Mathematical statistics + other question

Q8: I will use histogram for visualizing examinees in my university entrance exam. I need to inspect the distribution of score in each subject. Therefore, I can see the overview of the examinees in my university entrance exam.

Q9:

With two dice remaing after, the total number of outcomes is 36.

Outcomes for the sum less than 6: (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (3,1), (3,2).

Number of outcomes less than 6: 9

Therefore, the probability of the sum of the points less than 6 obtained in the second roll is: $\frac{9}{36} = \frac{1}{4}$

We have,

$$Pr(first\ roll > sum\ of\ second\ roll) + \Pr(first\ roll < sum\ of\ second\ roll) + \Pr(first\ roll = sum\ of\ second\ roll) = 1$$

However, $Pr(first\ roll > sum\ of\ second\ roll) = \Pr(first\ roll < sum\ of\ second\ roll)$, so I call "x" represents for $Pr(first\ roll > sum\ of\ second\ roll)$

So, $x = \frac{1-\Pr(first\ roll = sum\ of\ second\ roll)}{2} = \frac{1-\frac{1}{6}.\frac{1}{4}}{2} = \frac{23}{48}$

Conclution: the probability that the point obtained in the first roll is greater than the sum of the points obtained in the second roll is $\frac{23}{48}$