

Найдите наибольшее значение функции  $y = \frac{x^2 + 25}{x}$  на отрезке  $[-10; -1]$ .

-10

Handwritten solution steps:

$$y = \frac{x^2 + 25}{x} \quad [-10; -1]$$

$$f'(y) = \frac{(x^2 + 25)' \cdot x - (x^2 + 25) \cdot 1}{x^2}$$

$$= \frac{2x^2 - (x^2 + 25)}{x^2} = \frac{x^2 - 25}{x^2} = \frac{(x-5)(x+5)}{x^2}$$

$$= 1 - \frac{25}{x^2}$$

Sign chart for  $y'$ :

$y'$	+	-	
$x$	-10	-5	-1

Arrows indicate the sign change: from positive to negative at  $x = -5$ .

-5 наиб.знач  
 $y(-5) = (25+25)/-5 = -10$