

## **7 КЛАСС. АЛГЕБРА.**

**Линейная функция.  $y = kx + b$**

**Построение графиков функций,  
аналитическое выражение которых  
содержит знак абсолютной величины.**



# УСТНО:

## РЕШИТЕ УРАВНЕНИЯ:

- $|X|=5$
- $|X|=8$
- $|X|=-2$
- $|X|+3=5$
- $-|X|=4$



## Линейная функция.

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$$y = k|x| + b$$



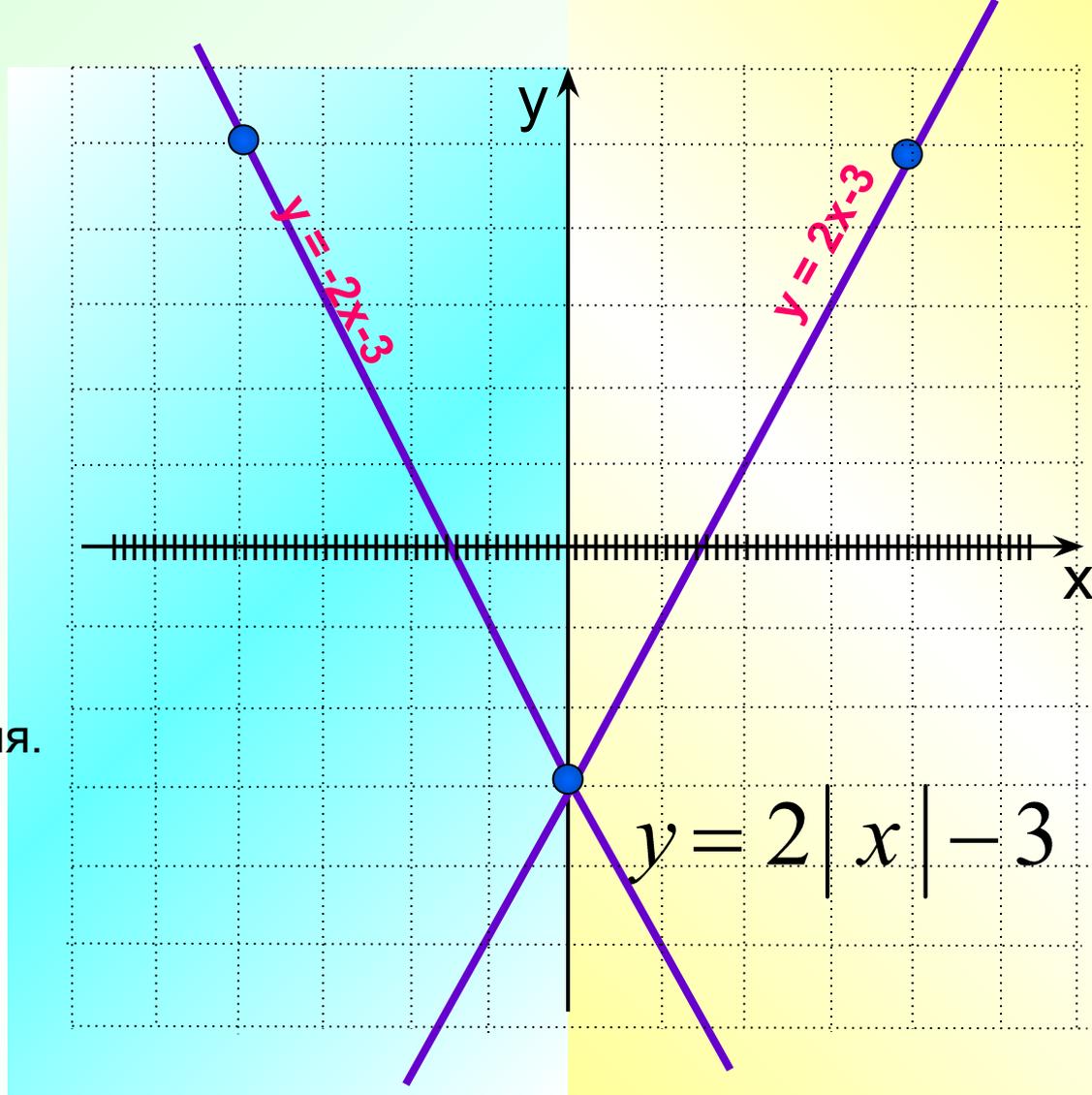
1 способ.

$$y = 2|x| - 3$$

$$x=0$$

- Нуль подмодульного выражения.
- Абсцисса точки перелома.

