



PROBABILITY TEST – 4° ESO



Exercise 1: (2 ptos) I get two cards from a Spanish deck of cards, with replacement. Find the probability that:

- Both of them are face cards
- Both cards are of the same suit
- I don't get any spade cards
- I get at least an ace

Exercise 2: (2 ptos) I have an urn with 6 white balls, 5 green balls and 4 red balls. I get 3 balls without replacement. Find the probability that:

- I get three green balls
- I get one and only one red ball
- I get two white balls and a green one
- I get at least a white ball

Exercise 3: (2 ptos) Given two events A and B so that $P(\bar{A}) = 0.7$, $P(B) = 0.6$ and $P(A/B) = 0.5$

- $P(A \cup B) =$
- $P(B/A) =$
- Are A and B independent events? Are they mutually exclusive? Why?

Exercise 4: (1 pto) Given the following events corresponding to a certain random experiment, $A = \{2, 4, 6\}$, $B = \{1, 5\}$ and $C = \{2\}$, write the events:

- $A \cup B =$
- $A \cap C =$
- $B \cap C =$
- $\bar{A} =$

Exercise 5: (1.5 ptos) A certain school has two fourth grade groups. 28 students belong to group A and 22 students belong to group B. 78% of the students in group A and 60% of students in group B passed the last English test. Taken a random student from the fourth grade, find the probability that:

- They passed the English test
- They belong to group B, given that they didn't pass the test

Exercise 6: (1.5 ptos) 29% of the palm trees in Seville are private, while the rest belong to the city. 5% of the public palm trees and 55% of the private ones have died since 2011 due to the red beetle (*Rhynchophorus ferrugineus*) plague. Considering a certain palm tree find the probability that:

- It is still alive
- It was private, given that it died
- If we had a total of 1908 palm trees in Seville, how many of them would die?

