

Week 11 — Simulation-based inference: Wednesday exit ticket

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Name: _____

Date: _____

Instructions

Work through each item below. Write your final response in the space provided. Show enough work that another reader can follow your reasoning.

1. A StatKey randomization for the opportunity-cost study produced a **null distribution** of **1,000** simulated differences in the 'did not buy' proportion (treatment – control). The distribution is bell-shaped and **centered at 0**. The **observed** difference was **0.20**, and **6** of the 1,000 simulated differences were **at or beyond 0.20**.
 - (a) Why is this simulated distribution centered at 0 rather than at 0.20?
 - (b) Use the distribution to compute the **simulated p-value**.
 - (c) Is the observed 0.20 a *typical* or an *unusual* value under the null? Point to the evidence.
 - (d) Write a one-sentence conclusion in context about the reminder's effect.