Показат  
ь



$$y = 2|x| - 3 = \begin{cases} 2x - 3, & x \geq 0 \\ -2x - 3, & x < 0 \end{cases}$$

$y = 2x - 3$  Точки (0; -3) и (4; 5)

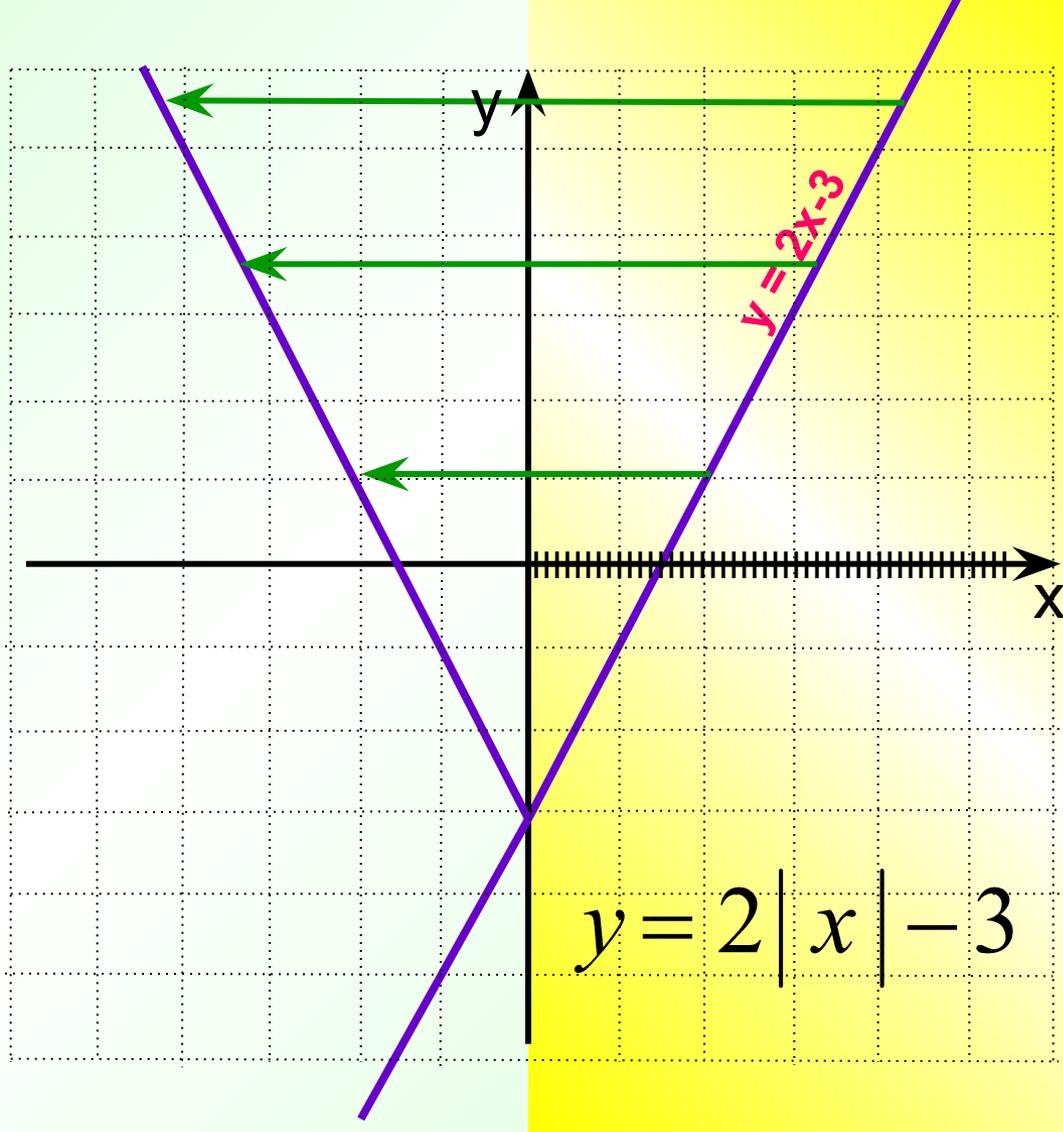
$y = -2x - 3$  Точки (0; -3) и (-4; 5)



