

Answer on Question #82820 – Math – Statistics and Probability

Question

There are Forty houses in a housing estate. Twenty five of them have door-phones and 19 have door bells. If there is no house with either of the system. Find how many houses have both door bell and door-phone.

Solution

$$P(A \cup B) = P(A) + P(B) - P(A \cap B).$$

$$P(A \cap B) = P(A) + P(B) - P(A \cup B) = \frac{25}{40} + \frac{19}{40} - \frac{40}{40} = \frac{44}{40} - 1 = 0.1.$$

Answer: 0.1.