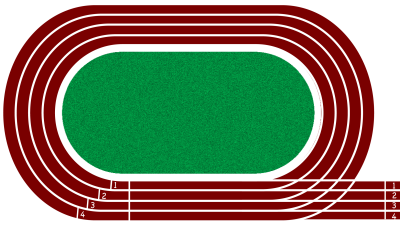
Problem of the Week

Problem B

Who Wins the Best Lane?

Donovan Bailey Elementary School has organized a relay race as part of its track and field day. Four teams, A, B, C, and D, are participating.

To assign each team to a lane on the track, the principal draws the team names randomly. The first team drawn will run in Lane 1, the next in Lane 2, the next in Lane 3, and the remaining team will run in Lane 4.



(a) What is the theoretical probability that Team A will be assigned to Lane 1? Express your answer as a fraction, a decimal, and a percentage.

(b) The principal decides to draw teams several times, and assign Lane 1 to the team that was drawn first most often. The results are in the table.

Team	A	B	C	D
Number of Times First	20	6	12	10

Use these results to calculate the experimental probability of Team A being assigned to Lane 1. How does this compare to the theoretical probability from part (a)?

(c) Use the theoretical probability from part (a) to calculate the number of times you would expect each team to win Lane 1. Do any of the experimental results in part (b) equal this expected result?

Extension:

Draw a spinner with four sections so that the theoretical probability of landing on each section is the same as the experimental probability calculated from the table.

Theme: Data Management