

Функции  $y = x^{-n}$

$(n \in \mathbb{N}),$

их свойства и

графики

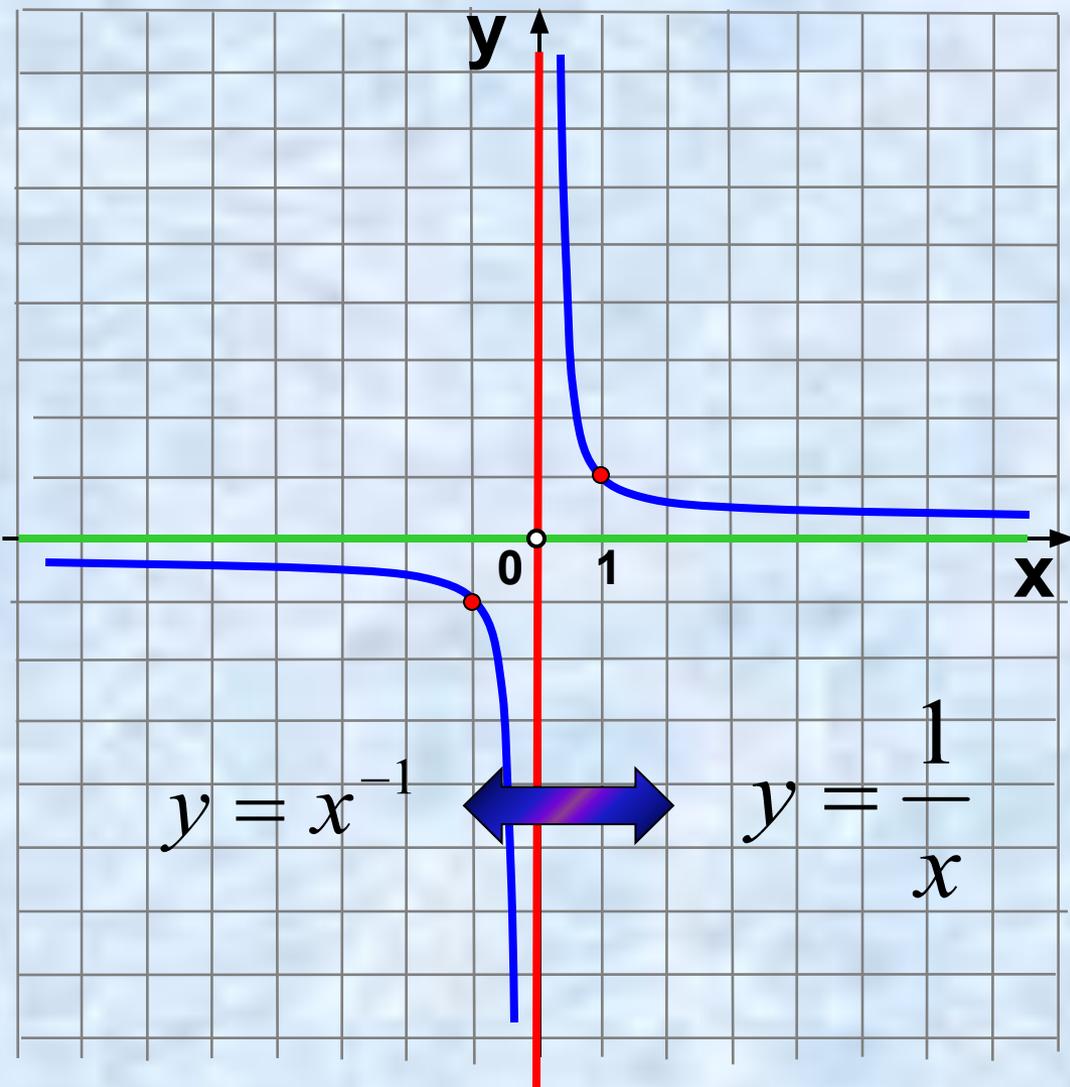
# Определение

Функции  $y = x^{-n}$   
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$$y = x^{-3}, \quad y = x^{-5}, \quad y = x^{-7}, \quad y = x^{-9}, \quad \dots$$



