Batbayar is a Mongolian entrepreneur and businessman. He produces and sells aaruul across eastern Asia. Aaruul is produced first by curdling cattle, yak or camel milk. The curdled milk is then separated from the liquid, pressed and set out in the sun to dry.

Demand for aarul is highly variable. On average, they sell 70 kilograms a day with a standard deviation of 12.247 kilograms.

Batbayar knows that he always sells between 40 kilograms and 100 kilograms of aaruul. Batbayar also knows that he sells 70 kilograms most days.

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## Part 1: Normal Distribution

0 points possible (ungraded)

Assuming a normal distribution, what is the probability that Batbayar sells less than 50 kilograms of aaruul in a given day?

Enter your answer in decimal form using three decimal places. For example, if your answer is 23.24%, you should enter .232 in the box below.

0.051

0.051

Assuming a normal distribution, what is the probability that Batbayar sells less than 90 kilograms of aaruul today?

Enter your answer in decimal form using three decimal places. For example, if your answer is 23.24%, you should enter .232 in the box below.

0.949

0.949

Assuming a normal distribution, what is the probability that Batbayar will sell more than 65 kilograms of aaruul tomorrow?

Enter your answer in decimal form using three decimal places. For example, if your answer is 23.24%, you should enter .232 in the box below.

0.658

0.658

Submit

Submit You have used 2 of 3 attempts

Correct

Part 2:

## Triangle Distribution

0 points possible (ungraded)

Assuming a triangle distribution, what is the probability that Batbayar sells less than 50 kilograms of aaruul in a given day?

Enter your answer in decimal form using three decimal places. For example, if your answer is 23.24%, you should enter .232 in the box below.

0.056

0.056

Assuming a triangle distribution, what is the probability that Batbayar sells less than 90 kilograms of aaruul today??

Enter your answer in decimal form using three decimal places. For example, if your answer is 23.24%, you should enter .232 in the box below.

0.944

0.944

Assuming a triangle distribution, what is the probability that Batbayar will sell more than 65 kilograms of aaruul tomorrow?

Enter your answer in decimal form using three decimal places. For example, if your answer is 23.24%, you should enter .232 in the box below.

0.653

0.653

Submit You have used 1 of 3 attempts

Correct

Part 3:

## Distribution Observations

0 points possible (ungraded)

What do you notice about the probabilities of the same events happening under these two different

distribution assumptions?

- [x] They are quite similar.
- [ ] They are vastly different.
- [ ] There is no connection between the two.

Submit You have used 1 of 2 attempts

Correct

## Part 4: Distribution Theory

0 points possible (ungraded)

Consider the probability of being less than 40 under the assumption of the normal and triangle distributions. Just thinking about the distributions and not making calculations, what do you think will happen?

Check all that apply.

- [x] The probability of being less than 40 is small, but positive with the normal distribution.
- [ ] The probability of being less than 40 is 0 with the normal distribution.
- [ ] The probability of being less than 40 is small, but positive with the triangle distribution.
- [x] The probability of being less than 40 is 0 for the triangle distribution.

Submit You have used 1 of 3 attempts

Correct