1.

Find the probability for the standard normal random variable z

P(-3.08≤z≤3.08)

2.

Find the area under the standard normal probability distribution between the following pairs of Z-scores

z=0 and z=2.00

z=0 and z=1.00

z=0 and z=3.00

z=0 and z=0.74

3.

Suppose x is a normally distributed random variable with u=11 and σ =2

Find each of the following probabilities

P(X ≥15)=

P(X ≤ 9.5)=

P(11.78 ≤ x ≤ 15.84)=

P(5.72 ≤ x ≤ 13.84)=

4.

The age of a group of 50 women are approximately normally distributed with a mean of 29 years and a standard deviation of 6 years. One woman is randomly selected from the group and her age is observed.

Find the probability that her age will fall between 54 and 61 years___

Find the probability that her age will fall between 48 and 53 years___

Find the probability that her age will be less than 35 years___

Find the probability that her age will exceed 40 years_____

(round to four decimal places as needed)

5.

The mean gas mileage for a hybrid car is 57 miles per gallon. Suppose that the gasoline mileage is approximately normally distributed of 3.5 miles per gallon.

What is the probability that a randomly selected hybrid gets more than 60 miles per gallon?

What is the probability that a randomly selected hybrid gets 53 gallon or less?

What is the probability that a randomly selected hybrid gets 58 and 62 per gallon?

What is the probability that a randomly selected hybrid gets less than 45 gallon?

6.

Resource reservation protocol was originally designed to establish singling links for stationary networks. RSVP was applied to mobile wireless technology. A simulation study reveals that the transmission delay (measured in milliseconds) of a rsvp link wireless device has an approximate normal distribution with mean u=49.5 milliseconds and σ-8.5 milliseconds.

What the probability that the transmission delay is less than 57 milliseconds?

P(x<57)=____