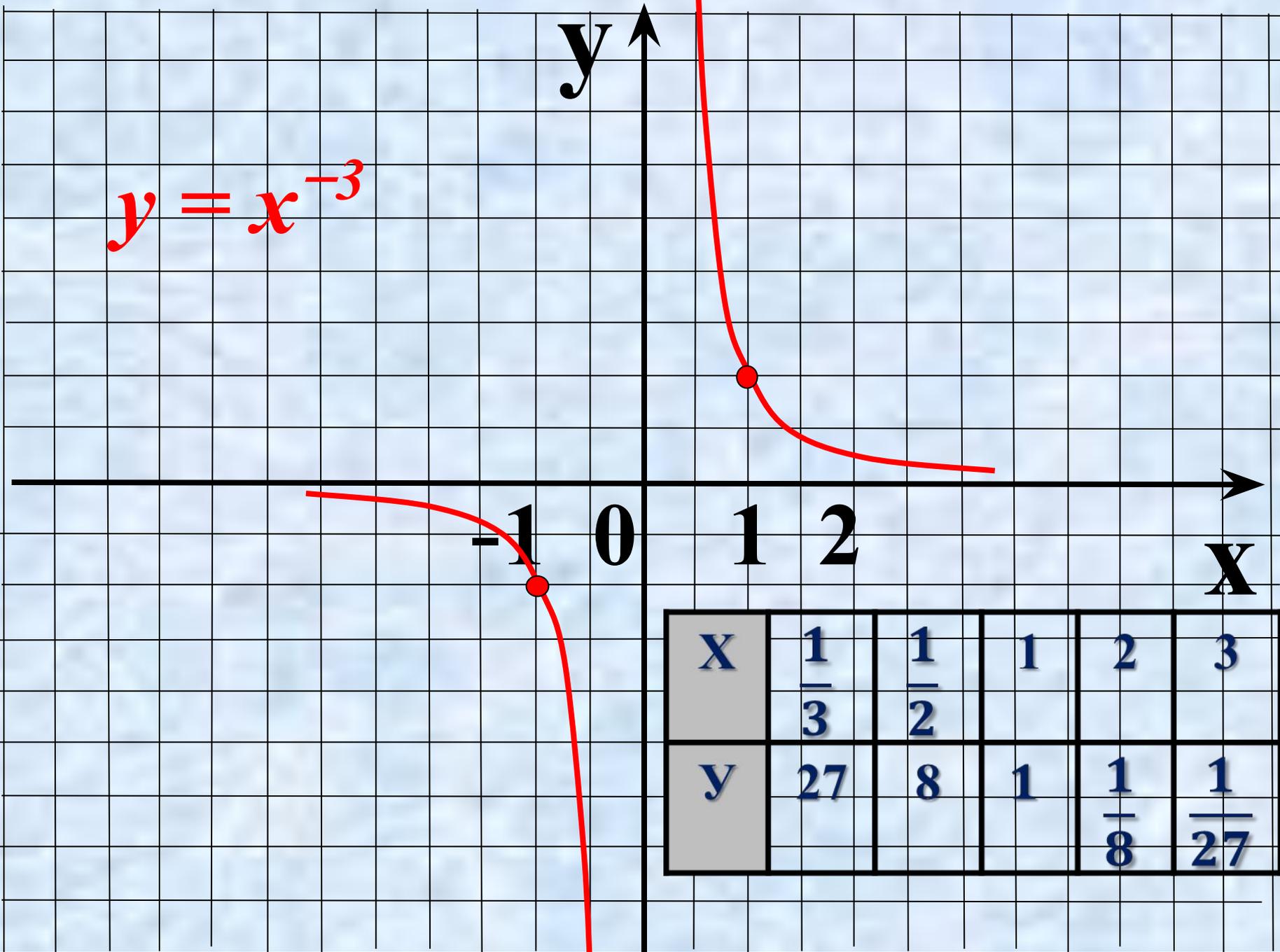
Функция  $y = x^{-(2n-1)}$   
нечетная

$$E(y) : y \neq 0$$

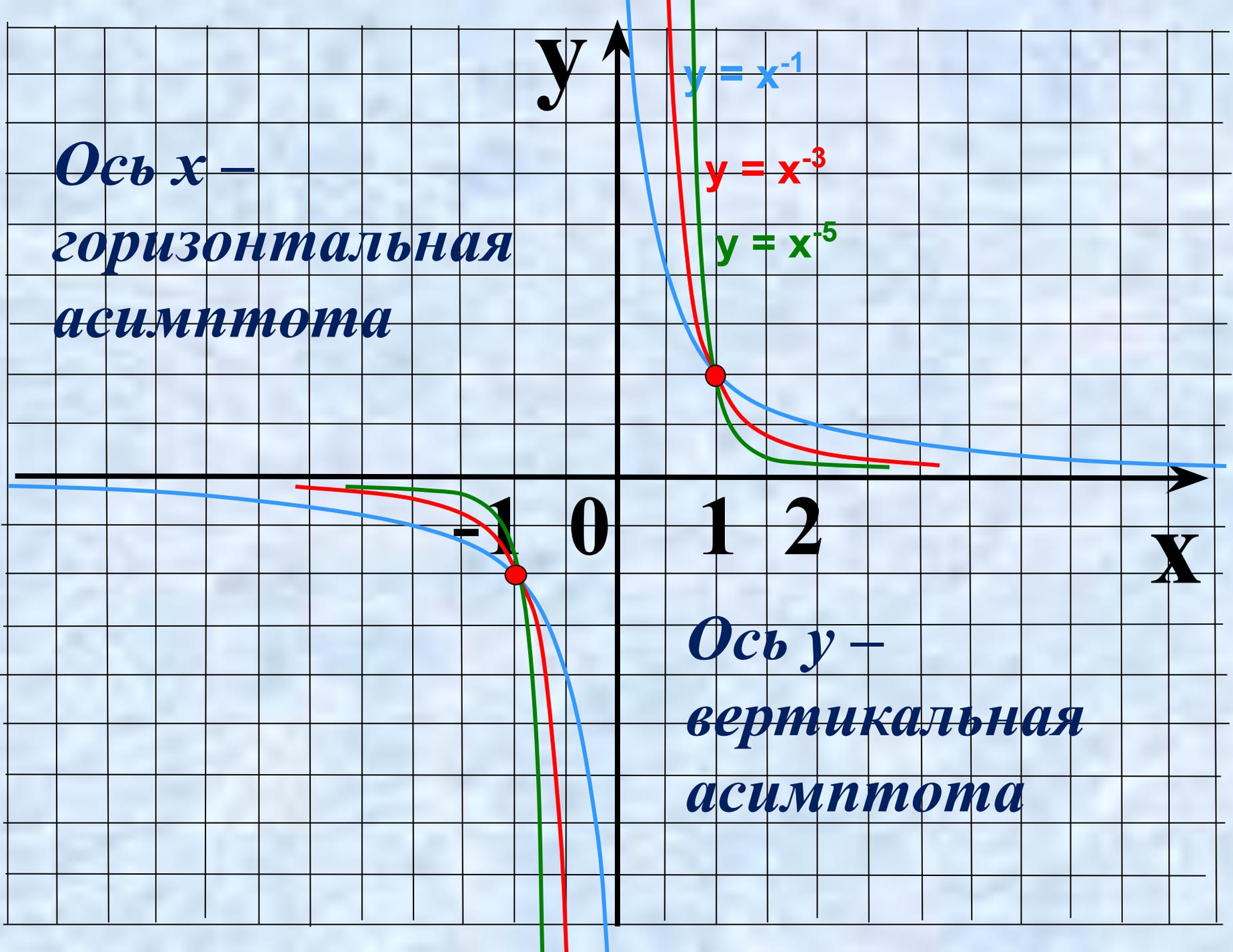
$$D(y) : x \neq 0$$

