



Nom de l'élève :
Prénom de l'élève :
Classe de référence de l'élève : T
Professeur : Monsieur LAPEYRONNIE



Mathématiques - Suites et fonctions réelles
Terminale - Devoir n°2

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Exercice 1.

Les résultats de la partie A peuvent être admis lors de la résolution de la partie B.

On considère la fonction f définie pour tout réel x par

$$f(x) = \frac{x}{e^{x-1}}$$

Partie A : étude de fonction

- 1) Justifier que la fonction f est dérivable sur \mathbb{R} . La fonction f est-elle continue sur \mathbb{R} ?

2) Montrer que, pour tout réel x , $f'(x) = \frac{1-x}{e^{x-1}}$.

- 3) En déduire que la fonction f est strictement croissante sur $]-\infty; 1]$ puis strictement décroissante sur $[1; +\infty[$. Que vaut $\lim_{x \rightarrow \infty} f(x)$? En déduire que pour tout $x > 1$, $f(x) \in [0; 1]$.

Partie B : étude de suite

Soit a un réel. On considère la suite (u_n) définie par $u_0 = a$ et, pour tout entier naturel n , $u_{n+1} = f(u_n)$. On se propose d'étudier le comportement de la suite (u_n) en fonction du réel a .

- 1) On suppose que la suite (u_n) converge et on note I sa limite. Justifier que $f(I) = I$.
- 2) En déduire les valeurs possibles pour I
- 3) On suppose que $a = 0$. Calculer u_1 . Que peut-on en déduire sur la limite de la suite (u_n) dans ce cas ?
- 4) On suppose que $a \in]0; 1]$
 - a) Montrer que, pour tout entier naturel n , $0 \leq u_n \leq 1$.
 - b) Montrer que la suite (u_n) est croissante.
 - c) La suite (u_n) est-elle convergente ? Si oui, quelle est sa limite ?
- 5) On suppose que $a > 1$. Montrer que $u_1 \in [0; 1]$. Que peut-on en déduire sur la convergence et la limite de (u_n) ?
- 6) On suppose que $a < 0$. Montrer que la suite (u_n) est décroissante. En déduire la limite de la suite (u_n) .

Exercice 2.

Soit f la fonction définie pour tout t positif par $f(t) = \frac{1}{1 + 10e^{-0,3t}}$

- 1)** Montrer que la fonction f est dérivable sur $[0; +\infty[$ et que pour tout réel

$$t \geq 0, f'(x) = \frac{3e^{-0,3t}}{(1 + 10e^{-0,3t})^2}$$

- 2)** Quel est le sens de variation de la fonction f ?

- 3)** Déterminer $\lim_{t \rightarrow \infty} f(t)$. Interpréter ce résultat dans le contexte de l'exercice.

- 4)** On suppose que la fonction f permet d'évaluer la proportion de foyers ayant accès à la fibre optique en l'an $2012 + t$, où t est exprimé en années.

a) Selon ce modèle, quelle proportion de foyers était raccordée à la fibre en 2012 ?

b) Montrer qu'il existe un unique temps t_0 tel que $f(t_0) = 0.75$.

c) Donner une valeur approchée de t_0 , exprimée en années et mois.

- 5)** On utilise l'algorithme suivant. En entrant seuil(0,9), le programme renvoie la valeur 15. Interpréter cette réponse dans le contexte de l'exercice.

```

1 from math import exp
2
3 def f(t):
4     return 1/(1+10*exp(-0.3*t))
5
6 def seuil(p):
7     t=0
8     val=f(t)
9     while val<p:
10        t=t+1
11        val=f(t)
12    return t

```

18.5/20 : Un excellent ensemble. Les résultats du cours sont parfaitement maîtrisés et appliqués. La rédaction est méticuleuse, c'est un excellent point. Continuez ainsi.

Exercice 1

Partie A

1)

Pour tout $x \in \mathbb{R}$, $(e^{x-1})' \neq 0$ donc
 $Dg = \mathbb{R}$.

f_g est dérivable sur \mathbb{R} . Elle est donc continue sur \mathbb{R} .

Pourquoi ?

2) On utilise $\left(\frac{u}{v}\right)' = \frac{u'v - uv'}{v^2}$

avec $u(x) = x$ $u' = 1$
 $v(x) = e^{x-1}$ $v'(x) = e^{x-1}$

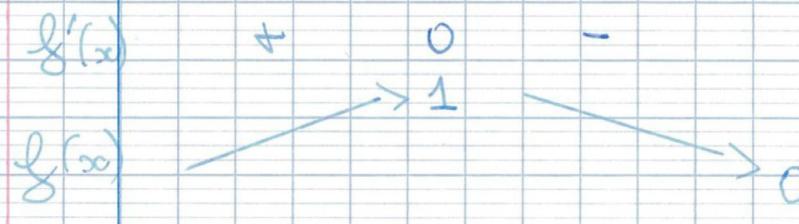
$$f'(x) = \frac{e^{x-1} - x \cdot e^{x-1}}{(e^{x-1})^2}$$

$$= \frac{e^{x-1}(1-x)}{(e^{x-1})^2}$$

$$= \frac{1-x}{e^{x-1}}$$

3) $e^{x-1} > 0$ et
 $1-x = 0 \Leftrightarrow x = 1$

$$\begin{array}{c|ccc} x & -\infty & 1 & +\infty \\ \hline \end{array}$$



f est croissante sur $]-\infty; 1]$
et décroissante sur $[1; +\infty[$.

