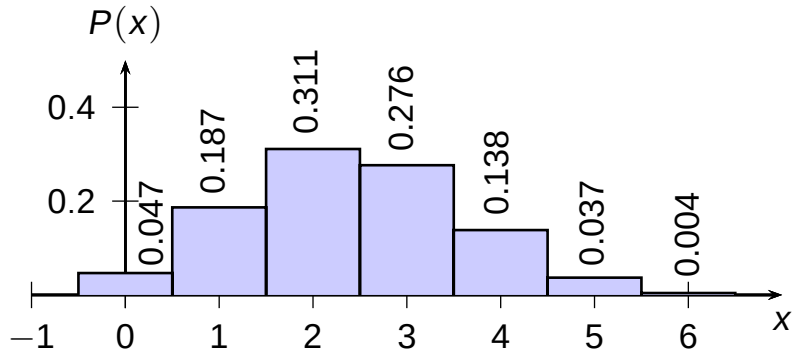
Example: Assume that a procedure yields a binomial probability distribution with a trial repeated $n = 6$ times. Suppose the probability of success on a single trial is $p = 0.40$. Then, the probability distribution can be described with the Binomial Formula, a table or a probability histogram.

$$P(x) = \left({}_nC_x\right) \cdot p^x \cdot q^{n-x}$$

$$= \left({}_6C_x\right) \cdot (0.4)^x \cdot (0.6)^{6-x}$$

x	$P(x)$
0	0.047
1	0.187
2	0.311
3	0.276
4	0.138
5	0.037
6	0.004



1. Use the binomial probability formula to find the probability of exactly $x = 3$ successes.
2. Find the probability of at least $x = 3$ successes.
3. Find the probability of at most $x = 3$ successes.
4. Use the binomial table in Appendix A1 of the textbook to find the probability of $x = 3$ successes.
5. Calculator: Use binompdf(n, p) to place the distribution table in L1 and L2.
6. Calculator: Use binompdf(n, p, x) to find the probability of $x = 3$ successes.
7. Calculator: Use binomcdf(n, p, x) to find the probability of at least $x = 3$ successes.
8. Calculator: Use binomcdf(n, p, x) to find the probability of at most $x = 3$ successes.