Убывает при  $x \in$   
 $(-\infty; 0) \cup (0; +\infty)$

$$y = x^{-3}$$

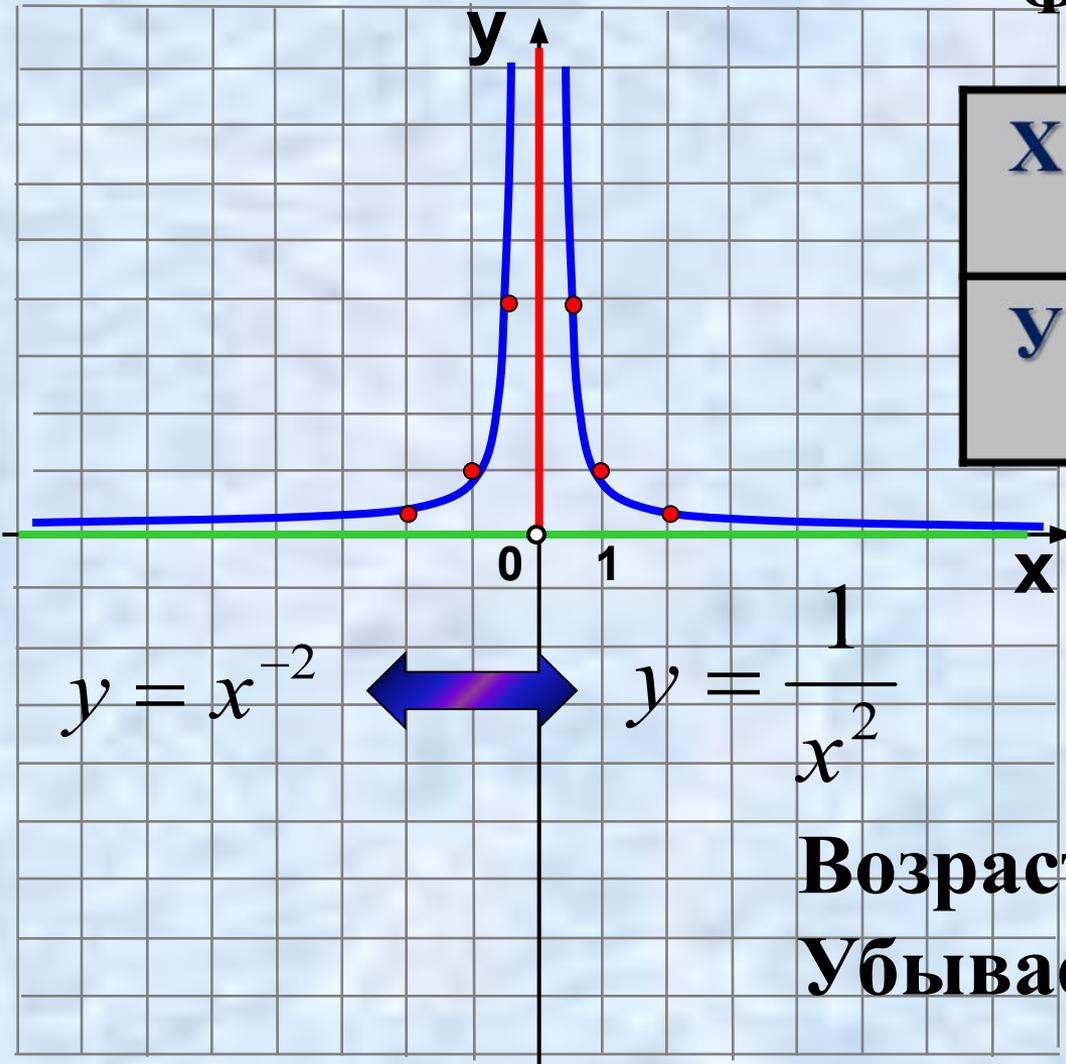


<b>x</b>	<b><math>\frac{1}{3}</math></b>	<b><math>\frac{1}{2}</math></b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>y</b>	<b>27</b>	<b>8</b>	<b>1</b>	<b><math>\frac{1}{8}</math></b>	<b><math>\frac{1}{27}</math></b>



