

Answer on Question #50770 – Math – Statistics and Probability

Question

How many ways are there to roll either a 4 or 9 with a pair of dice?

Solution

Traditional die is a cube with numbers 1, 2, 3, 4, 5, 6. First of all, $4=1+3=2+2$, $9=3+6=4+5$. Assume the dices are *identical*. If we use a pair of dice, then the following outcomes are favorable: 1 and 3; 2 and 2; 3 and 6; 4 and 5. There are 4 ways.

Assume the dices are *not identical*. If we use a pair of dice, then the following outcomes are favorable: 1 and 3; 2 and 2; 3 and 1; 3 and 6; 4 and 5; 5 and 4; 6 and 3. There are 7 ways.

Answer

If the dices are identical, then there exist 4 ways. If the dices are not identical, then there exist 7 ways.