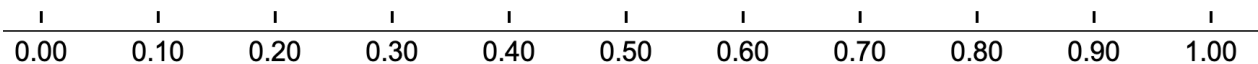


Name: _____ Hour: _____ Date: _____

Is this gender discrimination?

A local engineering firm had to conduct a series of layoffs recently. The company has 180 employees that could be laid off and they will choose 10. All are equally qualified so the company decides to use a lottery system to be carried out by the manager to decide who will be laid off. The manager posts a list of the employees to be laid off. Five employees are women and five are men. One of the women claims this is gender discrimination and starts a lawsuit against the company.

1. The manager responds, "How could there be gender discrimination when half of the employees laid off were female and half were male?" What additional information do you need to evaluate this statement?
2. How can you use a simulation to investigate the gender discrimination claim? Detail a process that could be used.
3. Perform one repetition of the simulation. Proportion of females in sample = _____
4. Add your proportion to the class dotplot. Copy below.



5. What percentage of the dots represent half or more females being laid off?
6. Interpret this percentage in context.
7. Do you have convincing evidence of gender discrimination? Explain.

Name: _____ Hour: _____ Date: _____

Significance Tests: The Basics

Important ideas:

Check Your Understanding

Factinate.com claims that 84% of teenagers think highly of their mother. To investigate this claim, a school psychologist selects a random sample of 150 teenagers and finds that 135 think highly of their mother. Do these data provide convincing evidence that the true proportion of teens who think highly of their mother is greater than 0.84?

1. State appropriate hypotheses for performing a significance test. Be sure to define the parameter of interest.

The school psychologist performed the significance test and obtained a P -value of 0.0225.

2. Explain what it would mean for the null hypothesis to be true in this setting.
3. Interpret the P -value.
4. What conclusion would you make at the $\alpha = 0.05$ level?