Travail Estival Promo 2024/25

ETE 2024

TSI Lycée Rouvière

Français Lettres Philosophie

Le programme de Lettres-philosophie des classes préparatoires scientifiques session 2025-2026 a pour thème « **Individu et communauté** ». Les quatre œuvres à l'étude sont :

Eschyle, **Les sept contre Thèbes, Les Suppliantes** in **Tragédies complètes**, préface de Pierre Vidal-Naquet, traduction de Paul, Gallimard, Folio Classique, ISBN 978-2070373642.

Spinoza, **Traité théologico-politique**, préface et chapitres XVI à XX, présentation et dossier sur « individu et communauté » de Maxime Rovere, traduction de Charles Appuhn, GF n° 1672.

Wharton (Edith), **Le Temps de l'innocence**, traduction de Madeleine Taillandier, édition de Diane de Margerie et Virginia Ricard ; dossier sur le thème « Individu et communauté », GF n°1671.

Durant les vacances d'été, les étudiants devront se procurer ces quatre ouvrages **– impérativement dans les éditions prescrites s'ils ne sont pas déjà en leur possession (en prenant soin de vérifier les numéros de collection) –**, puis les lire, prendre des notes et prélever dans chacun d'eux des citations dans la perspective du thème afin de se constituer un répertoire. Il est aussi recommandé d'étudier les dossiers sur le thème « individu et communauté » dans les deux éditions GF (Spinoza et Wharton).

La lecture de certains ouvrages mentionnés ci-dessous est **facultative** et laissée au choix de l'étudiant, elle permet d'enrichir la réflexion sur le thème à l'étude. Les titres portant un astérisque se révèlent plus immédiatement mobilisables pour l'étude du thème.

- Aristophane, *Lysistrata* (-411).
- Camus (Albert), *La Peste* (1947).
- Collin (Thibaud), *Individu et communauté, une crise sans issue ?* (2007).
- Dufour (Dany-Robert), *L'individu qui vient…après le libéralisme* (2015).
- Hayek (Friedrich), *La Constitution de la liberté* (1960).
- Gori (Roland), *L'individu ingouvernable* (2017).
- La Boétie (Étienne de), *Discours de la servitude volontaire* (1576).
- Lafayette, *La Princesse de Montpensier* (1662) ; *La Princesse de Clèves* (1678).

- Le Bon (Gustave), *Psychologie des foules** (1895).
- Rougemont (Denis de), *L'amour et l'Occident* * (1939).
- Rousseau (Jean-Jacques), *Du contrat social** (1762).
- Shakespeare, *Roméo et Juliette* (1597).
- Tocqueville (Alexis de), *De la démocratie en Amérique** (1840).

D'autre part, le visionnage de certaines œuvres cinématographiques serait susceptible de compléter votre préparation, ces dernières sont classées par ordre de pertinence :

- Chatiliez (Etienne), *La vie est un long fleuve tranquille*, 1988.
- Fincher (David), *Fight Club*, 1999.
- Gansel (Dennis), *La Vague*, 2009.
- Kubrick (Stanley), *Barry Lindon*, 1975.
- Lee (Ang), *Raison et Sentiments*, d'après le roman de Jane Austen (1811), 1995.
- Niccol (Andrew), *Bienvenue à Gattaca*, 1997.
- Risi (Dino), *Le Fanfaron*, 1963,
- Ross (Matt), *Captain Fantastic*, 2016.
- Scola (Ettore), *Nous nous sommes tant aimés*, 1974.
- Scorcese (Martin), *Le Temps de l'innocence*, 1993, incontournable à visionner de préférence après la lecture de l'œuvre (laquelle demeure obligatoire).
- Weir (Peter), *Le cercle des poètes disparus*, 1989.