$$y = x^{-2}, y = x^{-4}, y = x^{-6}, y = x^{-8}, \dots$$

Функция  $y = x^{2n}$  четная,



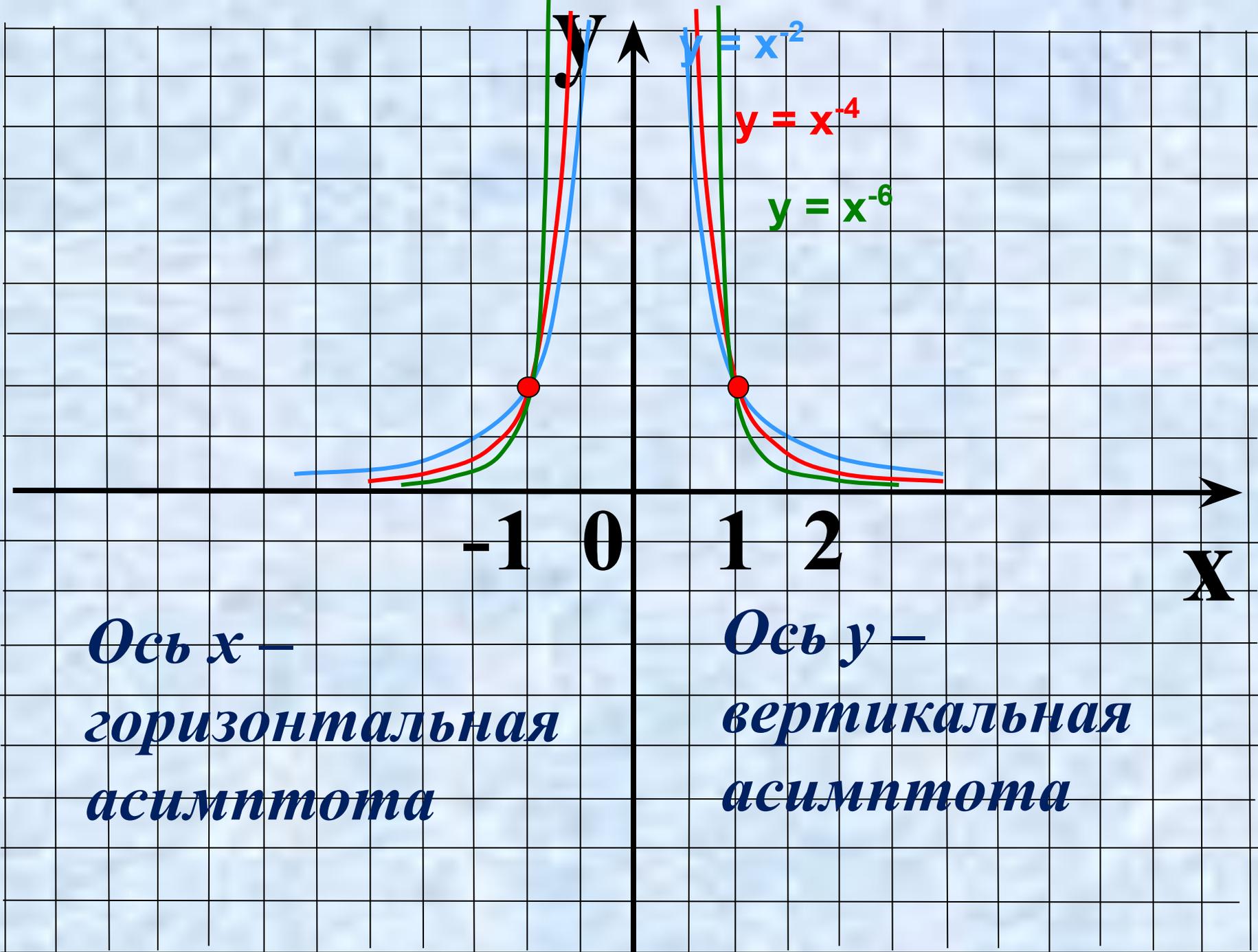
<b>X</b>	$\frac{1}{3}$	$\frac{1}{2}$	1	2	3
<b>y</b>	9	4	1	$\frac{1}{4}$	$\frac{1}{9}$