4) D'après les croissances comparées
 $\lim \frac{e^x}{x} = +\infty$.

$$f(x) = \frac{x}{e^{x-1}} = \frac{x}{e^x} \times \frac{1}{e^{-1}}$$

$$\text{Or } \lim \frac{x}{e^x} = 0$$

$$\text{Donc } \lim_{x \rightarrow +\infty} f(x) = 0$$

D'après le tableau de variations,
sur l'intervalle $]1; +\infty[$,
 $f(x) \in [0; 1]$.

Partie B

1) Si \lim de $u_n = l$ alors
 $\lim u_{n+1} = l$.

Donc $\lim f(u_n) = f(l)$, car
 f est continue.

Bien
Donc $f(l) = l$,

2) $f(l) = l$

$$\text{donc } l = \frac{l}{e^{l-1}}$$

$$\text{donc } l(e^{l-1}) = l$$

$$\text{donc } l(e^{l-1}) - l = 0$$

$$\text{donc } l(e^{l-1} - 1) = 0$$

Un produit est nul si et seulement si au moins un des deux facteurs est nul.

$$l = 0$$

$$\text{ou } e^{l-1} - 1 = 0$$

$$\Leftrightarrow e^{l-1} = 1$$

$$\Leftrightarrow l = 1$$

Très bien

$$3) \quad v_{n+1} = f(v_n)$$

$$\text{donc } v_1 = f(v_0)$$

$$\text{donc } v_1 = f(0)$$

$$f(0) = \frac{0}{e^{0-1}} = 0$$

Nous pouvons en déduire que la limite de la suite s'annule.

4)

i) Initialisation.

$v_0 = \alpha$ et $\alpha \in [0; 1]$ donc $f(0)$ est nulle.

Hérédité.

Supposons qu'il existe un entier n tel que $0 \leq v_n \leq 1$.

Alors $f(0) \leq f(u_n) \leq f(1)$ car f est croissante.
 Alors $f(0) \leq u_{n+1} \leq f(1)$
 Alors $\frac{f(0)}{e^{u_n-1}} \leq u_{n+1} \leq \frac{f(1)}{e^{u_n-1}}$
 Alors $0 \leq u_{n+1} \leq 1$
 Alors $P(n)$ est vraie.

Conclusion : Pour tout n , $0 \leq u_n \leq 1$.

$$b) u_{n+1} - u_n$$

$$\Leftrightarrow f(u_n) - u_n$$

$$\Leftrightarrow \frac{u_n}{e^{u_n-1}} - u_n$$

$$\Leftrightarrow \frac{u_n}{e^{u_n-1}} - \frac{u_n(e^{u_n-1})}{e^{u_n-1}}$$

$$\Leftrightarrow \frac{u_n - u_n(e^{u_n-1})}{e^{u_n-1}}$$

$$\Leftrightarrow \frac{u_n(1 - e^{u_n-1})}{e^{u_n-1}}$$

Le dénominateur est toujours positif.

$$u_n \geq 0$$

Pour $(1 - e^{u_n-1})$:

$$0 \leq u_n \leq 1, \text{ donc } -1 \leq u_n - 1 \leq 0,$$

donc $e^{-1} \leq e^{u_n-1} \leq e^0$, donc

$$-e^{-1} \geq -e^{u_n-1} \geq -1, \text{ donc}$$

$$1 - e^{-1} \geq 1 - e^{u_n-1} \geq 0$$

Donc $u_{n+1} - u_n$ est positif
Donc u_n est croissante.

c) La suite U_n est croissante et majorée (pour 1), elle est donc convergente.
D'après la question 2, la limite peut valoir 0 ou 1. Or la suite est croissante donc elle ne peut pas être nulle. La limite est donc 1.

5) $U_1 = f(\alpha)$

Or, $\alpha > 1$, donc d'après la question 3) $f(\alpha) \in]0; 1[$, donc $U_1 \in [0; 1]$.

Comme $U_1 \in [0; 1]$, nous revenons à la question 4) où le premier terme était compris entre $[0; 1]$.
~~La suite converge donc de la même façon, et sa limite est également~~ $\lim_{n \rightarrow \infty} U_n = 1$.

6) On souhaite montrer que $U_n < 0$ pour tout entier naturel n .

Initialisation.

D'après l'énoncé, $\alpha < 0$ donc $P(0)$ est vraie.

Hérédité.

Supposons qu'il existe un entier n tel que $U_n \geq 0$.

Alors $f(U_n) \geq f(0)$
 Alors $U_{n+1} \leq f(0)$
 Alors $U_{n+1} \leq 0$
 Alors $P(n+1)$ est vraie.

Conclusion : Pour tout n , $U_n \geq 0$.

On souhaite maintenant montrer que la suite est décroissante.

$$U_{n+1} - U_n = \frac{U_n(1 - e^{U_n - 1})}{e^{U_n - 1}}$$

(développée à la question 4) b) .)

Le dénominateur est toujours positif.

Pour $(1 - e^{U_n - 1})$:

$$U_n < 0$$

$$\text{Donc } U_n - 1 < -1$$

$$\text{Donc } e^{U_n - 1} < e^{-1}$$

$$\text{Donc } -e^{U_n - 1} > -e^{-1}$$

$$\text{Donc } 1 - e^{U_n - 1} > 1 - e^{-1}$$

$$\text{Or } 1 - (1 - e^{-1}) = \frac{e-1}{e} \approx 0,63$$

$$\text{Donc } 1 - e^{U_n - 1} > 0$$

$$\text{Donc } U_n(1 - e^{U_n - 1}) < 0$$

$$\text{Donc } \frac{U_n(1 - e^{U_n - 1})}{e^{U_n - 1}} < 0$$

$$\text{Donc } U_{n+1} - U_n < 0$$

Donc U_n est décroissante.