Anglais

TSI1 ENGLISH: WORK TO BE COMPLETED FOR 03/09/24

INTERNATIONAL PHONETIC ALPHABET: PHONEMES OF ENGLISH

1 ɪ	2 iː	3 ʊ	4 uː	5 ɪə	6 eɪ	7 e
big	*week*	*look*	*room*	*idea*	*face*	*then*
8 ə	9 ɜː	10 ɔː	11 ɔɪ	12 əʊ	13 æ	14 ʌ
photographer	*work*	*door*	*employ*	*go*	*that*	*up*
15 ɑː	16 ɒ	17 eə	18 aɪ	19 aʊ	20 kə'mjuːnɪˌkeɪʃən ○ ○ ○	
far	*stop*	*share*	*reply*	*now*	*(primary & secondary stress)*	
21 p	22 b	23 t	24 d	25 ʧ	26 ʤ	27 h
appear	*ban*	*term*	*adapt*	*church*	*judge*	*help*
28 k	29 g	30 f	31 v	32 θ	33 ð	34 l
concern	*govern*	*infer*	*involve*	*thug*	*that*	*link*
35 s	36 z	37 ʃ	38 ʒ	39 m	40 n	41 ŋ
sound	*because*	*share*	*usual*	*amazed*	*known*	*ring*
42 r	43 'aɪðəʳ ɔːʳ				44 w	45 j
raise	*either or (vowel liaison)*				*wonder*	*yellow*

I. GRAMMAR

VERB GROUPS Revise the constructions and properties of the Simple Present and Preterit (affirmative, negative & interrogative forms).

NOUN GROUPS Revise the use of articles **a/an**, **Ø**, **the**, and the position and organisation of adjectives.

II. PHONOLOGY

Memorise the symbols used to transcribe the sounds of the English language (see the chart "The Phonemes of English", adapted from the International Phonetic Alphabet, on the previous page). The exercises below will provide a support to help you achieve this. To check the pronunciation of words, and to establish precisely the link between the symbols and the sounds they transcribe, you can consult, for example, wordreference.com.

1. Reading phonetic transcriptions.

Using standard transcription, write down the following words:

- ˈtaɪtəl .....
- ˈpʌblɪʃt .....
- ˈrɪtən .....
- ˈteɪkən .....
- ɪnˈtaɪtəld .....
- dɪəlz .....
- ˈfəʊkəsɪz .....
- ˈɔːθəʳ .....
- ˈɑːgjuː .....
- rɪˈfɜːʳ .....

2. Writing phonetic transcriptions.

Write down the following words using phonetic symbols:

- article .....
- highlight .....
- British .....

- American .....
- current .....
- magazine .....
- journalist .....
- extent.....
- underlines .....
- describe .....

III. CURRENT AFFAIRS

Over the summer period, read the press regularly using reliable sources such as The Guardian, The New York Times, The Washington Post and The Economist. Select five significant articles from different themes (social, political, scientific, technological and economic), provide the titles, sources and dates of publication, and explain succinctly the main ideas dealt with in each.

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2. .....
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4. .....
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5. .....
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IV. WRITTEN COMPREHENSION & LANGUAGE WORK

Complete the tasks related to the document below.

Is New York's supersize soda ban a civil rights issue?

By Jon Kelly BBC News Magazine, Washington DC 26th January 2013

When Martin Luther King told crowds of idealistic demonstrators he had a dream, it's unlikely that the right to sell soft beverages
greater than 16oz (0.5 liter) was part of his vision. But his heirs in the US minority civil rights movement have taken up opposition to a ban on supersize sodas as their latest crusade.

New York City Mayor Michael Bloomberg has called for the ban as a way to reduce obesity and its related health problems. The ban, which was passed in September 2012, will apply to sugary beverages larger than 16oz (0.5 liter). Diet sodas, alcoholic beverages and drinks that are more than 70% juice will not be affected. Restaurants and others that violate the law face a $200 (£124) fine. But the ban is being challenged in court by a coalition of bodies including the New York State wing of the National Association for the Advancement of Colored People (NAACP), best known for its battles against segregation and discrimination.

Also supporting the action is the Hispanic Federation, a network of 100 Latino organizations. Both groups say the ban will disproportionately affect soda sales in bodegas, or independent convenience stores, which are mostly owned and run by minorities. Supermarkets and many convenience store chains such as 7-Eleven - home of a supersize beverage known as the “Big Gulp” - are not subject to city health regulations.

