$y^{I}$ is the slope

$y = \frac{x^2}{x-3}$ , $x \neq 3$

$y = \frac{x^2-9+9}{x-3}$

$y = \frac{x^2-9}{x-3} + \frac{9}{x-3} \Rightarrow y = x + 3 + \frac{9}{x-3}$

$y^{I} = 1 + \frac{0-1.9}{(x-3)^2}$

$y^{I} = 0 \Rightarrow y^{I} = 1 - \frac{9}{(x-3)^2} = 0$

$y = \frac{x^2}{x-3} < 0$

$x - 3 < 0$

$x < 3$

when $x - 3 > 0$

$\frac{x^2}{x-3} \geq 12$

$x^2 \geq 12\,(x - 3)$

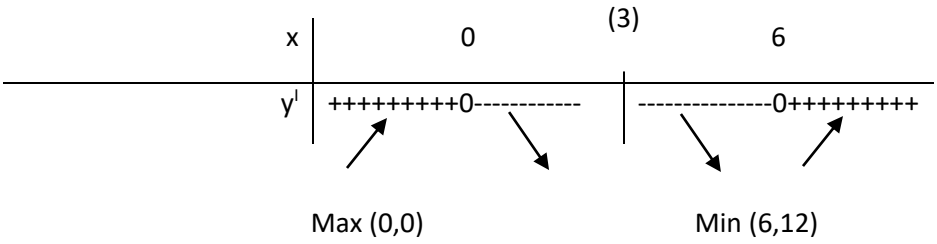
$x^2 - 12x + 36 \geq 0$

$(x - 6)^2 \geq 0$

$(x - 3)^2 = 9 \Rightarrow x - 3 = \pm 3$

X = 0 x = 6

(0,0) (6,12)




Max (0,0) Min (6,12)