Un très bon premier exercice !

7) La courbe est toujours strictement néoconvexe, et décroissante. Elle ne peut donc pas tendre vers 0, ni vers 1. Elle n'a donc pas de limite.

Une possibilité : -infini

Exercice 2

1) f' est dérivable car elle est l'inverse d'une somme de fonctions dériviales.

$$\left(\frac{u}{v}\right)' = \frac{u'v - uv'}{v^2}$$

$$u = 1$$

$$u' = 0$$

$$v = 1 + 10e^{-0,3t}$$

$$v' = -3e^{-0,3t}$$

$$f'(t) = \frac{-(-3e^{-0,3t})}{(1 + 10e^{-0,3t})^2}$$

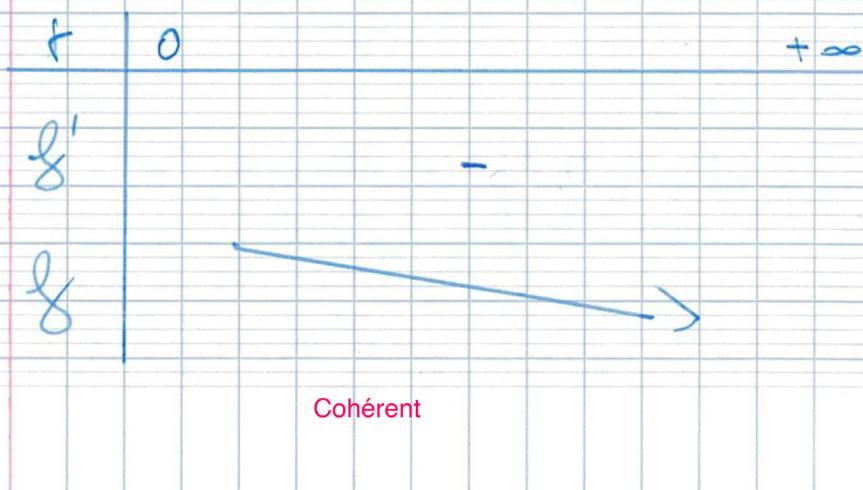
Etourderie

$$= \frac{+3e^{-0,3t}}{(1 + 10e^{-0,3t})^2}$$

X

2) La dérivée de f' est toujours positive.

$$e^{-0,3t} > 0$$
$$-3e^{-0,3t} < 0$$



7/9

Vous avez ici un moyen de contrôler les résultats de votre question précédente

Votre fonction passe de 0.09 à 1, pourtant vous la trouvez décroissante : il y a un problème

$$3) \lim_{t \rightarrow +\infty} 1 = 1$$

$$\lim_{t \rightarrow +\infty} e^{-0,3t} = 0$$

$$\lim_{t \rightarrow +\infty} 10e^{-0,3t} = 0$$

$$\lim_{t \rightarrow +\infty} 1 + 10e^{-0,3t} = 1$$

D'où $\lim_{t \rightarrow +\infty} g(t) = \frac{1}{1} = 1$

D'après ce qui suit, cette limite représente la proportion de foyers connectés après une infinité d'années. 100% des foyers le seront.

$$4) a) g(0) = \frac{1}{1 + 10e^{-0,3 \times 0}} = \frac{1}{11} \approx 0,09$$

9% des foyers étaient raccordés à la fibre en 2012.

b) $g(x)$ est dérivable sur $[0; +\infty[$, et est donc continue sur cet intervalle. De plus, elle est strictement décroissante sur $[0; +\infty[$.

Or $g(0) > 0,75 > \lim g(t)$.

D'où d'après le corollaire du théorème des valeurs intermédiaires, il existe un unique réel $t_0 \in [0; +\infty[$

tel que $f(t_0) = 0,75$. /

- c) À l'aide de la calculatrice,
 $11,3 < t_0 < 11,4$.

$11,4 \text{ années} = 11 \text{ années} + 4,8 \text{ mois}$.
Donc $t_0 \approx 11 \text{ ans et } 5 \text{ mois}$. /

- 5) Il faut atteindre 15 voix où proviennent
de 2012 pour atteindre *90% de
voix connectées. /

* et dépasser

Exercice 1.

Les résultats de la partie A peuvent être admis lors de la résolution de la partie B.

On considère la fonction f définie pour tout réel x par

$$f(x) = \frac{x}{e^{x-1}}$$

Partie A : étude de fonction

1) Justifier que la fonction f est dérivable sur \mathbb{R} . La fonction f est-elle continue sur \mathbb{R} ?

Les fonctions $x \mapsto x$ et $x \mapsto e^{x-1}$ sont dérivables sur \mathbb{R} . De plus, pour tout réel x , $e^{x-1} \neq 0$.

f est donc dérivable sur \mathbb{R} comme quotient de fonctions dérivables. Etant dérivable, elle est également continue.

2) Montrer que, pour tout réel x , $f'(x) = \frac{1-x}{e^{x-1}}$.

Pour tout réel x , on note $u(x) = x$ et $v(x) = e^{x-1}$. u et v sont dérivables sur \mathbb{R} et pour tout réel x , $u'(x) = 1$ et $v'(x) = e^{x-1}$. Ainsi, pour tout réel x

$$f'(x) = \frac{u'(x) \times v(x) - u(x) \times v'(x)}{(v(x))^2} = \frac{1 \times e^{x-1} - x e^{x-1}}{(e^{x-1})^2} = \frac{(1-x)e^{x-1}}{(e^{x-1})^2} = \frac{1-x}{e^{x-1}}$$

3) En déduire que la fonction f est strictement croissante sur $]-\infty; 1]$ puis strictement décroissante sur $[1; +\infty[$. Que vaut $\lim_{x \rightarrow \infty} f(x)$? En déduire que pour tout $x > 1$, $f(x) \in [0; 1]$.

