

Probability - part 5

date: , class: , student:

1 Exercises

- **Exercise 1:** A F1 driver has a 30% chance of winning a race if the track is dry, and 20% if the race is wet. The weather forecast predicts rain with a probability of 60%. What is the probability that the driver wins the race?
- **Exercise 2:** In a box there are 8 red balls and 2 blue balls. In a second box there are 4 red balls and 4 blue balls. You *randomly* choose a box and extract a ball. What is the chance that the ball is red?
- **Exercise 3:** You draw two cards from a deck of 52 cards. Find the probability of extracting a queen as the second card.
- **Exercise 4:** You have three bags that each contain 100 *marbles*:
 - Bag 1 has 75 red and 25 blue marbles;
 - Bag 2 has 60 red and 40 blue marbles;
 - Bag 3 has 45 red and 55 blue marbles.

You choose one of the bags at random and then pick a marble from the chosen bag, also at random. What is the probability that the chosen marble is red?

2 Useful links

- Khan Academy: video about the solution of a problem with total probability.
<https://goo.gl/73Ksuf>

3 Glossary

- randomly = a caso/casualmente
- marble = biglia