Instructions: Your solutions must appear in an organized and legible format to be given full consideration.

1. (ex10 pp51) Sixty percent of the students at a certain school wear neither a ring nor a necklace. Twenty percent wear a ring and 30 percent wear a necklace. If one of the students is chosen randomly, what is the probability that this student is wearing

   (a) a ring or a necklace?
   (b) a ring and a necklace?

**Hint**: Denote by $R$ and $N$ the events, respectively, that the student wears a ring and wears a necklace,

2. (ex38 pp53) There are $n$ socks, 3 of which are red, in a drawer. What is the value of $n$ if, when 2 of the socks are chosen randomly, the probability that they are both red is $\frac{1}{2}$?

3. (ex41 pp53) If a die is rolled 4 times, what is the probability that 6 comes up at least once?

4. (ex42 pp53) Two dice are thrown $n$ times in succession. Compute the probability that double 6 appears at least once. How large need $n$ be to make this probability at least $\frac{1}{2}$?