

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

**SUJET 2
Sports and statistics**

Ce sujet comporte deux pages. L'usage de tout modèle de calculatrice, avec ou sans mode examen, est autorisé.

When it comes to statistics, people don't always have the same opinion on its uses and on how it can be helpful in some situations.

- “There are two ways of lying. One, not telling the truth and the other, making up statistics”
Josefina Vazquez Mota (born in 1961, Mexican businesswoman and an economist).
- “I can prove anything by statistics except the truth”
George Canning (1770-1827, British statesman and politician).
- “Statistics is the grammar of science”
Karl Pearson (1857-1936, he was an English mathematician).
- “In terms of merit, sports has mathematical statistics. That's how you know who the best player is”
Norm MacDonald (born in 1959, Canadian comedian and a writer).

Within the sports industry there are many constituents with an increasing interest in statistics.

Professional sport is becoming more and more linked to statistics and is increasingly using statisticians and data scientists to help make decisions on such things as the strategy to use during a game and the recruitment of players.

You can even use statistics for sports bets. Indeed, if you want to bet some money on a match, it's better if you know some of the statistics on both teams.

Adapted from the website: <http://www.rss.org.uk/>

I. Explain what the text deals with and comment on it.

II. Exercise

In Ligue 1 (France) or in Premier League (England), you have the same number of teams: 20.

This means that each football team has to play 38 matches during a season. For each match, three points are awarded to the winning team and the losing team has no points. If the game is a draw, each team receives one point.

1. What is the maximum number of points a team can have if it wins all its matches?

2. The scores of the French teams for the 2016-2017 season were:

34 ; 35 ; 36 ; 37 ; 37 ; 39 ; 43 ; 44 ; 46 ; 46 ; 50 ; 50 ; 50 ; 51 ; 59 ; 62 ; 67 ; 78 ; 87 ; 95

a. Calculate the median, the lower quartile and the upper quartile of this set of data.

b. On the graph below, draw the box-and-whisker plot corresponding to this set of data.

3. Here is the box-and-whisker plot corresponding to the 2016-2017 English season. Compare the English season with the French one.