2 способ.

$$y = 2|x| - 3$$

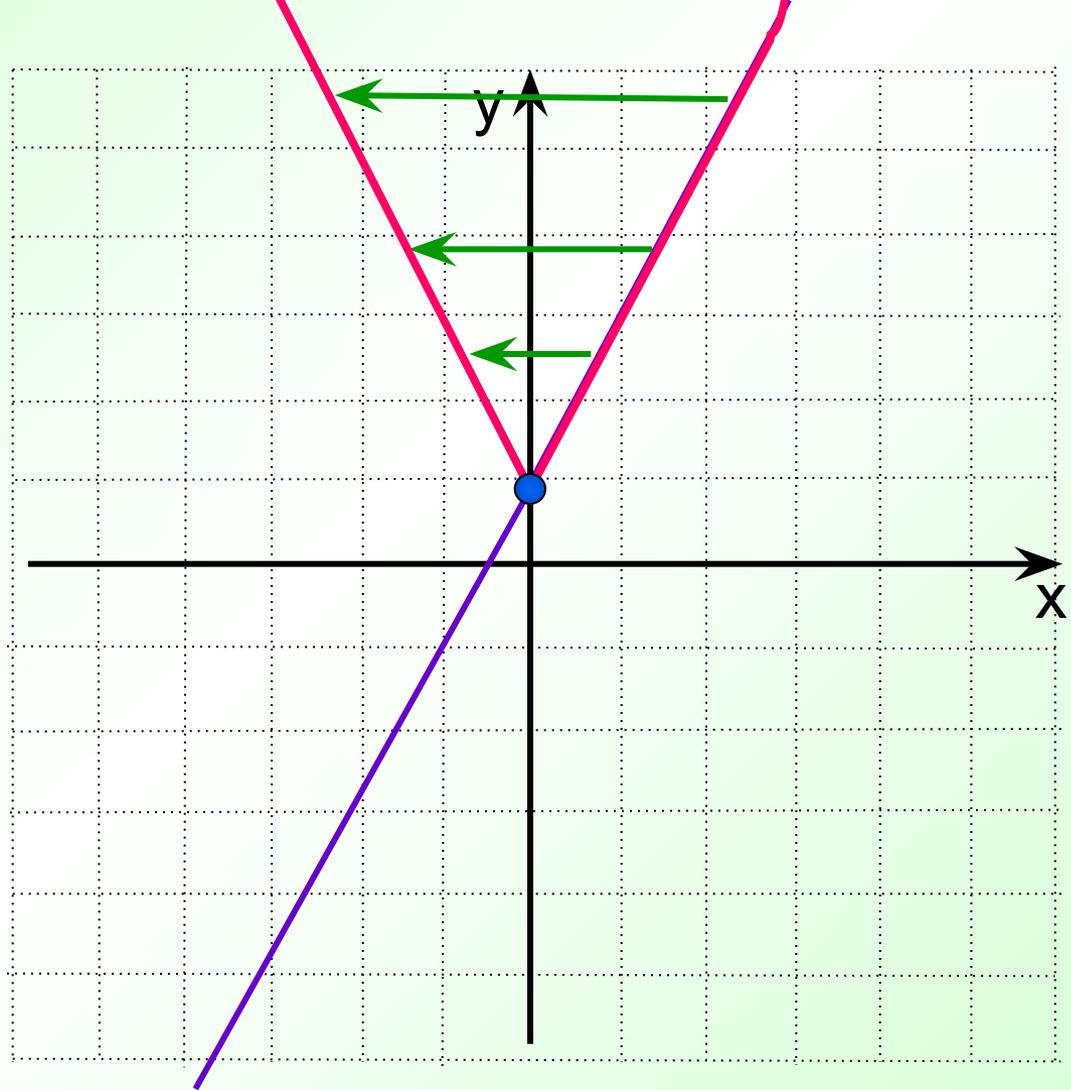
Показат  
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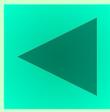



