6%-66.4%. It is highly likely that a majority of Americans support such a law.
11. Early voters might not have same opinions as those who vote later.
12. National Guardsmen might not have same opinions as those not in the Guard.
13. Mars inc. has a stake in the outcome of this study.
14. Self-reporting. Folks like to say they do things which are "good" but might not actually do them.
15. Question is leading. Banning flag burning and supporting the flag might not be the same thing to some folks.
16. The mean will do a better job as it takes into account all outliers.
17. The mean is most affected by outliers.
18. Mean 15.63, Min =1, Q_1=3, Median = 16, Q_3=25, Max = 33, Mode 33,3,1
19. C has the smallest median. D has the widest variation
20. Mean 70, Min =40, Q_1=54, Median = 70, Q_3=87, Max = 395, Mode none