Hazel N Dukes, president of the NAACP New York State Conference, said the movement's protest was about "basic economic fairness". "The new rules will mean small mom-and-pop stores in the city, which are disproportionately owned and operated by people of color, must comply with the law and suffer the financial consequences," she said. "Meanwhile, national chains like 7-Eleven, which can handle the financial loss, are exempt. You can't be serious about banning big sodas when you have a loophole for Big Gulps."

It appears the ban will disproportionately affect minority consumers, too. According to the Centers for Disease Control and Prevention, African-Americans have the highest rates of obesity in the US at 44.1%. Mexican Americans have the second-highest with 39.3%. A New York Times poll in August suggested that seven in 10 black New Yorkers and about 60% of Hispanics said they usually drank regular non-diet sodas. By contrast, fewer than 40% of whites said the same.

City officials say New York's obesity rate is rising, having reached 24% of adults, up from 18% in 2002. Obesity-related illnesses in New York cost more than $4.7bn (£3bn) a year to treat, with government programs picking up about 60% of the cost, according to city Health Commissioner Thomas Farley.

"No one doubts that obesity, diabetes, and heart disease exert a disproportionate toll on African-Americans, Latinos, and low-income Americans generally," says Michael F Jacobson, executive director of the Center for Science in the Public Interest. "Any group seeking to end health disparities should make reducing soda consumption a top priority."

The minorities opposing the ban appear to have public opinion on their side. The New York Times poll suggested that 60% of New Yorkers were against the measure.

But the authorities say they are determined to press ahead. During Bloomberg's 11-year time in charge of New York, chain restaurants have been compelled to post calorie counts on their menus and bar artificial transfats from French fries and other food. Now we must wait for the great soda battle to be decided in the court.

I. Peripheral Information

1) Scan the text and identify "African American and Hispanic groups".

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II. First paragraph

True or false? Justify by quoting the text.

2) Martin Luther King suggested banning the sale of sodas bigger than 0.5 litres.

T / F →

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III. Second paragraph

3) Find synonyms in the text for the following words:

- connected: ..... – was voted: .....

- section: .....

4) Who asked for this ban?

.....

5) In your own words, explain the motivation behind the ban:

.....

.....

.....

6) Complete this grid:

BEVERAGES AFFECTED BY THE BAN	BEVERAGES NOT AFFECTED BY THE BAN	SANCTION FOR IGNORING THE BAN

IV. Third paragraph

7) Match these synonyms: complete the central column using the terms on the right.

supporting disproportionately bodega run affected by rules		managed regulations small shop subject to more than average in favour of

True or false? Justify by quoting the text.

8) The majority of small shops in NYC belong to ethnic minorities.

T / F →

.....

V. Fourth paragraph

True or false? Justify by quoting the text.

9) The ban applies to national chain supermarkets.

T / F →

.....

10) Find synonyms in the text for the following words or phrases:

- equality: ..... - obey: .....
- at the same time: ..... - survive: .....
- an exception: .....

VI. Fifth & sixth paragraphs

11) Identify the sources for the statistics:

.....

.....

.....

VII. Seventh paragraph

12) "Any group seeking to end health disparities should make reducing soda consumption a top priority."

What language function is Mr. Jacobson expressing? Justify your answer.

.....

.....

VIII. Last paragraph

13) Find synonyms in the text for the following words or phrases:

- to continue despite opposition: ..... - to exclude: ..... - forced to: .....

14) Compare the last sentence and the first paragraph. What can you conclude about the journalist's point of view? Quote words from the text to justify your answer.

.....

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SCIENCES

Dans les différentes matières scientifiques toutes les notions seront reprises du début (comme par exemple en mathématiques : les complexes, les équations différentielles etc.). Mais par contre nous irons plus vite qu'au lycée… Le but de ces vacances est donc d'arriver avec le moins de lacunes possibles. Il est donc conseillé de retravailler les chapitres avec lesquels vous avez eu du mal au lycée pour pouvoir poser les bonnes questions lorsqu'ils seront revus (avec un rythme plus intensif) en prépa afin d'espérer les maitriser cette fois-ci.

