Applied Statistics HW 5

1. GPA scores at a particular college have a mean of 2.9 and standard deviation 0.4, and they are approximately normally distributed.

   a. How many students have scored between 2.5 and 3.0?

   b. The college is worried about any student that has a GPA of less than 2. What percent of the students have such a low GPA?

   c. One could consider the middle 80% of the students as representative of the college. What range of GPA scores would that middle 80% fall in?

d. Obviously 4.0 is an upper bound for the GPA, but in terms of the normal distri- bution higher scores are in theory allowed. What percent of the students would be scoring 4.0 or more, according to the normal distribution?

e. The college wants to award scholarships to the top 15% of the students. What would the GPA cutoff for the scholarships be?

f. Where would the first and third quartile of the GPA distribution be? What is the inter-quartile range of the grade distribution?

g. Above what GPA score and below what GPA score would the outlier test classify students as outliers? What percent of the students fall in that range?

h. The college gives cum laude to those students graduating with a gpa between 3.65 and 3.8. What percent of the students would fall in that range?

i. The college is thinking of moving to a percent system instead, where the students who are between the 85th and 90th percentile are those that would get cum laude. What gpa range does that correspond to?