Homework 2

STAT 201-502

Lecture 2 & 3 material

1 Table 1.6 on page 33 of the text book gives CO_2 emmissions per person from countries with populations over 20 million.

a. Find the 5-number summary for this data set and use it to make a boxplot. Does the distribution look right-skewed?

b. Are there any suspected outliers? If so, make sure to account for them on your boxplot.

c. Find the mean CO_2 emmisions per person. Explain why the mean and median differ so greatly for this distribution.

2 The CDC reports that in 2003 the weight of a baby at birth is normally distributed with mean 7.33 pounds and standard deviation of 1.26 pounds.

a. One baby is selected at random and it's weight is 9.1 pounds. What is the Z-score for this observation?

b. What does this Z-score tell us about this particular baby's relationship to the mean?

c. Low Birth Weight is considered a newborn baby weighing less than 5.51 pounds. Sketch the normal curve for the distribution of birth weight. Shade the area representing the proportion of babies that have Low Birth Weight.

d. Now, find the Z-score for a baby weight of 5.51. What does this Z-score tell us about the relationship between an observed weight of 5.51 pounds and the mean?

e. Sketch the standard normal curve and shade the area representing the proportion of babies born with Low Birth Weight.

f. Using Table A find this proportion of babies born with Low Birth Weight.

g. If I chose one baby at random, what's the probability that I would get a big, fat, healthy baby weighing more than 10 pounds?

3 Do textbook problems 1.86, 1.98, 1.99, 1.100, 1.101 and 1.106