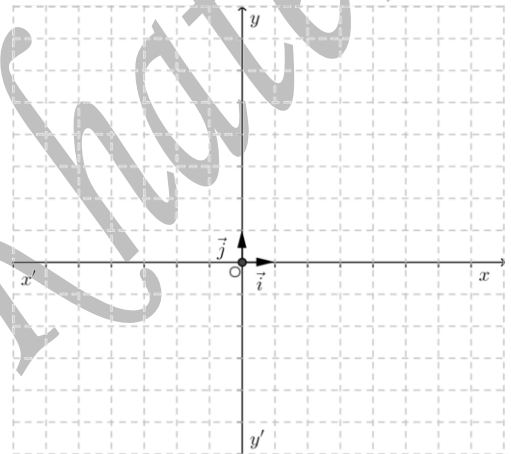


I- Consider in an orthonormal system of axes (O, \vec{i}, \vec{j}) the numerical function f defined by:
 $x \longrightarrow 3x$ and its representative curve C_f in \mathbb{R} .

a. Trace C_f .

b. Pick up the convenient properties of the function f and justify each:

- ✓ f is an even function.
- ✓ C_f is symmetric with respect to origin.
- ✓ f is defined over \mathbb{R} .
- ✓ f is a quadratic function.
- ✓ f is a linear function.
- ✓ f is constant.
- ✓ f is increasing.



c. Use C_f to complete the following table:

$x = \alpha$	-3	-2	0	1	2	3	5
$f(\alpha)$							

d. Find algebraically:

i. $f(10), f(30)$ & $f(10^7)$

.....

ii. $f(-10), f(-50)$ & $f(-2500)$

.....

e. How do you describe the behavior of $f(x)$ as x approaches (tends) to a very big number?

.....

f. How do you describe the behavior of $f(x)$ as x approaches (tends) to a very small number?

.....

g. Calculate the numerical value of $f(x)$ as x tends (goes to) 5.

.....

The above statement can be presented as:

$$\lim_{x \rightarrow 5} f(x) = \lim_{x \rightarrow 5} (3x)$$