Puisque pour tout réel x , $e^{x-1} > 0$, $f(x)$ est donc du signe de $1-x$. Ainsi, $1-x > 0$ sur $]-\infty; 1[$, f est donc strictement croissante sur $]-\infty; 1]$. Ensuite, $1-x < 0$ si $x > 1$. Ainsi, f est strictement décroissante sur $[1; +\infty[$.

Pour tout réel x , $f(x) = \frac{x}{e^{x-1}} = e^{-x} \times \frac{x}{e^x}$. Or, par croissance comparée, $\lim_{x \rightarrow \infty} \frac{e^x}{x} = +\infty$.

Ainsi, $\lim_{x \rightarrow \infty} \frac{x}{e^{x-1}} = 0$ et $\lim_{x \rightarrow \infty} f(x) = 0$. Or, f est décroissante sur $[1; +\infty[$.

Ainsi, si $x > 1$, on a $f(1) \geq f(x) \geq \lim_{x \rightarrow \infty} f(x)$, soit $1 \geq f(x) \geq 0$, c'est-à-dire $f(x) \in [0; 1]$.

Partie B : étude de suite

Soit a un réel. On considère la suite (u_n) définie par $u_0 = a$ et, pour tout entier naturel n , $u_{n+1} = f(u_n)$. On se propose d'étudier le comportement de la suite (u_n) en fonction du réel a .

1) On suppose que la suite (u_n) converge et on note l sa limite. Justifier que $f(l) = l$.

Puisque f est continue, on a forcément $f(l) = l$.

2) En déduire les valeurs possibles pour l

$$f(l) = l \iff \frac{l}{e^{l-1}} = l \iff l(1 - e^{1-l}) = 1 \iff l = 0 \text{ ou } l = 1$$

3) On suppose que $a = 0$. Calculer u_1 . Que peut-on en déduire sur la limite de la suite (u_n) dans ce cas ?
 $u_1 = \frac{0}{e^{-1}} = 0$. La suite (u_n) est constante égale à 0.

4) On suppose que $a \in]0;1]$

a) Montrer que, pour tout entier naturel n , $0 \leq u_n \leq 1$.

Pour tout entier naturel n , on note $P(n)$ la proposition $0 \leq u_n \leq 1$.

- On a supposé que $u_0 = a \in]0;1]$. Ainsi, $P(0)$ est vraie.
- Supposons qu'il existe un entier naturel n tel que $P(n)$ soit vraie. Ainsi, $0 \leq u_n \leq 1$. La fonction f étant strictement croissante sur $]0;1]$, on a alors $f(0) \leq f(u_n) \leq f(1)$, c'est-à-dire $0 \leq u_{n+1} \leq 1$. $P(n+1)$ est donc vraie.
- $P(0)$ est vraie et s'il existe un entier n tel que $P(n)$ est vraie, alors $P(n+1)$ l'est également. D'après le principe de récurrence, $P(n)$ est vraie pour tout entier naturel n .

b) Montrer que la suite (u_n) est croissante.

Pour tout entier naturel n ,

$$u_{n+1} - u_n = \frac{u_n}{e^{u_n-1}} - u_n = u_n \left(\frac{1}{e^{u_n-1}} - 1 \right)$$

Or, puisque $0 \leq u_n \leq 1$. On a $u_n - 1 \leq 0$ d'où $e^{u_n-1} \geq 1$. Ainsi, $\frac{1}{e^{u_n-1}} \geq 1$ par décroissance de la fonction inverse sur $]0;+\infty$. Finalement, $\frac{1}{e^{u_n-1}} - 1 \geq 0$. Finalement, $u_{n+1} - u_n \geq 0$. La suite (u_n) est donc croissante.

c) La suite (u_n) est-elle convergente ? Si oui, quelle est sa limite ?

La suite (u_n) est croissante et majorée, elle est donc convergente. Elle peut admettre comme limite 0 ou 1.

Or, $u_0 = a > 0$. Ainsi, pour tout entier naturel n , $u_n > a$, la limite ne peut donc pas être 0.

Ainsi, $\lim_{n \rightarrow \infty} u_n = 1$

5) On suppose que $a > 1$. Montrer que $u_1 \in [0;1]$. Que peut-on en déduire sur la convergence et la limite de (u_n) ?

On suppose que $a > 1$. Alors $u_1 = f(a) \in [0;1]$ d'après la question 4 de la partie A. On se retrouve alors dans le cas précédent : la limite de la suite (u_n) est donc 1.

6) On suppose que $a < 0$. Montrer que la suite (u_n) est décroissante. En déduire la limite de la suite (u_n) .

On suppose que $a < 0$. Pour tout entier naturel n , on note $P(n)$ la proposition $u_n < 0$

- On a supposé que $u_0 = a < 0$. Ainsi, $P(0)$ est vraie.
- Supposons qu'il existe un entier naturel n tel que $P(n)$ soit vraie. Ainsi, $u_n < 0$. D'après la question 3 de la partie A, f est croissante sur $]-\infty;0]$. Ainsi, puisque $u_n < 0$, $f(u_n) < f(0) = 0$. $P(n+1)$ est donc vraie.
- $P(0)$ est vraie et s'il existe un entier n tel que $P(n)$ est vraie, alors $P(n+1)$ l'est également. D'après le principe de récurrence, $P(n)$ est vraie pour tout entier naturel n .

