Exercise sheet 4

Probability and Statistics, MTH102

1. If a pair of dice are rolled. Let X denote the sum of the values on the dice. Compute $E[X]$.

2. A pair of dice are rolled. Every time at least one of the dice shows up a 6, a person gets 10 points, and every time at least one of the dice shows up a 1, a person 2 points are deducted. Represent this as a random variable X and compute $E[X]$.

3. A biased coin with probability of head appearing being p is tossed n times. Let X denote the number of times a head appeared. Assume $E[X^i] = \sum x_i^2 p(x_i)$ and compute $E[X^2]$