

Subject 26**FUNCTIONS**

Please do not write on this exam paper and give it back at the end of the test

This is a MCQ (multiple-choice question paper)

For each of the following questions, only one answer is correct.

Find the right one and justify your choice.

Let f be a function. Its definition and derivative set is $] -\infty ; 1[\cup]1 ; +\infty[$ and its variation table is the following one:

x	$-\infty$	1	3	$+\infty$
Variations of f				

1. The equation $f(x) = 2$

Has no solution	Has exactly one solution	Has exactly two solutions	Has exactly three solutions	Has more than three solutions
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2. For every real a , the equation $f(x) = a$

Has no solution	Has at least one solution	Has exactly one solution
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3. For every real $a < 0$, the equation $f(x) = a$

Has no solution	Has at least one solution	Has exactly one solution
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4. The curve of the function f

Has no horizontal asymptote	Has one horizontal asymptote	Has two horizontal asymptotes
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5. The equation $f'(x) = 0$ has at least one solution

True	false	We cannot conclude
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6. For every real $a > 3$

$f'(x) \leq 0$	$f'(x) \geq 0$	We cannot conclude
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