Par ailleurs, pour tout entier naturel n ,

$$u_{n+1} - u_n = u_n \left(\frac{1}{e^{u_n-1}} - 1 \right)$$

D'une part, $u_n < 0$. Par ailleurs, $u_n - 1 < 0$ d'où $e^{u_n-1} < 1$ et $\frac{1}{e^{u_n-1}} > 1$, soit $\frac{1}{e^{u_n-1}} - 1 > 0$. Ainsi, pour tout entier naturel n , $u_{n+1} - u_n < 0$, (u_n) est donc décroissante. Elle peut converger vers une limite l ou tendre vers $-\infty$. Or, si elle converge, sa limite doit valoir 0 ou 1 d'après la question 2, ce qui n'est pas possible ici. Ainsi, $\lim_{n \rightarrow \infty} u_n = -\infty$

Exercice 2.

Soit f la fonction définie pour tout t positif par $f(t) = \frac{1}{1 + 10e^{-0.3t}}$

- 1) Montrer que la fonction f est dérivable sur $[0;+\infty[$ et que pour tout réel $t \geq 0$, $f'(x) = \frac{3e^{-0.3t}}{(1 + 10e^{-0.3t})^2}$

Pour tout $t > 0$, on pose $u(t) = 1 + 10e^{-0.3t}$. u est dérivable et ne s'annule pas sur $[0;+\infty[$. Ainsi, la fonction f est dérivable sur $[0;+\infty[$ et pour tout réel $t > 0$,

$$f'(t) = \frac{-u'(t)}{(u(t))^2} = \frac{-(0,3 \times 10e^{-0.3t})}{(1 + 10e^{-0.3t})^2} = \frac{3e^{-0.3t}}{(1 + 10e^{-0.3t})^2}$$

- 2) Quel est le sens de variation de la fonction f ?

Pour tout $t > 0$, $f(t) > 0$. La fonction f est strictement croissante.

- 3) Déterminer $\lim_{t \rightarrow \infty} f(t)$. Interpréter ce résultat dans le contexte de l'exercice.

Puisque $\lim_{t \rightarrow \infty} e^{-0.3t} = 0$, $\lim_{t \rightarrow \infty} f(t) = \frac{1}{1+0} = 1$

- 4) On suppose que la fonction f permet d'évaluer la proportion de foyers ayant accès à la fibre optique en l'an $2012 + t$, où t est exprimé en années.

a) Selon ce modèle, quelle proportion de foyers était raccordée à la fibre en 2012 ?

f est croissante : de plus en plus de foyers sont raccordés à la fibre. Sa limite en $+\infty$ vaut 1 ce qui signifie qu'à terme, tous les foyers seront raccordés à la fibre.

Selon ce modèle, la proportion de foyers était raccordée à la fibre en 2012 est $f(0) = \frac{1}{11}$

b) Montrer qu'il existe un unique temps t_0 tel que $f(t_0) = 0.75$.

La fonction f est continue (car dérivable) strictement croissante sur $[0;+\infty[$.

De plus, $f(0) = \frac{1}{11} < 0,75$ et $\lim_{x \rightarrow \infty} = 1 > 0,75$

D'après le théorème des valeurs intermédiaires appliqué aux fonctions strictement monotones, il existe un unique temps $t_0 \in [0;+\infty[$ tel que $f(t_0) = 0.75$.

c) Donner une valeur approchée de t_0 , exprimée en années et mois.

$f(t_0) = 0.75$ pour $t \approx 11.34$ soit environ 11 ans et 4 mois.

- 5) On utilise l'algorithme suivant. En entrant seuil(0,9), le programme renvoie la valeur 15. Interpréter cette réponse dans le contexte de l'exercice.

```
1 from math import exp
2
3 def f(t):
4     return 1/(1+10*exp(-0.3*t))
5
6 def seuil(p):
7     t=0
8     val=f(t)
9     while val<p:
10        t=t+1
11        val=f(t)
12    return t
```

Cela signifie qu'il faut attendre 15 ans pour que 90% des foyers soient équipés avec la fibre.



Nom de l'élève :
Prénom de l'élève :
Classe de référence de l'élève : 1G
Professeur : Madame DA COSTA MOREIRA



Anglais LVA - Identités et échanges - Première
Devoir n°1

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Document 1 – Why is globalization under attack?

Free trade and globalization seem to be under siege from a broad and loud range of opponents. For decades, there has been a strong consensus that globalization brought more jobs, higher wages and lower prices - not just for richer countries but also for developing and poorer nations. But many people, including politicians, are now voicing their anger as they see jobs being taken by machines, old industries disappearing and waves of migration disturbing the established order. You don't have to look far to see the effect of those concerns in recent events.

The Brexit referendum was dominated by concerns over immigration, the rise of Donald Trump has brought back the rhetoric of protectionism in the US and there have been mass protests in Europe over prospective international trade deals. What is behind this backlash and what can be done to address this crisis of globalization? The US presidential election has felt like the epicentre of the rising tide of disquiet against free trade and globalization. Donald Trump has accused China of wanting to "starve" the US population by manipulating their currency and "cheating" on international trade. We talk about free trade. It's not free trade; it's stupid trade. China dumps everything that they have over here." He said, US Republican presidential candidate He has said he will impose massive tariffs on Chinese goods because it was economically "raping" the US. Hillary Clinton has found herself surrounded by political challengers questioning the benefits of international trade and globalization. Bernie Sanders, Clinton's opponent in the race for the Democratic nomination, defined his campaign by arguing that globalization had hollowed¹ out the US middle class. Clinton's response has been to tack² towards the concerns expressed by Sanders and Trump, reneging³ on her previous support of TTIP (the Transatlantic Trade and Investment Partnership) - the trade agreement between the US and Europe.