$$y = 2|x| + 1$$

$$y = 2x + 1$$

Показат  
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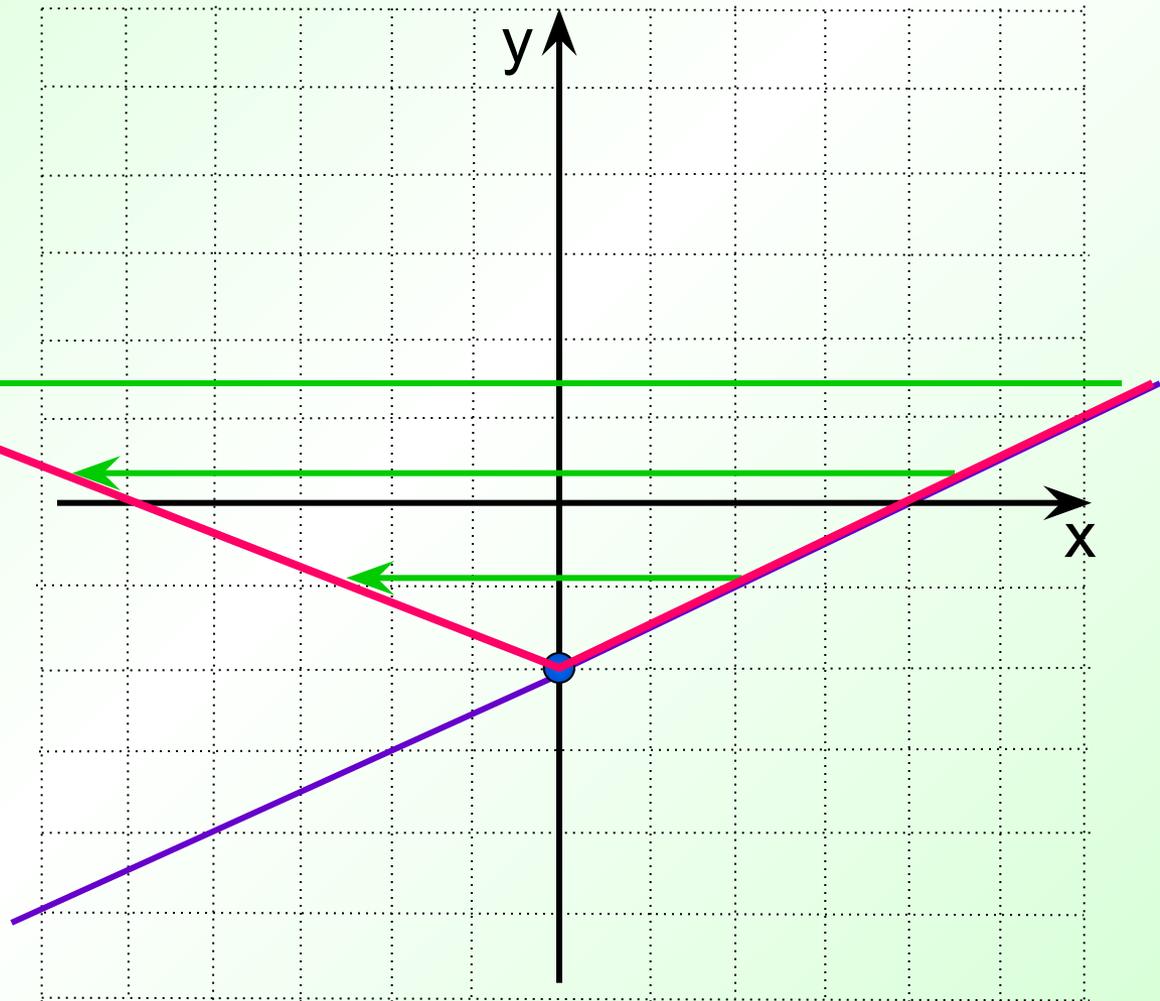




$$y = 0,5|x| - 2$$

$$y = 0,5x - 2$$

Показат  
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## Линейная функция.

