Answer on Question #81413 — Math — Statistics and Probability

Question

A bag contains 8 blue and 7 green balls. Two balls are drawn in succession without replacement. find the probability that 2nd ball is blue when its known that 1st ball is green.

Solution

Blue — 8.

Green — 7.

Total — 15.

Let P(A) be the probability that the second is blue and P(B) be the probability that the first is green.

Probability that the first is green can be calculated using the classical definition of the probability.

So,

$$P(B) = 7/15.$$

The conditional probability that the second is blue given that the first is green will be

$$P(A/B) = 8/14 = 4/7 = 0.5714$$

Answer: the probability that 2nd ball is blue when its known that 1st ball is green will be 4/7.