For each of the questions below, only one of the proposed answers is true. You must choose the right answer without justification.

Questions	**Answers**
1. Among the following propositions, which one allows to affirm that the exponential function admits for asymptote the equation line $y = 0$?	☐ $\lim\limits_{x\to+\infty} \mathrm{e}^x = +\infty$ ☐ $\lim\limits_{x\to-\infty} \mathrm{e}^x = 0$ ☐ $\lim\limits_{x\to+\infty} \dfrac{\mathrm{e}^x}{x} = +\infty$
2. Among the following propositions, which is the one that allows to affirm that the inequation $\ln(2x+1) \geqslant \ln(x+3)$ admits the interval $\left[2\ ;\ +\infty\right[$ as a set of solution?	☐ the ln function is positive on $\left[1\ ;\ +\infty\right[$ ☐ $\lim\limits_{x\to+\infty} \ln x = +\infty$ ☐ the ln function is increasing on $\left]0\ ;\ +\infty\right[$
3. Among the following propositions, which one allows us to assert that a primitive of the function f defined on $\mathbb{R}$ by $x \mapsto (x+1)\mathrm{e}^x$ is the function $g\ :\ x\ \mapsto\ x\,\mathrm{e}^x$?	☐ for all real x, $f'(x) = g(x)$ ☐ for all real x, $g'(x) = f(x)$ ☐ for all real x, $g(x) = f'(x) + k$, k some kind of real
4. The equation $2\mathrm{e}^{2x} - 3\mathrm{e}^x + 1 = 0$ admits for set solution	☐ $\left\{\dfrac{1}{2}\ ;\ 1\right\}$ ☐ $\left\{0\ ;\ \ln\dfrac{1}{2}\right\}$ ☐ $\left\{0\ ;\ \ln 2\right\}$
5. For all $n \in \mathbb{N}$	☐ $\lim\limits_{x\to+\infty} \dfrac{\mathrm{e}^x}{x^n} = 1$ ☐ $\lim\limits_{x\to+\infty} \dfrac{\mathrm{e}^x}{x^n} = +\infty$ ☐ $\lim\limits_{x\to+\infty} \dfrac{\mathrm{e}^x}{x^n} = 0$
6. Let f be the function set to $\left]0\ ;\ +\infty\right[$ par $f(x) = 2\ln x - 3x + 4$. In a benchmark, an equation of the tangent to the curve representing f at abscissa point 1 is :	☐ $y = -x + 2$ ☐ $y = x + 2$ ☐ $y = -x - 2$
7. The mean value over $\left[1;3\right]$ of the f function defined by : $f(x) = x^2 + 2x$ is:	☐ $\dfrac{50}{3}$ *Continued on the next page...*

Questions	Answers
	☐ $\frac{25}{3}$ ☐ 6
8. $\exp(\ln x) = x$ for any x belonging to	☐ $\mathbb{R}$ ☐ $]0\ ;\ +\infty[$ ☐ $[0\ ;\ +\infty[$
9. Let f be the function set to $]0\ ;\ +\infty[$ per $f(x) = 2\ln x - 3x + 4$. In a benchmark, an equation of the tangent to the curve representing f at abscissa point 1 is :	☐ $y = -x + 2$ ☐ $y = x + 2$ ☐ $y = -x - 2$
10. The mean value over $[1; 3]$ of the f function defined by : $f(x) = x^2 + 2x$ is:	☐ $\frac{50}{3}$ ☐ $\frac{25}{3}$ ☐ 6
11. $\exp(\ln x) = x$ for any x belonging to	☐ $\mathbb{R}$ ☐ $]0\ ;\ +\infty[$ ☐ $[0\ ;\ +\infty[$