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AP STATISTICS – MS. KLIMCZUK

Using a Simulation to Pick Roommates

Fifty-seven students participated in a lottery for a particular desirable dorm room. This dorm room is a triple with a fireplace and private bath in the tower. Twenty of the participants were members of the same varsity team. When all three winners were members of the team, the other students cried, “FOUL.”

Question: Could an all-team outcome reasonably be expected to happen if everyone had a fair shot at the room?

**Use the following procedure to answer this question:**

What is the component?

How will you simulate the components?

How will you combine components to model a trial? What is the response variable?

Run several trials. Carefully record the random numbers indicating

1. The corresponding component outcomes (varsity, nonvarsity, or ignored number) and
2. The value of the response variable.

Analyze by summarizing the results across all trials to answer the initial question.

What is your conclusion? Describe what the simulation shows and interpret your results in the context of the real world.