Some problems in probability:

1) A bag contains 150 jelly beans. Ten of these are licorice. A child reaches into the bag and selects one jelly bean at random. What is the probability that a licorice bean is selected? \( \frac{1}{15} \)

2) The Mets are involved in the World Series. Suppose that the probability that they will win at least one game is 0.7. Find the probability that they will win no games in the series. \( 0.3 \)

3) A pair of dice is rolled. Event \( T \) is defined as the occurrence of a “total of 10 or 11”, and event \( D \) is the occurrence of “doubles”. Find the probability \( P(T \text{ or } D) \). \( \frac{5}{18} \)

4) A parts store sells both new and used parts. Sixty percent of the parts in stock are used. Sixty-one percent are used OR defective. If 5% of the store’s parts are defective, what percentage are both used and defective? \( 4\% \)

5) A box contains four red and three blue poker chips. What is the probability when three are selected at random that all three will be red if we select each chip
   
   a) with replacement \( \frac{64}{343} \)
   
   b) without replacement \( \frac{4}{35} \)

6) A box contains 25 parts, of which 3 are defective and 22 are nondefective. If 2 parts are selected without replacement, find the following probabilities:

   a) \( P( \text{both are duds}) \) \( \frac{1}{100} \)
   
   b) \( P( \text{exactly 1 is a dud}) \) \( \frac{11}{100} \)
   
   c) \( P( \text{neither is a dud}) \) \( \frac{77}{100} \)

7) A fair die is rolled five times. What is the probability that a 6 occurred for the first time on the fifth roll? \( 0.080 \)

8) The probability that thunderstorms are in the vicinity of a particular airport on an August day is 0.70. When thunderstorms are in the vicinity, the probability that an airplane lands on time is 0.80. Find the probability that thunderstorms are in the vicinity and the plane lands on time. \( 0.56 \)