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$$y = |kx + b|$$



1 способ.

$$y = |2x - 6|$$

$$2x - 6 = 0$$

$$2x = 6$$

$$x = 3$$

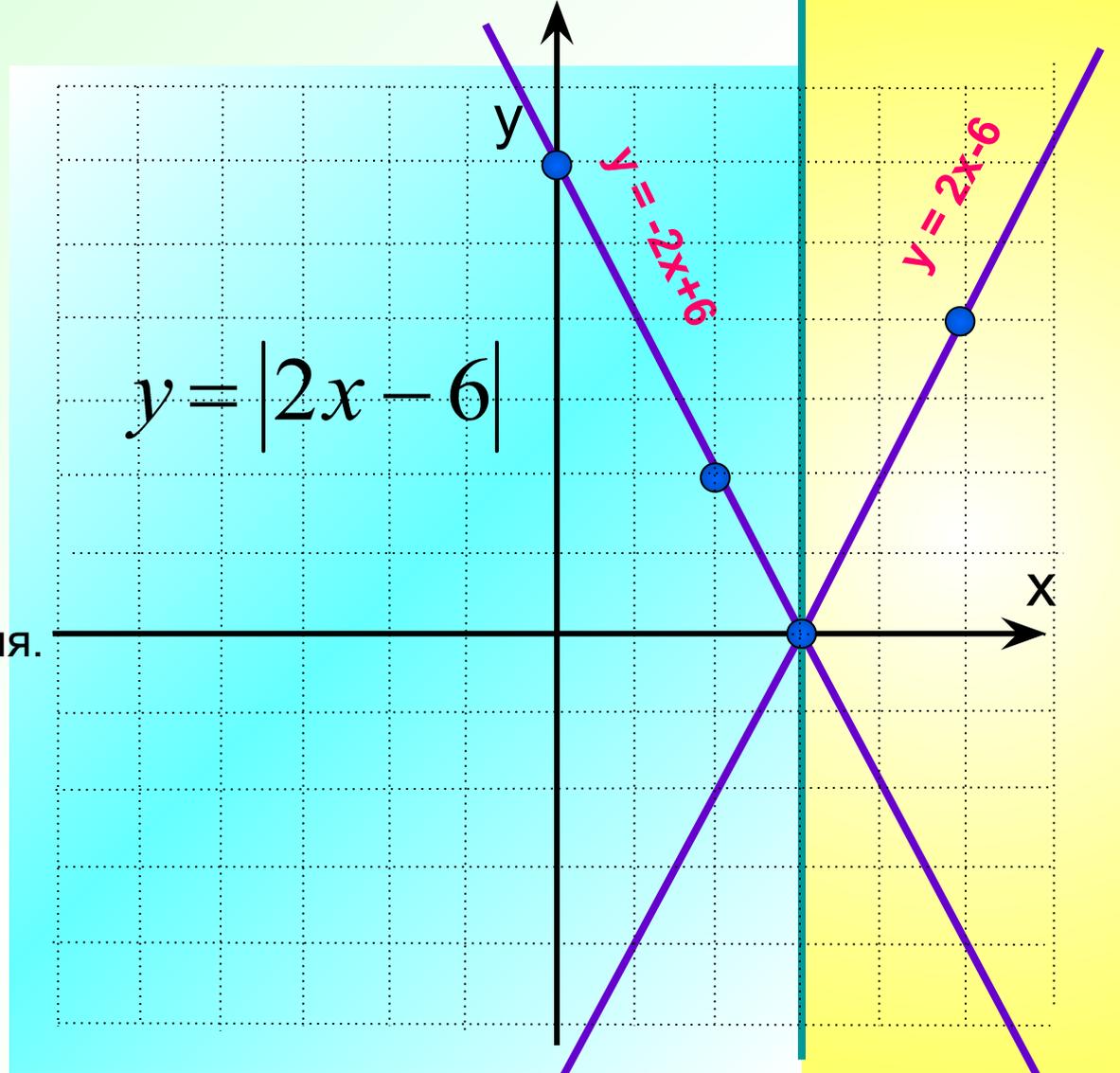
- Нуль подмодульного выражения.
- Абсцисса точки перелома.

