1. We borrow $4000 for two years, with a simple annual interest rate of 7%. After 7 months, we make a partial payment of $600. After another 7 months, we make another partial payment of $900. How much money do we have to pay at the end of the two years?

2. Find the present value of 3 annual payments of $1000, starting with the first payment right now. Assume an annual compound interest rate of 5%, compounded

   a) annually   b) monthly   c) continuously

3. We wish to buy a used car for $6000. Our bank informs us that they have a finance plan plan of a down payment of $500 and 8% APR for 12 months. Compute the monthly payment under this plan.

4. We wish to buy a used car for $6000. Our bank informs us that they have a finance plan plan of no down payment and 9% APR for 36 months. Compute the monthly payment under this plan.

5. In a certain lottery game, one has to pick 4 numbers out of the numbers $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$. To win the game's super prize, one has to get all 4 numbers right. We play our 4 numbers. What is the probability of us winning the super prize?

6. We toss a coin six times in a row. Find the probability that the number of tails is at least 1.

7. The triangles ABC and $A'B'C'$ are similar. Find $A'B'$ if we know that $AB = 20$ cm, $AC = 21$ cm, $BC = 29$ cm, and $A'C' = 33.6$ cm.

8. A couple plans to have two children. Find the probability that they have

   a) two girls   b) a boy and a girl   c) at least one girl.

9. We pull two cards from $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, without replacement. Find the probability of each of the following events

   a) The sum of the two numbers pulled is at most 5.

   b) The product of the two numbers pulled is odd.

   c) The product of the two numbers pulled is even.

10. Each question of a five-question multiple-choice exam has four possible answers. We randomly pick an answer for each question. Find the probability that we select the correct answer on

   a) only the first question

   b) only the first and third question

   c) all five questions

   d) none of the questions

   e) at least one of the questions