

Answer on Question #62273 – Math – Statistics and Probability

Question

1. A pair of dice is tossed. What is the probability of getting a total of:

- a. 5;
- b. At most 4

Solution

When two dice are thrown simultaneously, thus number of event can be $6^2 = 36$ because each die has 1 to 6 number on its faces. Then the possible outcomes are shown in the below table.

Sample space for two dice

	1	2	3	4	5	6
1	1+1	1+2	1+3	1+4	1+5	1+6
2	2+1	2+2	2+3	2+4	2+5	2+6
3	3+1	3+2	3+3	3+4	3+5	3+6
4	4+1	4+2	4+3	4+4	4+5	4+6
5	5+1	5+2	5+3	5+4	5+5	5+6
6	6+1	6+2	6+3	6+4	6+5	6+6

a. Total of 5: (1+4), (2+3), (3+2), (4+1). Number of events is 4.

The probability of getting a total of 5:

$$P = \frac{4}{36} = \frac{1}{9}.$$

b.

At most 4 consists of the following outcomes: (1+1), (1+2), (1,3), (2,1), (2+2), (3+1).

Number of events is 6.

The probability of getting at most 4:

$$P = \frac{6}{36} = \frac{1}{6}.$$

Answer: a $\frac{1}{9}$; **b** $\frac{1}{6}$.