Math 153 - Quiz 13

Name _____

November 29, 2018

Score _____

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

1. (5 points) When women were allowed to become pilots of fighter jets, engineers needed to redesign the ejection seats because the seats had originally been designed for men (who generally weigh more than women). Weights of women are normally distributed with mean 165.0 lb and standard deviation 45.6 lb.

   (a) A woman is selected at random. What is the probability that her weight is between 140 lb and 210 lb?

   (b) What woman's weight is at the 95th percentile?

   (c) 36 different women are randomly selected. What is the probability that their mean weight is between 140 lb and 210 lb?

   (d) Did you need the Central Limit theorem to do part (c)? If so, which part?

   (e) What mean weight is at the 95th percentile?