

Sujet n°9

STATISTICS

Please do not write on the subject paper and don't forget to give back the examination paper at the end of the test.

Introduction :

Most coffee is grown by small farmers in Latin America, Asia and Africa. One of the biggest problems they face is the rise and fall of the price of coffee on the world market. Certain years, it costs more to grow the coffee than they get from selling it. This can drive them into poverty or force them to borrow money to pay off debts. Fairly trade coffee, such as Oxfam, helps farmers by paying them a fair price for the coffee they grow. It is bought directly from the farmers who are paid 10 per cent more than the market price. However, there is also a guaranteed minimum price. Farmers are never paid less than \$1.40 per pound they sold.

Questions

1. In the table below, there are the prices of one pound of coffee in January from 1995 to 2014. These are the price on the world exchange market in London.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
\$1.677	\$1.057	\$1.275	\$1.696	\$1.125	\$1.152	\$0.660	\$0.478	\$0.649	\$0.725

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
\$1.015	\$1.193	\$1.193	\$1.346	\$1.166	\$1.402	\$2.362	\$2.232	\$1.503	\$1.176

- a) Compute the average price during these 20 years.
 - b) Sort this list and find out the median price, the lower and upper quartile.
2. Compute the fair trade price for each year using the information given in the text above.
 3. Compute the average fair trade price, the median, the lower and upper quartile.
 4. Compare both data.
 5. The annual production in 2011 is 8 million of tons. Only 5% of coffee is issued from Fair trade. How many tons does it represent ?