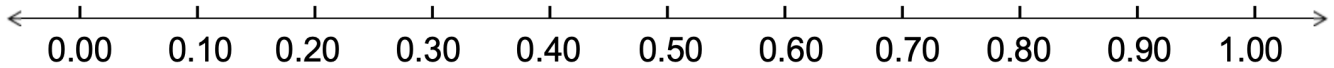
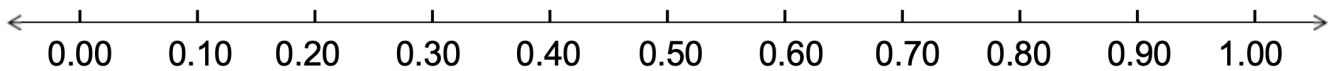


Name: _____ Hour: _____ Date: _____

3. Draw a picture of the sampling distribution under the assumption that H_0 is true.

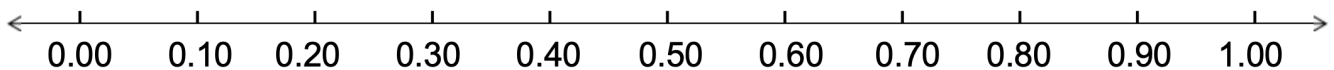


4. Suppose that the true percent of Seniors at this school with Senioritis-20 is 50%. Draw a picture of the sampling distribution under the assumption that H_a is true.



5. In this setting, the power of the administrator's significance test is 0.91. Interpret.

6. Use the applet at <https://istats.shinyapps.io/power/> and input the values from this context. Click Display Power. Sketch the graphs below.



7. The administration wants to **increase** the power of the test. How could they adjust each of the following factors to increase the power? Use the applet to explore each.

a. Sample size:

b. α level:

c. Alternative p :

Name: _____ Hour: _____ Date: _____

Type I and Type II Errors + Power

Important ideas:

Check Your Understanding

A one-sided hypothesis test is to be performed with a significance level of 0.05. Suppose that the null hypothesis is false. If a significance level of 0.01 were to be used instead of a significance level of 0.05, which of the following would be true?

- A** Neither the probability of a Type II error nor the power of the test would change.
- B** Both the probability of a Type II error and the power of the test would decrease.
- C** Both the probability of a Type II error and the power of the test would increase.
- D** The probability of a Type II error would decrease and the power of the test would increase.
- E** The probability of a Type II error would increase and the power of the test would decrease.