مباراة لبعض الوظائف الشاغرة

في ملاك بلدية طرابلس .

لوظيفة محرر

مسابقة في الرياضيات (بمستوى فرع الآداب والإنسانيات) . الوقت : ساعتان

1- Samir borrowed a sum of money for 14 months at an annual interest rate of 6%. He paid 280 000 L.L as simple interest for this sum. Determine the amount of money that Samir has borrowed.

2- A flower shop sells tulips and roses. A bunch of 2 tulips and 4 roses costs 13000 L.L. A bunch of one tulip and 5 roses costs 14 000 L.L.

a- Find by writing all the followed steps, the price of one tulip and the price of one rose.

b- Form a bunch of 6 flowers which costs 10 000 L.L .

3- The following table shows the age at which 90 women got married :

Class	[17 ; 19[	[19 ; 21[	[21 ; 23[	[23 ; 25[	[25 ; 27]
Frequency	5	15	20	40	10

a- Determine the variable under study, the population and the range of this distribution.

b- Calculate the mean $\bar{x}$.

c- Find the percentage of women that were married at the age in the interval [21 ; 25[

4- In a class 88 % of students claimed that they like mathematics, 20 % claimed they like chemistry, 15% claimed that they like mathematics and chemistry. A student was choosen randomly:

a- What is the probability he likes mathematics but not chemistry?

b- What is the probability he likes chemistry but not mathematics?

c- What is the probability that he does not like chemistry nor mathematics?

d- What is the probability that he likes chemistry knowing that he likes mathematics?

5- Let f be the function defined over $]-\infty ; -2[\cup]-2 ; +\infty[$ by $f(x)= \frac{x^2+x-1}{x+2}$, and designate by (C) its representative curve in an orthonormal system.

a- Verify that $f(x) = x-1+ \frac{1}{x+2}$

b- Show that the straight line (Δ) of equation x= -2 is an asymptote to (C) .

c- Show that the straight line (d) of equation y=x-1 is an asymptote to (C).

d- Show that $f'(x) = \frac{(x+3)(x+1)}{(x+2)^2}$

e- Set up the table of variations of f.

f- Draw (d), (Δ) and (C).

g- Discuss graphically according to the values of the real number m, the number of roots of the equation $\frac{x^2+x-1}{x+2} - m = 0$

بيروت، في ٢٠١١/٦/١١

اللجنة الفاحصة