Au niveau des connaissances « par cœur » :

- **Le formulaire de trigonométrie** : il sera de toute façon à apprendre peu de temps après la rentrée donc connaître ses formules en rentrant en prépa vous sera utile.
- **Le formulaire de dérivée des fonctions** : il est vivement conseillé de faire une fiche pour chacune des fonctions de référence ($f(x) = \frac{1}{x}, f(x) = x^2, f(x) = x^3, f(x) = \cos(x), f(x) = \sin(x), f(x) = \tan(x), f(x) = e^x, f(x) = e^{-x}, f(x) = \ln(x), f(x) = \sqrt{x}$) sur laquelle sera marqué le nom de la fonction, sa dérivée, sa courbe, ses éventuelles valeurs ou limites remarquables).

Mais le plus important à nos yeux est de ne pas perdre la main sur les calculs pendant les grandes vacances. C'est pourquoi nous conseillons fortement de se remettre aux calculs 15 jours avant la rentrée avec des exercices parmi les suivants (tirés du site https://prepa-ect.alexgelin.fr).

Exercice 1 (⋆) – Simplifier les expressions suivantes.

$A = 1 - x + (2x - 3)$
$B = -(1 - x) - 1 + x$
$C = 2x - 1 - (2x + 1)$
$D = (1 - x) - (x - 1)$

Exercice 2 (⋆) – Simplifier au maximum les fractions suivantes.

$A = \dfrac{12}{16}$ | $B = \dfrac{-165}{180}$ | $C = \dfrac{12x^2}{3x^3}$ | $D = \dfrac{(x+1)(x-1)}{2(x+1)}$

Exercice 3 (⋆) – Écrire les nombres suivants sous la forme d'une fraction irréductible.

$A = \dfrac{1}{4} - \dfrac{2}{5}$ | $B = \dfrac{\frac{1}{4}}{\frac{3}{16}}$ | $C = \dfrac{1}{2x} \times \dfrac{2}{3}$ | $D = \dfrac{1}{x} - \dfrac{1}{x+1}$

Exercice 4 (⋆⋆) – Écrire ces nombres sous la forme d'un entier ou d'une fraction irréductible.

$A = \dfrac{1}{2} - \dfrac{1}{3} + \dfrac{1}{4}$
$B = 2 - \dfrac{13}{7} + \left(1 + \dfrac{5}{2}\right)$
$C = \left(\dfrac{2}{3} - \dfrac{3}{4}\right) + 3\left(\dfrac{4}{5} - \dfrac{5}{6}\right)$
$D = \left(\dfrac{1}{2} + \dfrac{5}{3}\right) \times \left(3 + \dfrac{7}{4}\right) \div \left(\dfrac{1}{2} - \dfrac{5}{6}\right)$
$E = \dfrac{\frac{2}{3} + \frac{3}{4} - \frac{4}{5} \times \frac{3}{4}}{\frac{2}{5} \times \frac{4}{3} + \frac{1}{3}}$

Exercice 5 (⋆⋆) – Simplifier les nombres et expressions suivants.

$A = 3^2 \times 3^{-4} \times 3^7 \times 3$
$B = \dfrac{2 \times 2^2 \times 2^3}{2^4 \times 2^5}$
$C = \left(2 \times 3^2 \times 3^3\right)^4$
$D = \dfrac{2^3 \times 5^4 \times 7^3}{5^3 \times 7^2 \times 2}$
$E = 81^5 \times \left(3^{-2}\right)^{-5} \times \dfrac{1}{9}$
$F = \dfrac{4^{-2} \times 8^3}{16^3}$
$G = \dfrac{9^3 \times 27^2 \times 75}{5^2 \times 3^4}$
$H = \left(\dfrac{2}{3}\right)^{11} \times \left(\dfrac{3}{2}\right)^{10}$
$I = \left(a^3\right)^2 \times a^{-4}$
$J = a^2 b^{-3} (ab)^4$

Exercice 6 (⋆) – Écrire les nombres suivants sous la forme $a\sqrt{b}$, avec a et b entiers et b étant le plus petit possible.