Arguments over the decline of manufacturing in the United States have powered a lot of the heat of the 2016 US electoral cycle. The sense of grievance is clear - the manufacturing sector in the US has seen six million jobs disappear between 1999 and 2011, according to the Bureau of Labour Statistics. Studies have shown that the decline in the US has been mirrored by gains in China. Chinese imports explain 44% of the decline in employment in manufacturing in the US between 1990 and 2007, according to a report by the Institute for the Study of Labour in Bonn. Part of that decline has been down to the outsourcing of jobs to other countries [...]. The problem in the US is that we don't do much to help those people who lose out through social security support or job retraining," says Mr Hufbauer. Technological and economic change has hit specific geographical areas that have then found it hard to develop new industries and create jobs. The anger that flows from this has found a home in the protectionist rhetoric of politicians like Donald Trump. "There has been no growth in household income during the last decade in Europe, the US and Japan. People are not happy and if you have to blame someone, it is easy to blame foreigners", says Mr Hufbauer.

By Mark, Broad Economics reporter, BBC News, 6 October 2016

¹ détruire

² changer de politique et de position brusquement

³ revenir sur sa parole

Document 2 – Modern humans have created many thousands of distinct cultures.

So what will it mean if globalization turns us into one giant, homogenous world culture?

Stroll into your local Starbucks and you will find yourself part of a cultural experiment on a scale never seen before on this planet. In less than half a century, the coffee chain has grown from a single outlet in Seattle to nearly 20,000 shops in around 60 countries. Each year, its near-identical stores serve cups of near-identical coffee in near identical cups to hundreds of thousands of people. For the first time in history, your morning cappuccino is the same no matter whether you are sipping it in Tokyo, New York, Bangkok or Buenos Aires. Of course, it is not just Starbucks. Select any global brand from Coca Cola to Facebook and the chances are you will see or feel their presence in most countries around the world. It is easy to see this homogenization in terms of loss of diversity, identity or the westernization of society. But the rapid pace of change also raises the more interesting question of why – over our relatively short history – humans have had so many distinct cultures in the first place. And, if diversity is a part of our psychological make-up, how we will fare⁴ in a world that is increasingly bringing together people from different cultural backgrounds and traditions? [...]

Eventually several chiefdoms would come together in nascent city-states such as Catal-Huyuk in present-day Turkey or Jericho in the Palestinian West-Bank, both around 10,000 years old. City-states gave way to nations states, and eventually to collections of states such as the United Kingdom or the United States, and even in our modern world to collections of nations such as seen in the European Union. At each step formerly competing entities discovered that cooperation could return better outcomes than endless cycles of betrayal and revenge. This is not to say that cooperation is easy, or that it is never subject to reversals. Just look at the outpouring of cultural diversity that sprang up with the collapse of the Soviet Union. [...]

But two factors looming on the horizon are likely to slow the rate at which cultural unification will happen. One is resources, the other is demography. Cooperation has worked throughout history because large collections of people have been able to use resources more effectively and provide greater prosperity and protection than smaller groups. But that could change as resources become scarce⁵. This must be one of the most pressing social questions we can ask because if people begin to think they have reached what we might call ‘peak standard of living’ then they will naturally become more self-interested as the returns from cooperation begin to leak away. After all, why cooperate when there are no spoils to divide? Related to this, the dominant demographic trend of the next century will be the movement of people from poorer to richer regions of the world. Diverse people will be brought together who have little common cultural identity of the sort that historically has prompted our cultural nepotism, and this will happen at rates that exceed those at which they can be culturally integrated.

At first, I believe, these factors will cause people to pull back from whatever level of cultural ‘scaling’ they have achieved to the previous level. An example is the nations of the European Union squabbling over national versus EU rights and privileges. A more troubling example might be the rise of nationalist groups and political parties, such as Marine le Pen’s Front National in France, or similar far right groups in Britain and several European nations. [...] Against this backdrop⁶ the seemingly unstoppable and ever accelerating cultural homogenization around the world brought about by travel, the internet and social networking, although often decried, is probably a good thing even if it means the loss of cultural diversity: it increases our sense of togetherness via the sense of a shared culture. In fact, breaking down of cultural barriers – unfashionable as this can sound – is probably one of the few things that societies can do to increase harmony among ever more heterogeneous peoples.

So, to my mind, there is little doubt that the next century is going to be a time of great uncertainty and upheaval as resources, money and space become ever more scarce. It is going to be a bumpy road with many setbacks and conflicts. But if there was ever a species that could tackle these challenges it is our own. It might be surprising, but our genes, in the form of our capacity for culture, have created in us a machine capable of greater cooperation, inventiveness and common good than any other on Earth. And of course, it means you can always find a cappuccino just the way you like it no matter where we wake up. *Media and Child*

By Mark Pagel, bbc.com 18th November 2014

⁴ progress

⁵ rare

⁶ context

Document 3 – Does globalization mean we will become one culture?



www.bbc.com

Exercice 1. Compréhension de l'écrit.

