

Green and Blue Problem

There are three cards in a bag.

One card has both sides green, one card has both sides blue, and the third card has a green side and a blue side.

You pull a card out, at random, and see that one side is blue.

What is the probability that the other side is also blue?

[From M. Shaughnessy "Research in Probability and Statistics: Reflections and Directions": In D.A. Grouws (ed.) *Handbook of Research on Mathematics Teaching and Learning*. National Council of Teachers of Mathematics [NCTM], Reston.1992, p. 474.]

When you think you have worked out a probability (so many chances, out of some other number of possibilities), test it, practically.

Make a set of three cards (use capital-letters for R, G and B, perhaps).

Shuffle them in a bag.

Draw a card from the bag.

Record the result of the color observed on top of the drawn card.

If the top color is Blue, turn the drawn card over, and record the color on the other side.

Repeat this process of shuffling, drawing, and recording.

After, say, 50 trials, count the total of times the top-side of the drawn card was Blue, and the total number of times, then, that the other side was Blue.

Puzzled? What did you expect?

