BACCALAURÉAT GÉNÉRAL ET TECHNOLOGIQUE

# Session 2012

## *ÉPREUVE SPÉCIFIQUE MENTION « SECTION EUROPÉENNE OU DE LANGUE ORIENTALE »*

Académies de Paris-Créteil-Versailles

**Binôme : Anglais / Mathématiques**

**PROBABILITY**

**Sujet D7 - 01**

*The first part of this page is a summary that can help you do the exercise.*

Let A and B be two events.

$P$(A) (respectively $P$(B)) is the probability that event A (respectively event B) occurs.

$P$(A⋂B) is the probability that both events A and B occur.

$P\left(A\left|B\right.\right)$ (read “the probability of A given B”) is a conditional probability. It is the probability that event A occurs given the occurrence of event B.

The multiplication rule states that $P\left(A\bigcap\_{}^{}B\right)=P\left(A\left|B\right.\right)×P\left(B\right)$.

*Exercise:*

The probability that it is a sunny day is $\frac{1}{3}$. Depending on the weather, Linda will practice different sports.

If it is a sunny day, the probability that Linda will go climbing is $\frac{2}{5}$, the probability that she will play cricket is $\frac{2}{5}$ and the probability that she will go swimming is $\frac{1}{5}$.

If it is not a sunny day, the probability that she will go climbing is $\frac{1}{2}$. She only plays cricket on sunny days.

1. Find the probability that Linda goes swimming when it is not a sunny day.
2. Show the information above in a tree diagram.
3. a) Work out the probability that it is a sunny day and that Linda goes climbing.
4. Calculate the probability that Linda goes climbing whatever the weather.
5. Calculate the probability that she plays cricket whatever the weather.
6. Calculate the probability that she goes swimming whatever the weather.
7. Which sport does she practice most often?
8. Given that Linda goes climbing, calculate the probability that it is a sunny day.