Document 1

- A. What are the arguments of globalization's supporters?
- B. Why are politicians expressing their exasperation at globalization?
- C. Give two examples which show the great industrial countries concerns about the consequences of globalization?
- D. What are the measures Trump promised to take against China when he was a candidate for the presidency? Say why and support your answer with a quote.
- E. Do Clinton and her opponent in the race for the Democratic nomination, Bernie Sanders, have the same opinion on globalization as Trump. Justify with quotes.
- F. What has pushed the writer to say that the American manufacturing has declined? Justify your answer with a quote.
- G. Focus on the last paragraph and which of the following statements is true or false. Justify your answers with quotes.
- The other cause of manufacturing decline is the recruitment of workers in other countries.
 - The supporters of protectionism argue that climate change is responsible for incomes' stagnation in Europe, USA and Japan.

Document 2

H. What are the words or expressions used by the writer to refer to globalization (three)?

I. Say whether the following statement is true or false. Justify your answer with a quote.

“The formation of the European Union is motivated by the pursuit of economic growth.”

J. According to the writer there are two factors which can curb cultural integration process, what are they? Justify by quotes.

K. Read paragraph four and explain in your own words the following statement “these factors will cause people to pull back from whatever level of cultural ‘scaling’ they have achieved to the previous level.”

L. Is the writer optimistic about the future? Justify your answer with a quote.

Document 3

M. Using elements from the picture, say whether food globalization means the disappearance of differences and diversity.

Exercice 2. Expression écrite (vous choisirez de traiter l'un des deux sujets suivants – 200 / 250 mots).

- Write a short essay about how did globalization appear.
- Do you think that globalization affects our life, by giving examples, write an essay on how globalization is experienced in our everyday life.

13.5/20 Some good things but some questions and some elements in the text weren't fully understood. Don't hesitate to spend more time on the documents. Your essay part is unfortunately extremely short - as you move forward in your study more and more importance will be given to that part of your evaluations, you need to involve yourself more. Keep up your efforts Daphné! I'm sure you can do even better :)

Evaluation n°1

11 octobre 2022

Anglais LVA

Identités et échanges

Exercice 1 - document 1.

- a. The arguments of globalization's supporters are that globalization brought more jobs, higher wages and lower prices. / 1/1
- b. Politicians are expressing their exasperation at globalization because they think that it had hollowed out the US middle class. Donald Trump think that other countries (China) are manipulating their currency and cheating. 0.5/1

More generally speaking - machines reduced job opportunities, old industries have disappeared and migration has increased

- c. "jobs taken by machines" "waves of migration disturbing the established order." 0/2

You misunderstood the question: what examples of actions taken by these countries show this concern ? In the text, two examples fit : Brexit, and Trump's call for protectionism

- d. Trump said "he will impose massive tariffs on Chinese goods" when he was a candidate for the presidency because he thought it was economically "raping the US. 2/2

Yes

- e. Clinton and her opponent don't have the same opinion as D.T. "Trump accused China of wanting to "starve" the US population" and "Bernie Sanders [...] defined his campaign by arguing that globalizat° had hollowed out the US middle class." They are both against. 0.5/2

Yes they do. Your quote from Sanders illustrates the same opinion on globalization as Trump -> it's detrimental (although he might not identify the same causes). Clinton didn't use to agree but the text tells us that she has "switched towards the concerns expressed" which means she now agrees.

A lot of jobs disappeared so that's what pushed the writer to say that. and the increase in Chinese imports 1/2

True -> "that decline has been down to the outsourcing of jobs to other countries"

g. o False. "The manufacturing sector [...] has seen 6 millions jobs disappear" X

o False. "There has been no growth in household income during the last decade [...]" / 1/2

Document 2 -

h. The words or expressions used by the writer to refer to globalization are: "Homogenization", " and

" loss of diversity and westernization

0.5/1.5

i. False. It's motivated by the cooperation. "Formerly competing entities discovered that cooperation could return better outcomes [...]"

Cooperation is the tool, economic growth is the goal. 0/2

j. According to the writer, the 2 factors which can curb cultural integration process are: the resources and demography.

"Resources become scarce", "the movement of people from poorer to richer regions of the world." Good 2/2

K. 0/2

l.. Yes, even though he say that the next century will be full of conflicts and setback, he has hope because for him "our genes have created in us a machine capable of greater cooperation, inventiveness and common good than any other on Earth". Yes 1/1

2

Suite de l'évaluation

Document 3 -

M. I think that globalization means the disappearance of differences and diversity. Fast food (for example Mc Donald) was created in America but nowadays, you can find that fast food in every countries of the world, and in almost every city. It's the same thing for asian food, even though the best asian food you can find is in Asia; there are ^{more} restaurant everywhere.

2/3

Asian

But does it mean local cultures disappear?

Exercice 2 - EE - sujet 1. 2/6.5

Globalization appear^{ed} thanks to colonization. There was a global trade between Great Britain and its colonies.

A lot of jobs were created and a commercial exchange had begun. At first, it was only food but later, newspaper, book (...etc) were transported to other countries by ships.

This is very short - an introduction at best. You were supposed to write an essay of at least 200 words. It's a shame!



Exercice 1. Compréhension de l'écrit.

