Same birthdays

Question:

(1) There are 27 students in your Maths class. What is the probability that at least one of your classmates has the same birthday as you?

(2) Suppose there are n students in a class. What is the probability that at least two students in the class have the same birthday?

For simplicity assume there are no leap years: each year has 365 days.

Hints:

- Sometimes it is easier to calculate the probability of the opposite of an event. What is the opposite of "at least one"? What is the opposite of "at least two are the same"?

- Can you make use of the fact that the birthdays of different students are independent? If you do not remember what independence of events implies for probabilities, here is a tutorial: `https://www.mathplanet.com/education/pre-algebra/probability-and-statistic/probability-of-events`