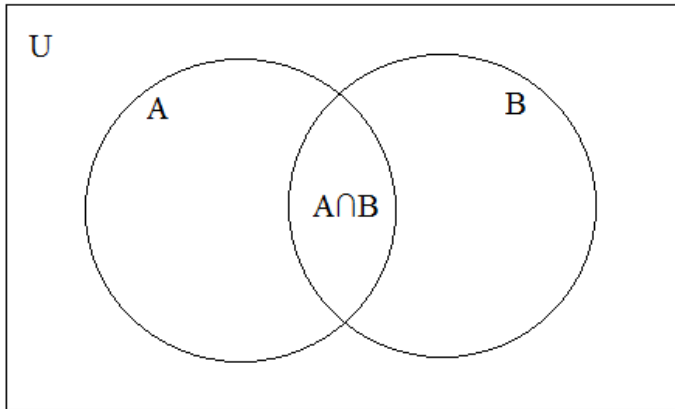# Answer on Question #82879 – Math – Statistics and Probability

Question

All the houses in a housing estate have door communication system. Twenty two houses have door-phones and 14 have door-bells while 12 houses have both systems, find the number of houses in the estate.

Solution

How many houses have door-phones?
$$N(A) = 22$$
How many houses have door-bells?
$$N(B) = 14$$
How many houses have both systems?
$$N(A \cap B) = 12$$
How many houses are there in the estate?
$$N(U) = N(A) + N(B) - N(A \cap B)$$
$$N(U) = 22 + 14 - 12 = 24$$
There are 24 houses in the estate.
Answer: 24.