STAT-211-Term162

Quiz #3

Name: ID: Serial:

Q1: Determine the value of $\boldsymbol{k}$ so that the following functions can serve as a probability distribution.

1. $f(x) = k(3 - x^2), \quad x = -1, 1, 2$
2. $g(x) = k(3 - x^2), \quad -1 < x < 1$

Q2: The weights of cans of soup produced by a company are normally distributed with a mean of 15 ounces and a standard deviation of 0.5 ounces.

1. What is the probability that a can of soup selected randomly from the entire production will weigh at least 15.8225 ounces?
2. Determine minimum weight of the heaviest 4% of all cans of soup produced.
3. If 28,390 of the cans of soup of the entire production weigh at least 15.75 ounces, how many cans of soup have been produced?