MATH 300 Quiz – Hypothesis Testing

Section A: Match each of the four terms to the left with the corresponding probability statement

1. α
2. β
3. Power
4. p-value

a) $P(\text{retain } H_0 \mid \text{false } H_0)$

b) $P(\text{reject } H_0 \mid \text{false } H_0)$

c) $P(\text{reject } H_0 \mid \text{true } H_0)$

d) $P(\text{retain } H_0 \mid \text{true } H_0)$

e) $P(H_0 \text{ is true} \mid \text{the data we observed})$

f) $P(\text{observing something more extreme} \mid H_0 \text{ is true})$

Section B: Fill-in the blanks with either INCREASE or DECREASE

1. As we increase sample size, the width of our confidence interval would _____
2. As we decrease our level of confidence, the width of our interval would _____

Section C: The following distributions show $H_0: \mu = 0$ and $H_A: \mu > 0$. The line represents the critical value. On the distributions, shade and label α, β, and Power.