Examen outils Quantitatifs – Niveau 1
Décembre 2015 – Corrigé – D. SCHLACTHER

1)

Rep.

a) $1,2 \times 0,8 = 0,96$ --- (−4%) gras

b) $(0,96)^{-1/2} = 0,9798$ --- (−2,02%) gras

c) $G \times 1,2 \times x = 1$; $x = \frac{1}{1,2} = 0,833$ --- (16,7%)

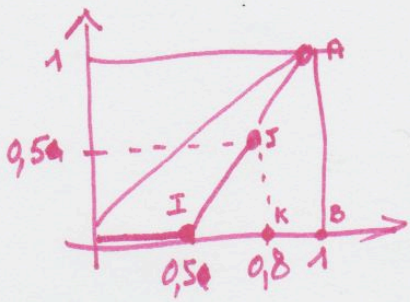
2) a) $\frac{2400}{2000} = 1,2$ --- (+20%)

b) $\frac{1,2}{1,1} = 1,0909\ldots$ (+9,09%)

3) a)

ni%	nixi
50%	0%
30%	50%
20%	50%

ni%cum	nixi%cum
50%	0%
80%	50%
100%	100%



b) $IJK = \frac{0,5 \cdot 0,3}{2} = 0,075$

$JKAB = \frac{0,5+1}{2} \times 0,2\ 0,15$

$G = \frac{0,5 - (0,075 + 0,15)}{0,5}$

(G = −0,55) gras

4) $P_{HT} = 0,75\ P_{TTC1}$

$P_{HT} = 0,85\ P_{TTC2}$

$P_{TTC2} = \frac{0,75\ P_{TTC1}}{0,85} = 0,882$ ..... (−11,8%)

5°)

Sal	Eff. h_i	x_i	h_i cum	Q_i	d_i
1000 - 2000	100	1500	100	1000	0,1
2000 - 3000	400	2500	500	1000	0,4
3000 - 5000	90	4000	590	2000	0,045
5000 - 9000	10	7000	600	4000	0,003

a) $\bar{x} = 2633,33$ gras

b) $Me = 2000 + \frac{1000 \times 200}{400} = 2500$ gras

c) $Mo \# 1500$ gras Ou adhottza to miliou do la classe modale

d) $\sigma = 907,7$ gras

e) $D_1 = 1000 + \frac{1000 \cdot 60}{100} = 1600$

$D_9 = 3000 + \frac{2000 \cdot 90}{90} = 3888$

$D_9 / D_1 = \frac{3888}{1600} = 2,43$ gras

6°)

a) $Lp\ 2/1 = \frac{10 \cdot 15 + 20 \cdot 26 + 3 \cdot 150}{10 \cdot 10 + 20 \cdot 30 + 3 \times 100} = \frac{1120}{1000} = 1,12$ gras

b) $Pp\ 2/1 = \frac{12 \cdot 15 + 16 \cdot 26 + 5 \cdot 150}{12 \cdot 10 + 16 \cdot 30 + 5 \cdot 100} = \frac{1346}{1100} = 1,22$ gras

7°)

a) $y = 0,782x + 358,6$

b) $R^2 = 0,9953$

8°)

a) $5000(1,03)^4 = 5627,54$

b) $\frac{5627,54}{(1,04)^4} = 4810,45$

9) $Sup = 2\ Emp \Rightarrow Emp = \frac{1}{2} Sup$ ---- 50%