Показат  
ь

$$y = |2x - 6| = \begin{cases} 2x - 6, & x \geq 3 \\ -2x + 6, & x < 3 \end{cases}$$

$y = 2x - 6$  Точки (3; 0) и (5; 4)

$y = -2x + 6$  Точки (2; 2) и (0; 6)

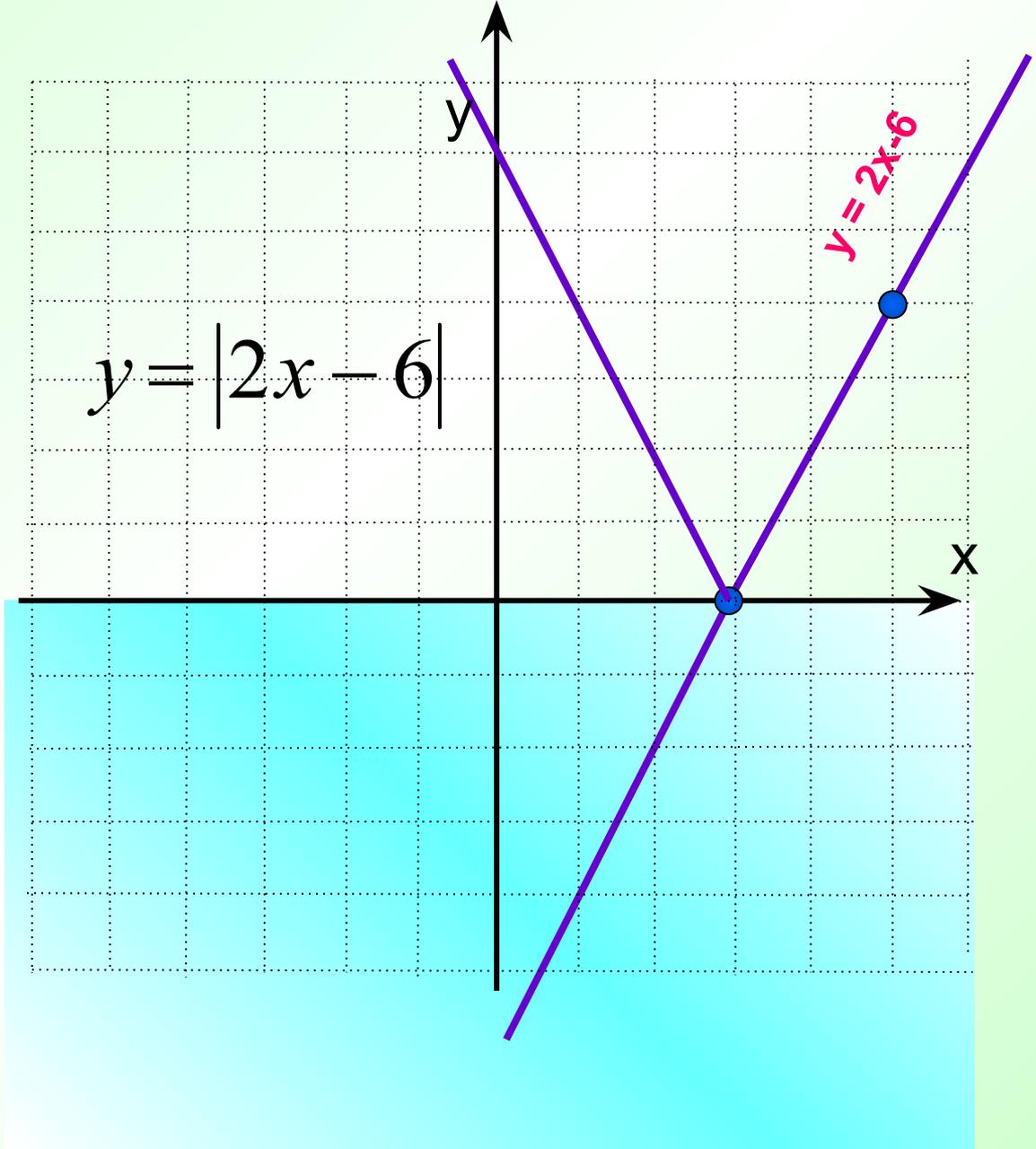


2 способ.

