

Assignment 8

You must show not only the final answer, but also the mathematical steps in detail and explanations to receive full credit.

1. Z is a standard normal random variable. Compute the following probabilities using standard normal distribution table in your textbook. You can find the table in Appendix section at the back of your textbook.
 - a. $P(Z \leq -1.08)$
 - b. $P(Z \geq -2.08)$
 - c. $P(1.23 \leq Z \leq 1.55)$

2. The weights of items produced by a company are normally distributed with a mean of 4.5 ounces and a standard deviation of 0.3 ounces.
Make sure you must first convert any normal random variable (X) to standard normal random variable (Z), and find the probability using standard normal distribution table in your textbook
 - a. What is the probability that a randomly selected item from the production will weight at least 4.14 ounces?
 - b. What percentage of the items weigh between 4.8 to 5.04 ounces?
 - c. If 27,875 of the items of the entire production weigh at least 5.01 ounces, how many items have been produced?