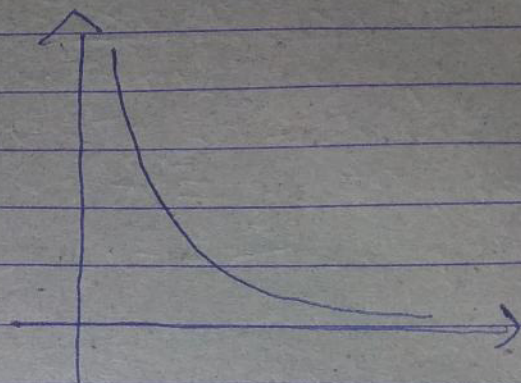


Strictly Decreasing Function $\Rightarrow$ Any function $y = f(x)$ is called strictly decreasing if $x_1 < x_2$ then $f(x_1) > f(x_2)$

$$f(x) = e^x$$



Find interval for increasing and decreasing if any function $y = f(x)$ is diff in (a, b)

- 1) $f(x)$ will be increasing if $f'(x) \geq 0$
- 2) $f(x)$ will be increasing if $f'(x) > 0$
- 3) $f(x)$ will be ~~increasing~~ decreasing if $f'(x) \leq 0$
- 4) $f(x)$ will be strictly decreasing if $f'(x) < 0$

Note - If any function is strictly increasing or strictly decreasing then it will be one-one in this interval.

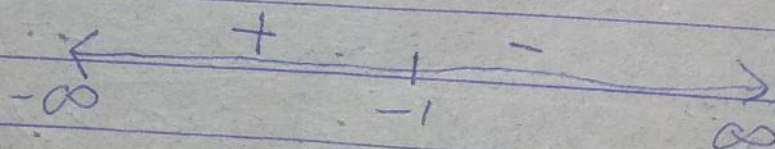
Ex-1 $f(x) = (-x^2 - 2x + 15)$
 $f'(x) = (-2x - 2)$

Now.

$$f'(x) = 0$$

$$-2x - 2 = 0$$

$$x = -1$$



Increasing

$$f'(x) \geq 0$$

$$-2x - 2 \geq 0$$

Decreasing

$$f'(x) \leq 0$$

$$-2x - 2 \leq 0$$