

1. If a single fair die is rolled, find the probability of a 3, given that the number is prime?
2. If two cards are drawn without replacement from a deck, find the probability that the second card is a diamond, given that the first card was a diamond.
3. If two fair dice are rolled, find the probability that the sum of the faces is 7, given that the first die rolled drawn is odd.
4. If three cards are drawn without replacement from a deck, find the probability that the third card is a face card, given that the first card was a king and the second card was a 9.
5. A six-sided die is tossed. What is the probability that it shows 2 if you know the following?
 - a) It shows an even number.
 - b) It shows a number less than 5
 - c) It does not show a 6.
 - d) It shows 1 or 2
 - e) It shows an even number less than 4.
 - f) It shows a number greater than 3.

6. Examine the following containers:



One letter is chosen randomly from the first container and added to the second container. Then a letter will be chosen from the second container.

- a) What is the probability that the second letter chosen is D if the first letter was A?

If the first letter was D?

- b) What is the probability that the second chosen letter is A if the first letter was A?

If the first letter was D?

Answers

1. $\frac{1}{3}$
2. $\frac{12}{51} = \frac{4}{17}$
3. $\frac{3}{18} = \frac{1}{6}$
4. $\frac{11}{50}$
5. a) $\frac{1}{3}$ b) $\frac{1}{4}$ c) $\frac{1}{5}$ d) $\frac{1}{2}$ e) 1 f) 0
6. a) $\frac{1}{2}, \frac{3}{4}$ b) $\frac{1}{2}, \frac{1}{4}$