Answer on Question #58369 – Math – Statistics and Probability
Question

At a particular restaurant, % of all customers order an appetizer and % of all customers order dessert. If % of all customers order an appetizer or dessert (or both), what is the probability a randomly selected customer orders both an appetizer and dessert?

Solution

At a particular restaurant, *x*% of all customers order an appetizer and *y*% of all customers order dessert. If *z*% of all customers order an appetizer or dessert (or both), then the probability a randomly selected customer orders both an appetizer and dessert is as follows:

$$P(Appetizer \cap Dessert) = P(Appetizer) + P(Dessert) - $$
$$-P(Appetizer \cup Dessert) = \frac{x}{100} + \frac{y}{100} - \frac{z}{100}.$$

Answer: $\frac{x}{100} + \frac{y}{100} - \frac{z}{100}.$