

Simulation Lab (submit Excel file only) due 11/5/2018

Using MS Excel (or any other adequate spreadsheet program such as the spreadsheet available in OPEN OFFICE), use simulation to obtain probabilities for the 3 problems below.

Use at least 10,000 trials for each simulation and visually show the simulation with an Excel Graph.

Boys

Experiment 1: On the roll of a **single** fair die, the result will be greater than 4.

Experiment 2: On the roll of a **pair** of fair dice, the summation result will be less than 9.

Girls

Experiment 1: On the roll of a **single** fair die, the result will be less than 5.

Experiment 2: On the roll of a **pair** of fair dice, the summation result will be greater than 1.

Both Boys and Girls:

Experiment 3: The value of π () can be approximated by throwing darts at a dart board.

Assume a round dart board mounted within a square back board (shown below) with a uniform distribution of darts in both the x and y directions being launched against the square dart back board. Assume all darts strike within the square region.

By simulating the throws and counting the hits within the circle relative to the total number of thrown darts, determine the value of π .