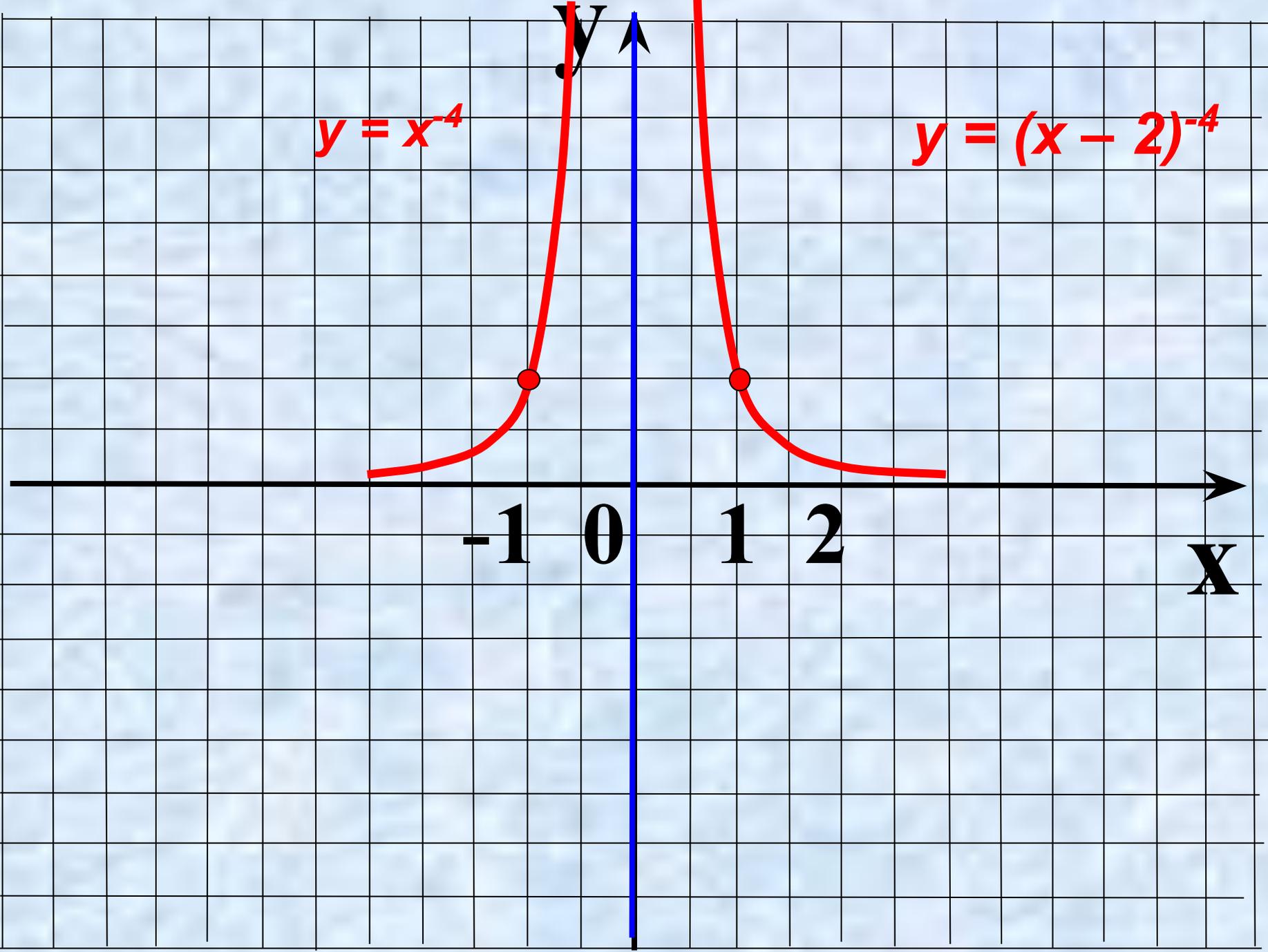
$$D(y) : x \neq 0$$

$$E(y) : y > 0$$

**Возрастает при  $x \in (-\infty; 0)$**

**Убывает при  $x \in (0; +\infty)$**





$$y = x^{-4}$$

$$y = (x - 2)^{-4}$$

-1

0

1

2

x

y

$$y = x^{-4}$$

$$y = x^{-4} - 3$$

-1

0

1

2

x

y

$$y = x^{-4}$$

$$y = (x+1)^{-4} - 3$$

-1

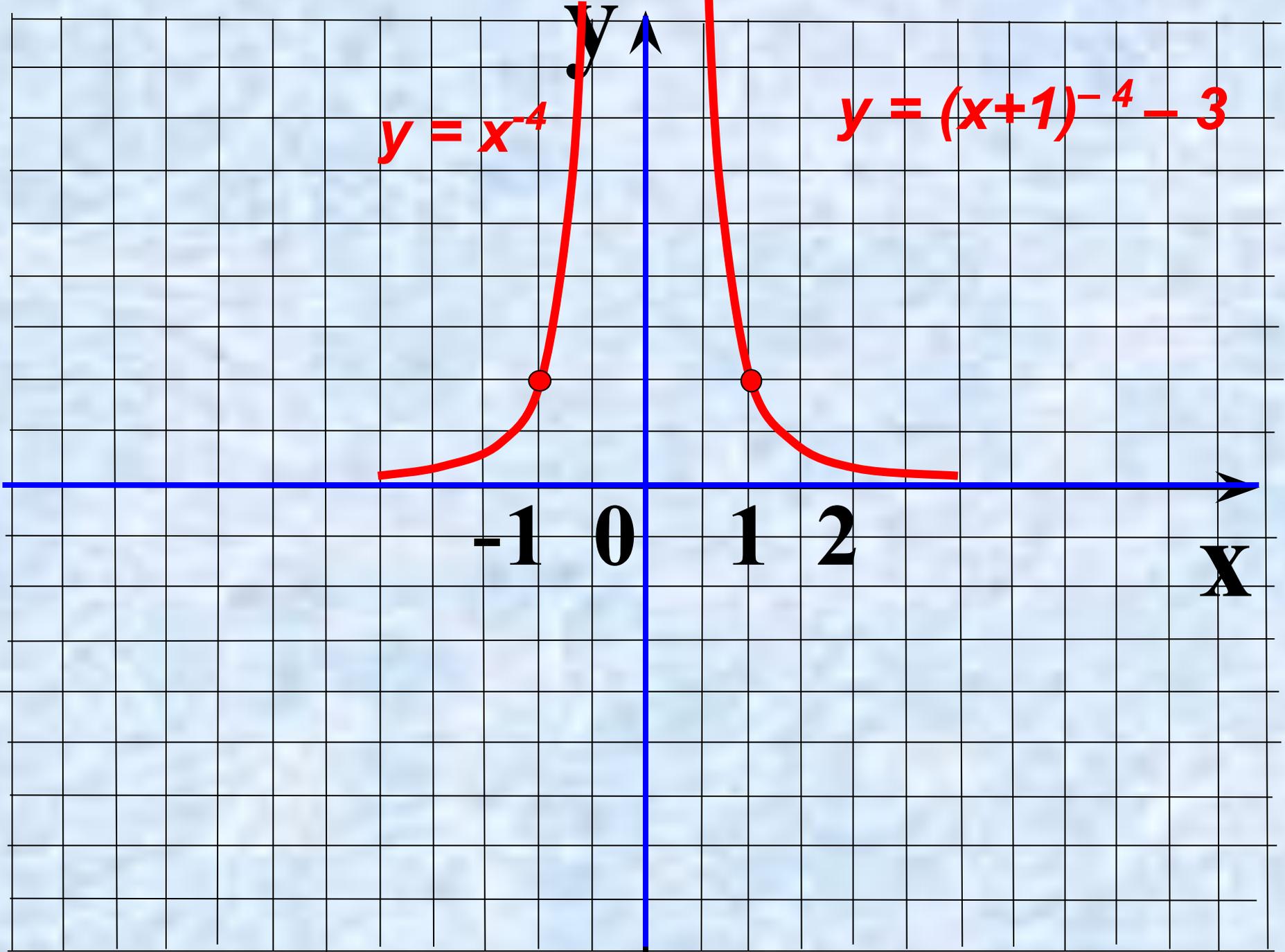
0

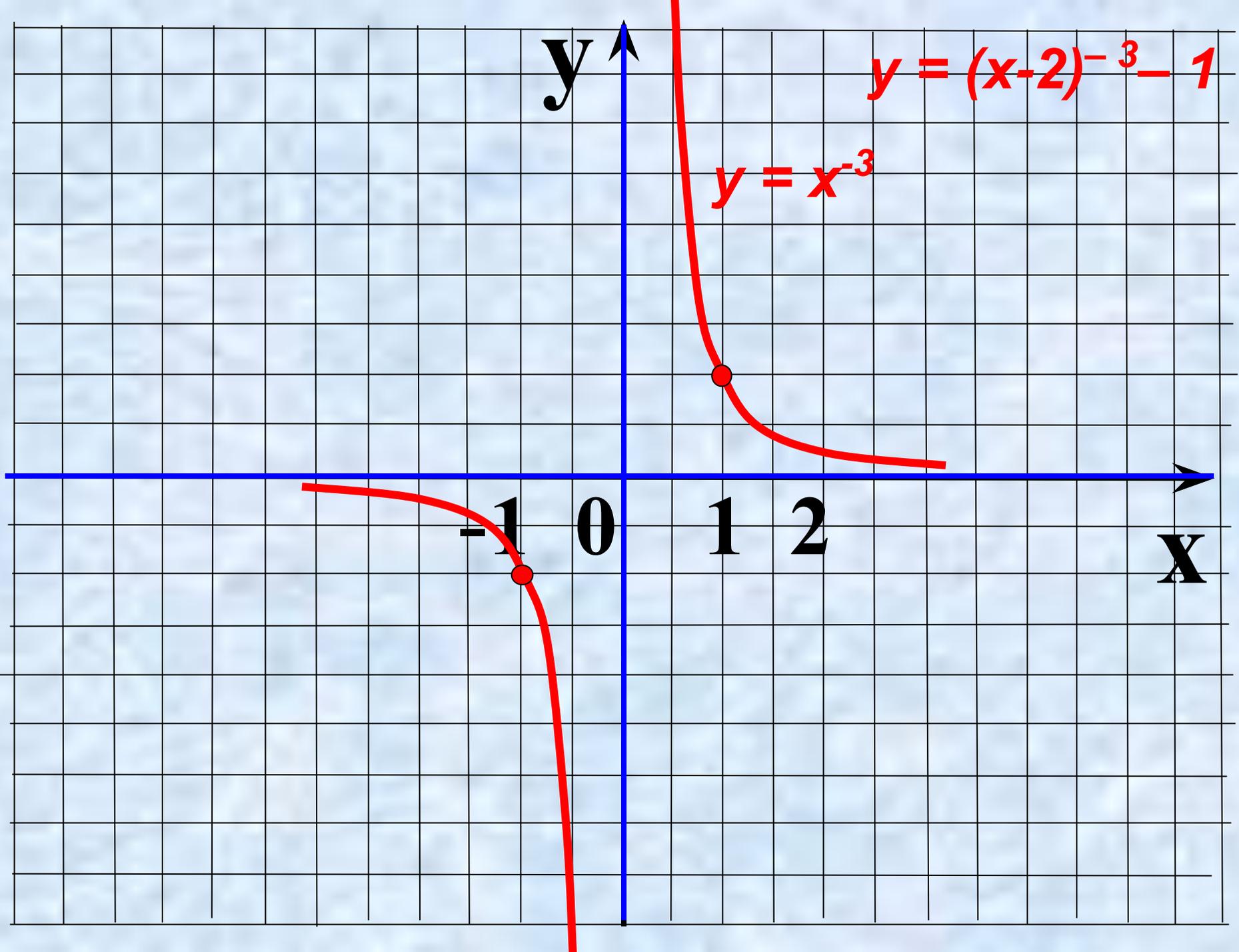
1

2

x

y





*Спасибо*

*За  
просмотр*

