

1. A die is weighted so that the probability of rolling a 1, 2, or 3 is $\frac{1}{4}$ and the probability of rolling a 4, 5, or 6 is $\frac{1}{12}$. What is the expected value of a roll of the die?
2. Whenever I visit my mom, the probability that she gives me a chocolate is $\frac{4}{5}$ and the probability that she does not give me a chocolate is $\frac{1}{5}$. What are the expected number of chocolates that she gives me?
3. We flip a coin that is weighted so that the probability of getting heads is $\frac{2}{3}$ and tails is $\frac{1}{3}$. If heads is flipped, you give me \$1. If tails is flipped, I give you \$2. What is the expected number of dollars that you give me upon a flip of the coin?
4. An unweighted 8-sided die is rolled (the sides are numbered numbers 1 through 8). What is the expected number of a roll?
5. The ages of the people in my family are 64, 62, 33, 30, 28, and 28. If a person is chosen from my family at random, what is the expected age of this person?
6. If a person is chosen from your family at random, what is the expected age of that person?