$A = \sqrt{48}$ | $B = \sqrt{24}$ | $C = \sqrt{250}$ | $D = \sqrt{45}$

Exercice 10 (⋆⋆) – Développer, réduire et ordonner les expressions suivantes.

$A(x) = 4(2x + 5) + (x - 3)(5x - 7)$
$B(x) = (2x - 3)^2 - (4x + 1)(x - 3)$
$C(x) = (x - 3)(x + 5) - (-3x + 2)(x - 5)$
$D(x) = (x - 1)^2 - (2x + 1)(2x - 1)$

Exercice 11 (⋆⋆) – Factoriser au maximum les expressions données.

$A(x) = 15x - 12$
$B(x) = 5x - 5$
$C(x) = 6x^2 + 10x$
$D(x) = (3x + 2)(4x - 1) + (3x + 2)(-6x + 8)$
$E(x) = (3x - 4)^2 - (2x - 5)(3x - 4)$
$F(x) = (2x - 3)^2 - (2x - 3)$

Exercice 2 (⋆) – Résoudre les équations suivantes.

1. $x-9=-4$
2. $-x+5=12$
3. $3x=-24$
4. $3.7x=0$
5. $\frac{1}{4}x=16$
6. $5x-9=3x+4$
7. $x-\frac{2}{3}=\frac{3}{4}$
8. $\frac{3x}{4}=\frac{2}{3}$
9. $\frac{4}{5}x+4=-\frac{2}{3}$

Exercice 3 (⋆⋆) – Développer chaque membre puis résoudre les équations obtenues.

1. $4x-5(3-2x)=4-(2x-7)$
2. $9x-3(4-3x)=2-\big(35-3(4-2x)\big)$
3. $7-3(4-2x)-5\big(2-3(x-5)\big)=4-3(x-4)$
4. $4(x-2)-3\big(6-2(3-4x)\big)+3(7-2x)=0$

Exercice 7 (⋆⋆) – Résoudre les inéquations suivantes.

1. $x^2-2x+1>0$
2. $-3x^2+5x-2\leqslant 0$
3. $x^2-4x-4\geqslant 0$
4. $-2x^2+5x\leqslant 2$
5. $3x^2\geqslant 2x-1$
6. $x(2x-5)\geqslant x-6$
7. $\frac{-x^2}{3}+\frac{x}{3}\leqslant -1$
8. $4x^2-2x+14>3x^2+4x+5$
9. $4(x-1)>x(3x-4)$

Exercice 19 (⋆⋆⋆) – Résoudre les équations suivantes.

1. $\frac{7}{x+1}=\frac{2}{x}$
2. $\frac{x+1}{x+2}+\frac{3}{x-2}=\frac{4}{x^2-4}$
3. $\frac{-2x-1}{x+1}=\frac{2x-3}{1-x}$
4. $\frac{3}{x}=\frac{x-1}{x+1}$
5. $2x=\frac{3x-5}{x-2}$
6. $\frac{3}{x}+\frac{4}{x^2}=\frac{1}{4}$

Exercice 1 (⋆⋆) – Calculer les dérivées des fonctions suivantes (sans donner de justification concernant l'existence de cette dérivée).

1. $a(x)=8x^3+4x^2-12x+5$
2. $b(x)=\big(2x^2+x-2\big)(3x+2)$
3. $c(x)=\dfrac{1}{3x-2}$
4. $d(x)=\sqrt{3x^2-x-1}$
5. $e(x)=\dfrac{2x^2+x-2}{3x+2}$
6. $f(x)=\big(x^2+1\big)\times\dfrac{1}{x}$
7. $g(x)=x\sqrt{x}+x$
8. $h(x)=\big(\sqrt{x}+1\big)^2$
9. $i(x)=\left(\dfrac{x+1}{x-1}\right)^2$
10. $j(x)=\big(2x^2-4x+3\big)^7$