

Subject 11

Please, don't write on the exam paper.

Exercise 1

In a certain city (very similar to East Baton Rouge), 33/100 of all registered voters are black and 67/100 are white. Also, 3/10 of all registered voters are Republican and 7/10 are Democrat. Moreover, 29/100 of all registered voters are BOTH white and Republican. As you can see, almost all Republicans are white.

- 1) Draw a table with columns labeled "Black" and "White" and rows labeled "Republican" and "Democrat". Fill in the squares with the percentages in each of the 4 categories.
- 2) Use this table to answer the three following questions:
 - a) In this city, is a Republican more likely white or black?
 - b) In this city, is a Democrat more likely white or black?
 - c) Is a white voter more likely Republican or Democrat?

Exercise 2

My History teacher enjoys telling jokes. He tells one joke at every lesson.

But his jokes are not always very funny. I checked that only five per cent of his jokes are good jokes.

Knowing that I have 5 lessons with him every week, what is the probability for him to tell at least one good joke in the week?

Exercise 3

1) In the United States, 56% of all children get pocket money, and 41% of all children get pocket money and do household chores.

What is the probability that a child does household chores given that he/she gets pocket money?

2) In the United States, 43% of people wear a seat belt while driving.

If two people are chosen at random, what is the probability that both of them wear a seat belt?

Household chores : tâches ménagères