

Quiz 4

⚠ This is a preview of the published version of the quiz

Started: Jan 8 at 1:37pm

Quiz Instructions

This quiz must be taken in person during the set time in class. If you take the quiz at some other time or outside of the classroom, then you may not earn credit for your answers/work.

Question 1

1 pts

(Objective 4a: Standard Normal Variables)

Let z be the standard normal variable. Find the following, and round your answer to two decimal places:

1. $P(Z \leq -1.19)$.

2. $P(-1.95 < Z < -0.01)$.

3. z^* such that $P(Z \geq z^*) = 0.4$.

4. z^* such that $P(-z^* < Z < z^*) = 0.87$.

Question 2**1 pts****(Objective 4b: General Normal Distribution)**

Suppose the braking distance of cars of a certain model travelling at 60 mph is normally distributed with mean **134.03** feet and standard deviation **6.66** feet. Find the following, and round each of your answers to two decimal points:

1. Find the probability that a randomly selected car's braking distance is at most **142.46** feet.
2. Find the probability that a randomly selected car's braking distance is between **120.38** and **134.63** feet.
3. Find X^* such that the probability that a randomly selected car's braking distance is at least X^* feet is **29%**.
4. Find k such that the probability that a randomly selected car's braking distance is between **134.03** $- k$ feet and **134.03** $+ k$ feet is **35%**.

Question 3**1 pts****(Objective 4c: Binomial Distribution)**

Suppose a group of people are in a room for extended time with someone infected with a novel virus. Each of the 8 people has a 0.3 chance of contracting the virus. Suppose that whether or not each person contract the virus is independent of the other people.

Find the following, and round each of your answers to three decimal points:

1. What is the probability that 2 people contract the virus?

2. What is the probability that 4 people contract the virus?

3. What is the probability that less than 7 people contract the virus?

4. What is the probability that between 5 and 7 (inclusive) people contract the virus?

No new data to save. Last checked at 1:38pm

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