

Subject n°18

Please, don't write on the exam paper.

Police statistics from the State of New York let appear that, in 2003, among the 250 annual murders, 180 are committed with firearms and 70 with bladed weapons.

On the other hand, minors (under 18 years old) are responsible for 100 murders (the others are due to adults). We eventually happen to know that 20 murders are done by minors with bladed weapons.

- 1-** Make a representation of the results of the Police statistics, for example in a two-entry table.
- 2-** One report is selected at random among all the reports concerning murders committed in 2003.
Let M be the event: "The report concerns a crime due to a minor"
and F the event: "The report concerns a crime done with a firearm".

All the results are to be given in fractions in their lowest terms.

- a-** Let A be the event: "The report concerns a crime due to an adult with firearm".
Express A in terms of M and F , and compute the probability of A .
- b-** The selected report concerns a crime committed with a knife. What is the probability that it concerns a minor?
- c-** What is the probability that the selected report concerns a firearm given that it concerns a minor?

Glossary

Bladed weapons: arme blanche