

Answer on Question#54495 – Math – Statistics and Probability

Question. Find a formula for the probability distribution of the random variable X representing the outcome when a single die is rolled once.

Solution. In this experiment we have six possible outcomes for X : 1, 2, 3, 4, 5, 6. Assuming the die is fair we obtain the next probabilities:

$$P\{X = 1\} = P\{X = 2\} = P\{X = 3\} = P\{X = 4\} = P\{X = 5\} = P\{X = 6\} = \frac{1}{6}.$$

So the probability distribution of X has the next form:

X	1	2	3	4	5	6
P	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

Answer.

X	1	2	3	4	5	6
P	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$