

### 11.7 In-class Practice

- The set of all possible outcomes of an experiment is called the \_\_\_\_\_ .  
A subset of the sample space is called an \_\_\_\_\_ .
- The sample space for the experiment of tossing two coins is  $S = \{HH, \_, \_, \_ \}$ , and the event “getting at least one head” is  $E = \{HH, \_, \_ \}$ . So the probability of getting at least one head is  $P(E) = \frac{n(\_)}{n(\_)} = \_$ .
- If the intersection of two events  $E$  and  $F$  is empty, then the events are called \_\_\_\_\_.  
So in drawing a card from a deck, the event  $E$  of “getting a heart” and the event  $F$  of “getting a spade” are \_\_\_\_\_.
- If the occurrence of an event  $E$  does not affect the probability of the occurrence of another event  $F$ , then the events are called \_\_\_\_\_. So in tossing a coin, the event  $E$  of “getting heads on the first toss” and the event  $F$  of “getting heads on the second toss” are \_\_\_\_\_.
- An experiment consists of tossing a coin and rolling a die.
  - Find the sample space.
  - Find the probability of getting heads and an even number.
  - Find the probability of getting heads and a number greater than 4.
  - Find the probability of getting tails and an odd number.
- In the 6/49 lottery game, a player selects six numbers from 1 to 49. What is the probability of picking the six winning numbers?
- The CDs are picked at random from a collection of 12 CDs of which four are defective. Find the probability of the following events:
  - All three CDs are defective.
  - All three CDs are functioning properly.
- An exam has ten true-false questions. A student who has not studied answers all ten questions by just guessing. Find the probability that the student correctly answers the given number of questions.
  - All ten questions.
  - Exactly seven questions.
- About 45% of the population of the United States and Canada have Type O blood.
  - If a random sample of ten people is selected, what is the probability that exactly five have Type O blood?
  - What is the probability that at least three of the random sample of ten have Type O blood?
- Find the probability of the given event.
  - The spinner stops on red.
  - The spinner stops on an even number.
  - The spinner stops on red or an even number.

