$$\textbf{Customer C Spend on Order X} = c * r * t + \epsilon$$

$$c = \text{Customer's mean order amount in dollars where } c \sim \mathcal{N}(\$100, \$25).$$

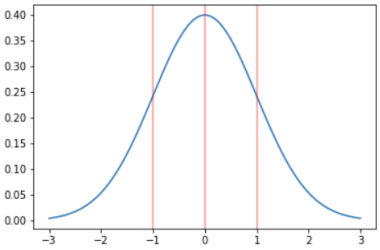
$$r = \text{Scalar corresponding to mean retailer order amount where } r \sim \mathcal{N}(1.0, 0.05).$$

$$t = \text{Whether or not the customer recieved the experimental treatment } t \in [1, 1.1].$$

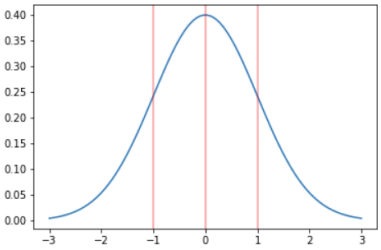
$$\epsilon = \text{Random noise where } \epsilon \sim \mathcal{N}(\$10, \$1).$$

Recall that the data is clustered (we aspire for customers to place multiple orders!), thus:

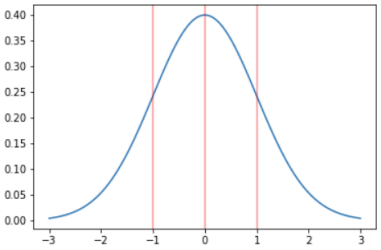
$$\text{The number of orders placed by Customer C } \sim exp(\lambda = 1).$$



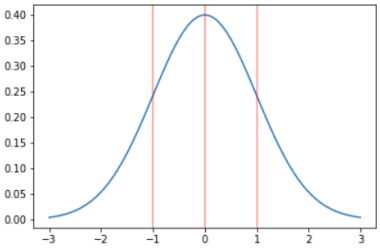
(a) μ +/- [1]σ
with 500 iterations.



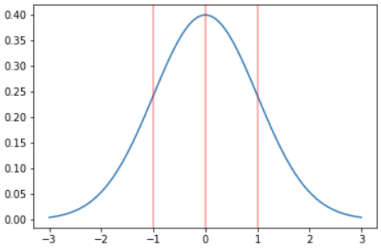
(d) μ +/- [1]σ
with 1,000 iterations.



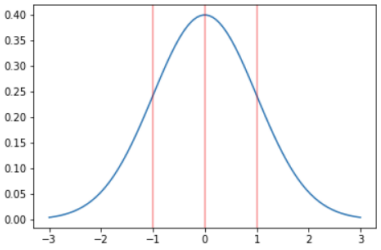
(g) μ +/- [1]σ
with 2,000 iterations.



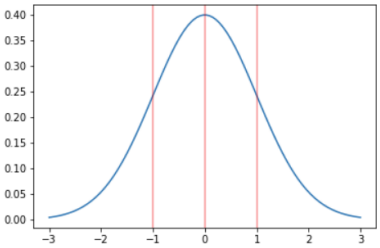
(b) μ +/- [1,2]σ
with 500 iterations.



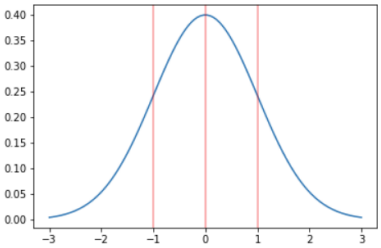
(e) μ +/- [1,2]σ
with 1,000 iterations.



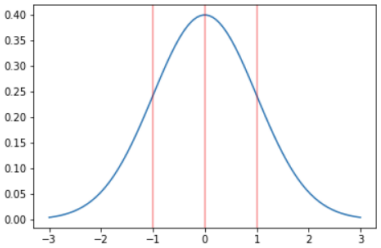
(h) μ +/- [1,2]σ
with 2,000 iterations.



(c) μ +/- [1,2,3]σ
with 500 iterations.



(f) μ +/- [1,2,3]σ
with 1,000 iterations.



(i) μ +/- [1,2,3]σ
with 2,000 iterations.

Figure 1