Answer on Question #79894 – Math – Statistics and Probability

Question

A department store is holding a drawing to give free shopping sprees to two lucky customers. There are 14 customers who have entered the drawing: 5 live in the town of Gaston, 5 live in Pike, and 4 live in Wells. In the drawing, the first customer will be selected at random, and then the second customer will be selected at random from the remaining customers. What is the probability that both customers selected are Gaston residents?

Solution

The probability that the first customer selected is a Gaston resident: $P(G_1) = 5/14$.

The probability that the second customer selected is a Gaston resident: $P(G_2) = (5-1)/(14-1) = 4/13$.

Substituting these values we get the answer: $P(A) = P(G_1) * P(G_2) = (5/14)*(4/13) = 20/182 = 0.11$

Answer: the probability that both customers selected are Gaston residents equals 0.11 or 11%.