**CONCEPTUAL QUESTIONS:**

* What are the issues of vanilla RNN? How do they occur? Suppose we want to replace the vanilla RNN to overcome these issues, what is the alternative?
* State the difference between ANN, CNN and RNN. Provide examples if possible.

Given the normal distribution PDF as show below, determine the maximum likelihood for **STD**.

A black and white math equation

Description automatically generated

Hints:

1. Apply ln function to L (Likelihood function)
2. Use the properties of the logs to make the calculations much easier!
3. The final form of your likelihood function should be like the following.

A math equation with black text

Description automatically generated

1. A green line with black dots

   Description automatically generatedApply derivative with respect to the parameter then find its maximum.