Lesson 1: Probability; Discrete Random Variables

Preparation

## Solutions

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

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| 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 probability of 1 implies an event is certain to happen. A probability of 0 implies it is impossible to happen, or certain to not happen. |
| 5 | - | P(Roll Greater Than 5) = 3/8 or 0.375 |
| 6 | - | P(Not a Roll Greater Than 5) = 5/8 or 0.625 |