

**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
-----------------	--------------------------	---------------------------	-----------------------------	-------------------------------

2. For every real  $a$ , the equation  $f(x) = a$

Has no solution	Has at least one solution	Has exactly one solution
-----------------	---------------------------	--------------------------

3. For every real  $a < 0$ , the equation  $f(x) = a$

Has no solution	Has at least one solution	Has exactly one solution
-----------------	---------------------------	--------------------------

4. The curve of the function  $f$

Has no horizontal asymptote	Has one horizontal asymptote	Has two horizontal asymptotes
-----------------------------	------------------------------	-------------------------------

5. The equation  $f'(x) = 0$  has at least one solution

True	false	We cannot conclude
------	-------	--------------------

6. For every real  $a > 3$

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