

**BACCALAURÉAT GÉNÉRAL ET TECHNOLOGIQUE
ÉPREUVE SPÉCIFIQUE DES SECTIONS EUROPÉENNES
MATHÉMATIQUES – ANGLAIS**

SUJET 8 - Algèbre, statistiques, géométrie, probabilités

Thème : Algorithms

Ce sujet comporte 1 page. L'usage de la calculatrice est autorisé.

Plenty of users take what they read online at face value, which some social experiments have proven. The average user often doesn't check facts or consider whether the source is credible.

- 5 "You look at a Wikipedia article and assume that it all must be true," said Christo Wilson, a computer science professor at Northeastern University who researched algorithms and personalization extensively. "Or you search for something on Google and think the results are subjective and correct off the bat."

And then there are algorithms on top of every social network and search engine, providing users with personalized, and ultimately skewed, results.

- 10 The problem is that some search engine are uniquely positioned to influence how users think, as algorithms will boost certain sources over others based on how much content the site produces, length of articles, when the piece was published, among other factors. Users are inclined to only click on the first few results, and ultimately, what we see and read on the web can affect the way we think.

- 15 As Pariser said on Medium, "The Internet is showing us what it thinks we want to see, but not necessarily what we need to see."

Source: Extract from the blog The huffington post: « How Facebook and Google's Algorithms Are Affecting Our Political Viewpoints »

- 1- Read the first paragraph of the text
- 2- What does the text deal with?

Exercise:

- 1- « Think of a number, double it, add 10, halve it, take away your original number. »
 - a) This is an algorithm used in magic tricks: try it with the number you want. Do you obtain 5?
 - b) Could you explain why you will always obtain 5?
- 2-
 - a) Explain how to draw the perpendicular bisector of a segment [AB].
 - b) Create an algorithm to draw the mid-perpendicular of a segment [AB].
- 3- A box contains 7 red balls, 8 blue balls, 10 black balls. We pick a ball from the box.
 - a) What is the probability of getting a blue ball?
 - b) What is the probability of getting a red ball then a black one?