Answer on Question #46949 – Math – Statistics and Probability

Question:

A box contains four slips of paper marked 1, 2, 3, and 4. Two slips are selected without replacement. Make a Probability Distribution for X, if X = the sum of the two numbers.

Solution:

There are $\binom{4}{2} = 6$ different ways to chose 2 slips, each case happens with the probability 1/6.

case	{1,2}	{1,3}	{1,4}	{2,3}	{2,4}	{3,4}
sum	3	4	5	5	6	7

So, X takes values 5 values, {3,4,5,6,7}:

value, x_i	3	4	5	6	7
probability $p_i = P(x= x_i)$	1/6	1/6	1/3	1/6	1/6