- A. What are the arguments of globalization's supporters? **Globalization brought more jobs, higher wages and lower prices.**
- B. Why are politicians expressing their exasperation at globalization? **They have noticed that job opportunities are reduced because of the use of machines, the old industries no longer exist and the increase of migration threatens the established order.**
- C. Give two examples which show the great industrial countries concerns about the consequences of globalization? **Brexit referendum and Donald Trump's call for protectionism.**
- D. What are the measures Trump promised to take against China when he was a candidate for the presidency? Say why and support your answer with a quote. **Trump promised to impose massive tariffs on Chinese products. Because he considered that China was trying to impoverish and causing damages to the American people. "Donald Trump has accused China of wanting to "starve" the US population by manipulating their currency and "cheating" on international trade"**
- E. Do Clinton and her opponent in the race for the Democratic nomination, Bernie Sanders, have the same opinion on globalization as Trump. Justify with quotes. **Yes, they do. "Bernie Sanders, [...] defined his campaign by arguing that globalization had hollowed out the US middle class. Clinton's response has been to tack² towards the concerns expressed by Sanders and Trump"**
- F. What has pushed the writer to say that the American manufacturing has declined? Justify your answer with a quote. **Two factors pushed the writer to consider that the American manufacturing has declined, first the increase in the Chinese imports second, the abolition of 6 million posts in manufacturing that is a decrease in employment.**
- G. Focus on the last paragraph and which of the following statements is true or false. Justify your answers with quotes.
- The other cause of manufacturing decline is the recruitment of workers in other countries. **True "Part of that decline has been down to the outsourcing of jobs to other countries"**
 - The supporters of protectionism argue that climate change is responsible for incomes' stagnation in Europe, USA and Japan. **False. "There has been no growth in household income during the last decade in Europe, the US and Japan. People are not happy and if you have to blame someone, it is easy to blame foreigners"**
- H. What are the words or expressions used the writer to refer to globalization (three)? **Homogenization, loss of diversity, westernization.**
- I. Say whether the following statement is true or false. Justify your answer with a quote.
"The formation of the European Union is motivated by the pursuit of economic growth."
True. " [...] cooperation could return better outcomes [...]"
- J. According to the writer there are two factors which can curb cultural integration process, what are they? Justify by quotes. **The first fact is that resources are becoming rare and the second is the change of rich countries demography because of the multicultural migration from the poor countries.**
"[...] as resources become scarce [...] " the dominant demographic trend of the next century will be the movement of people from poorer to richer regions of the world. [...] who have little common cultural identity"

K. Read paragraph four and explain in your own words the following statement “these factors will cause people to pull back from whatever level of cultural ‘scaling’ they have achieved to the previous level.” “**The writer means that the rarity of the resources and the change in demography because of foreign migration led to the emergence of a nationalist ideology which calls to the rejection of cultural diversity, to the attachment to the national culture and to protect it from homogeneity.**

L. Is the writer optimistic about the future? Justify your answer with a quote. **Yes, the writer is optimistic. “our genes [...] have created in us a machine capable of greater cooperation, [...] And of course, it means you can always find a cappuccino just the way you like it no matter where we wake up.**

M. Using elements from the picture, say whether food globalization means the disappearance of differences and diversity. **The photograph shows different examples of food globalization. The presence of Burger King restaurant in Russia, a Mac Donald's in a Gulf country or in Japan and a Starbucks in China means that people all over the world adopted the same food culture. But this photograph shows also that globalization could not erase local cultures as we can see in the centre of the photograph. The Arab man chooses to eat American food and at the same wears his traditional clothes which means that Globalization, despite its power, cannot completely erase local culture.**

Exercice 2. Expression écrite (vous choisirez de traiter l'un des deux sujets suivants – 200 / 250 mots).

- Write a short essay about how did globalization appear.

Most of us think that globalization is a recent phenomenon that emerged with the last digital revolution. In fact, it appeared long before the creation of internet and social media.

Globalization is born with the first commercial exchange outside the local market. The Chinese were the pioneer of globalization since the first century when they were selling their products on Rome's markets. Later, other populations were motivated to leave their local markets and seek neighbourhood or faraway markets. It was the case of the inhabitants of the Arab Peninsula in the seventh century who opened new commerce routes going up to Spain.

Globalization evolved as long as new markets were opening and other countries decided to export their products and import other regions' products. The best example is that of Great Britain which built its great empire primarily to find new markets for its goods. However, the Industrial Revolution and the modernization of means of transport and communication have facilitated movements of persons and goods. Hence, globalization of trade led to the globalization of culture, knowledge and ideologies. This leads us to say that, from its inception globalization have been in constant development.

So, even if globalization is not a new phenomenon, there is no doubt that we cannot stop its evolution. What we can do is to understand this evolution and contain its effects.

- Do you think that globalization affects our life, by giving examples, write an essay on how globalization is experienced in our everyday life.

When we eat the same hamburger as an American or a Japanese that means that we are part of globalization. It is almost impossible to live without having to deal at least with one aspect of globalization. In this short essay, I will show how has globalization affected our daily life.

Broad access to products from all over the world is the first tangible manifestation of globalization. From the morning, I start by stopping the alarm of the cell phone produced in China. After a shower, I wear a tee-shirt and a pair of shoes manufactured in Indonesia. And before taking my German car to get to work, I use my Italian coffee machine to make a cup of coffee from the African plantations. Once in my office, I have to read my emails, of course, thanks to the internet. Thus, in a few hours, I have used and consumed goods from almost the four corners of the world.

However, globalization is not limited to what we wear or we eat, it is also related to what we see and hear. The globalization of mass media turned the world into a small village in which all the inhabitants are aware of what is happening in the most remote parts of the globe. These are the same media which inform us about the increasing pollution caused by the factories built here and there. They also report news about wars that are being launched to gain control of valuable resources.

Finally, it is clear that Globalization is inevitable because it affects our quality of life. Throughout the day we are confronted with it and with its consequences: what we eat, what we wear or what we hear and see, nonetheless, it is important to have a serious debate on our future and that of the coming generations with a globalization that never ends to interfere in our life.