CS 333202: Probability and Statistics
HW4 Part I

1. $P\{X = k\} = (\frac{k}{n})^m - (\frac{k-1}{n})^m$

2. $11 - 10(0.9)^{10}$

3. Let N denote the number of games played.

   (a) $E[N] = 2 + 2p(1-p)$

   (b) $E[N] = 6p^4 - 12p^3 + 3p^2 + 3p + 3$

4. (a) $\frac{11}{2}$

   (b) $\frac{17}{5}$.