King Fahd University of Petroleum & Minerals
Department of Mathematics & Statistics
STAT-211-Term172
Quiz #5

Name: ID: Serial:

Q1: 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.

a. What is the probability that a can of soup selected randomly from the entire production will weigh at least 15.8225 ounces?
b. Determine minimum weight of the heaviest 4% of all cans of soup produced.
c. 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?

Q2: The reading given by a thermometer calibrated in ice water (actual temperature 0°C) is a random variable with probability density function

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

Where k is a constant,

a. Find the value of k

b. What is the probability that the temperature is greater than 0.5°C?

c. What is the median reading?