Day 4: The Central Limit Theorem #1

Objective

In this challenge, we practice solving problems based on the *Central Limit Theorem*.

Task

A large elevator can transport a maximum of 9800 pounds. Suppose a load of cargo containing 49 boxes must be transported via the elevator. The box weight of this type of cargo follows a distribution with a mean of $\mu = 205$ pounds and a standard deviation of $\sigma = 15$ pounds. Based on this information, what is the probability that all 49 boxes can be safely loaded onto the freight elevator and transported?

Output Format

Your output must be a floating point/decimal number, correct to a scale of 4 decimal places. You can submit solutions in either of the 2 following ways:

1. Solve the problem manually and submit your result as *Plain Text*. In the text box below, enter a single floating point/decimal number.
2. Submit an *R* or *Python* program, which uses the above parameters (hard-coded), and computes the answer.

Your answer should resemble something like:

```
0.1234
```

(This is **NOT** the answer, just a demonstration of the answering format.)