Lesson 1: Probability; Discrete Random Variables

Preparation

5. An eight sided die has eight possible outcomes for each roll. (1, 2, 3, 4, 5, 6, 7, or 8). Calculate the probability of rolling a number greater than 5.
6. Calculate the probability of not getting a number greater than 5.

–>

Solutions

Please note that the steps show rounded numbers, but that the final answers to the problems are calculated without rounding.

Problem	Part	Solution
1	-	P(x)
2	-	1. A probability is a number between 0 and 1. 2. If you list all the outcomes of a probability experiment the probability that one of these outcomes will occur is 1. In other words, the sum of the probabilities in any probability is 1. 3. The probability that an outcome will not occur is 1 minus the probability that it will occur.
3	-	When something is random, it follows a long term pattern, but we usually do not know the outcome of the next experiment.
4	-	A discrete random variable is something that varies following a specific pattern or distribution over the long run. They are discrete if they can be listed.
5	-	P(Roll Greater Than 5) = 3/8 or 0.375
6	-	P(Not a Roll Greater Than 5) = 5/8 or 0.625