All questions are worth 1 point.

(1) For the following questions, consider a data set that exhibits a normal distribution. Report the answers to the nearest 0.01%.

(a) How much of the data lies below the value corresponding to \( Z = 1.8 \)?
96.41%

(b) How much of the data lies between the values corresponding to \( Z = 0.8 \) and \( Z = 1.8 \)?
17.60%

(c) How much of the data lies between the values corresponding to \( Z = -0.8 \) and \( Z = 1.8 \)?
75.22%

(2) For the following questions, consider a data set that exhibits a normal distribution. Report the answers to the nearest 0.01.

(a) What is the Z score for the value that is larger than 20.9% of the data?
\( Z = -0.81 \)

(b) What is the Z score for the value that is smaller than 11.9% of the data?
\( Z = 1.18 \)

(c) Consider a portion of the data bounded above and below by certain Z scores. If we consider a region bounded below by \( Z = 0.4 \), what is the Z score of the upper bound if the region contains 23.9% of the data?
\( Z = 1.25 \)

(3) Consider a set of 900 of normally distributed data values with a mean of 25 and a standard deviation of 5.0

(a) How many values are larger than 27.00
\( \# = 310 \) (report answer to the nearest integer)

(b) How many values are between 23.00 and 28.00?
\( \# = 343 \) (report answer to the nearest integer)

(c) What is your best estimate for the value of Q3?
\( Q3 = 28.375 \) (report answer to the nearest 0.01)

(4) Imagine that we take a sample from a population of interest. For the following questions use the sample values to the right:

Assume that this sample accurately reflects the mean and standard deviation of the population so you can use the normal distribution and Z scores for the problems below. (If you’ve read ahead in your book or lab manual you know we should really use t scores, don’t worry about this right now, use the Z scores)

(a) Assuming that the population data is normally distributed, what is the value that you expect 67% of the data in the population to be smaller than?
\( \text{Val.} = 20.21 \) (round to nearest 0.01)

(b) What is your best estimate for the IQR of the population data?
\( \text{IQR} = 3.34 \) (round to nearest 0.01)