Math 153 - Quiz 10

November 20, 2014

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (6 points) The heights of women aged 20 to 29 are approximately normally distributed. Find the heights of 8 women in this range of ages. Then find a 90% confidence interval estimate for the the mean height of 20–29 year-old women.

68in, 64in, 67in, 64in, 64in, 64in, 60in, 65in

TInterval

WITH Data ⇒ (62.899, 66.101)

WE CAN BE 90% CONFIDENT THAT THE TRUE MEAN HEIGHT IS BETWEEN 62.9 IN AND 66.1 IN

2. (4 points) You do a study of hypnotherapy to determine how effective it is in increasing the number of hours of sleep subjects get each night. You measure hours of sleep for 12 subjects with the following results:

8.2, 9.1, 7.7, 8.6, 6.9, 11.2, 10.1, 9.9, 8.9, 9.2, 7.5, 10.5.

Construct a 95% confidence interval for the mean number of hours slept for the population from which you took the data. Assume that numbers of hours slept are normally distributed. Write a complete sentence to interpret your result.

TInterval

WITH Data ⇒ (8.1634, 9.8032)

WE CAN BE 95% CONFIDENT THAT THE TRUE MEAN # OF HOURS SLEPT IS BETWEEN 8.2 HOURS AND 9.8 HRS