4.2 Dependent and Independent Probability

In this worksheet, we will do probability problems that deal with distinguishing dependent and independent situations. If you would like further explanation before attempting these problems, links to video descriptions can be found at the end of this worksheet. Starred problems have video solutions.

1 * If Marie flips a coin and it lands heads, what is the probability that it will land tails on the next flip?

(a) 1/4

(b) 1/2

(c) 1/6

(d) 1/8

Using the following information to answer questions 3 and 4. There are 4 green marbles, 2 blue marbles and 2 red marbles in a bag

2 What is the probability of choosing two blue marble?

(a) 1/28

(b) 1/4

(c) 1/8

(d) 1/56

3 If the first marble drawn is green, what is the probability that the second one is blue?

(a) 1/8

(b) 1/7

(c) 1/6

(d) 1/4

4 Leah rolls two dice. What is the probability that both will be one?

(a) 1/6

(b) 1/12

(c) 3/4

(d) 1/36

Oliver flips a coin three times

5 What is the probability of it landing tails three times?

(a) 1/3

(b) 2/3

(c) 1/8

6 What is the probability of it landing heads, tails, and then tails again?

(a) 1/3

(b) 2/3

(c) 1/8

Chantel picks a face card from a deck of cards.

7 If she picks a second card, what is the probability that it is a face card?

   (a) 11/52

   (b) 12/52

   (c) 15/52

   (d) 13/52

8 What is the probabilty that the second card Chantel picks is a 3?

   (a) 1/13

   (b) 11/52

   (c) 1/4

   (d) 1/52

9 Moriah picks two cards for a deck of cards. What is the probability that the first is a heart and the second is a spade?

   (a) 13/204

   (b) 1/204

   (c) 1/169

   (d) 4/169

10 If there are three broken cars and 6 working computers in library, what is the probability of selecting 2 broken computers in a row?

   (a) 1/6

   (b) 1/9

   (c) 1/12

   (d) 4/9

11 * There is a game show with a million dollar prize. A contestant must randomly choose one of ten bags, but only one has the prize. The game is played until one contestant wins. What is the chance that the 6th contestant will win?

   (a) 4/5

   (b) 2/5

   (c) 3/5

   (d) 1/10

Additional Resources:

- Here you'll find info about dependent probability: `https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-dependent-probability/v/introduction-to-dependent-probability`

- Here you'll find info about independent probability: `https://www.khanacademy.org/math/probability/independent-dependent-probability/independent_events/v/compound-probability-of-independent-events`

- Here you'll find the solution for problem 1 `http://youtu.be/fbQ4on_kEew`

- Here you'll find the solution for problem 11: `http://youtu.be/JovwTqre34U`