University of Potsdam

Statistics Exercises 2019-06-16 **Exercise ID Class activity 1**

Name: _____

Student ID: _____

Declaration: This submission is my work alone; I did not consult anyone about it, and I did not use any other unfair means for obtaining the answer(s). [Your signature below implies that you have made this declaration.]

Signature: _____

Grades:

1. (a) | | | | | | | . | | |
2. (a) | | | | | | | . | | |
   (b) | | | | | | | . | | |
3. (a) | | | | | | | . | | |
   (b) | | | | | | | . | | |
   (c) | | | | | | | . | | |

(d) $\square\square\square\square\square\square . \square\square\square$

Exercises: Class activity 1

1. [**Please give your answer as a number with three decimal places. Example: 0.010.**]

   Given a normal distribution with mean 71 and standard deviation 97, use the pnorm function to calculate:

   (a) the probability of obtaining values between 264 and 6 from this distribution.

2. Consider a normal distribution with mean 1 and standard deviation 1.

   Compute, to three decimal places, the lower and upper boundaries such that:

   (a) the area (the probability) to the left of the lower boundary is 0.24

   (b) the area (the probability) to the left of the upper boundary is 0.96.

3. [**Please give your answer as a number with three decimal places. Example: 0.010.**]

   Given the data point 7.04. The function dnorm gives the likelihood given a data point (or multiple data points) and a value for the mean and the standard deviation (sd). Using dnorm, compute

   (a) the likelihood of the data point 7.04 assuming a mean of 12 and standard deviation 5.

   (b) the likelihood of the data point 7.04 assuming a mean of 11 and standard deviation 5.

   (c) the likelihood of the data point 7.04 assuming a mean of 10 and standard deviation 5.

   (d) the likelihood of the data point 7.04 assuming a mean of 9 and standard deviation 5.