$$y = |2x - 6|$$

$$y = 2x - 6$$

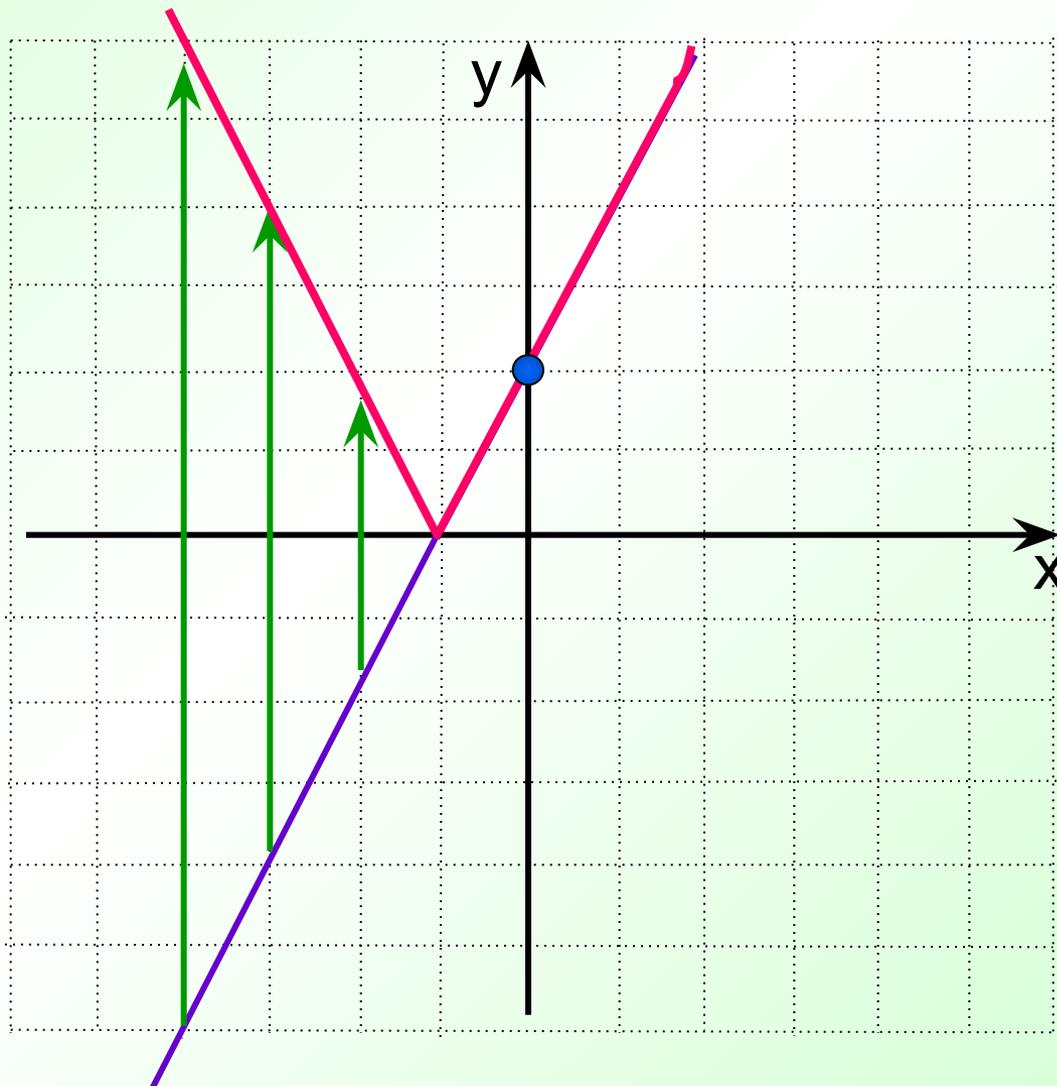
Показат  
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$$y = |2x + 2|$$

$$y = 2x + 2$$

Показат  
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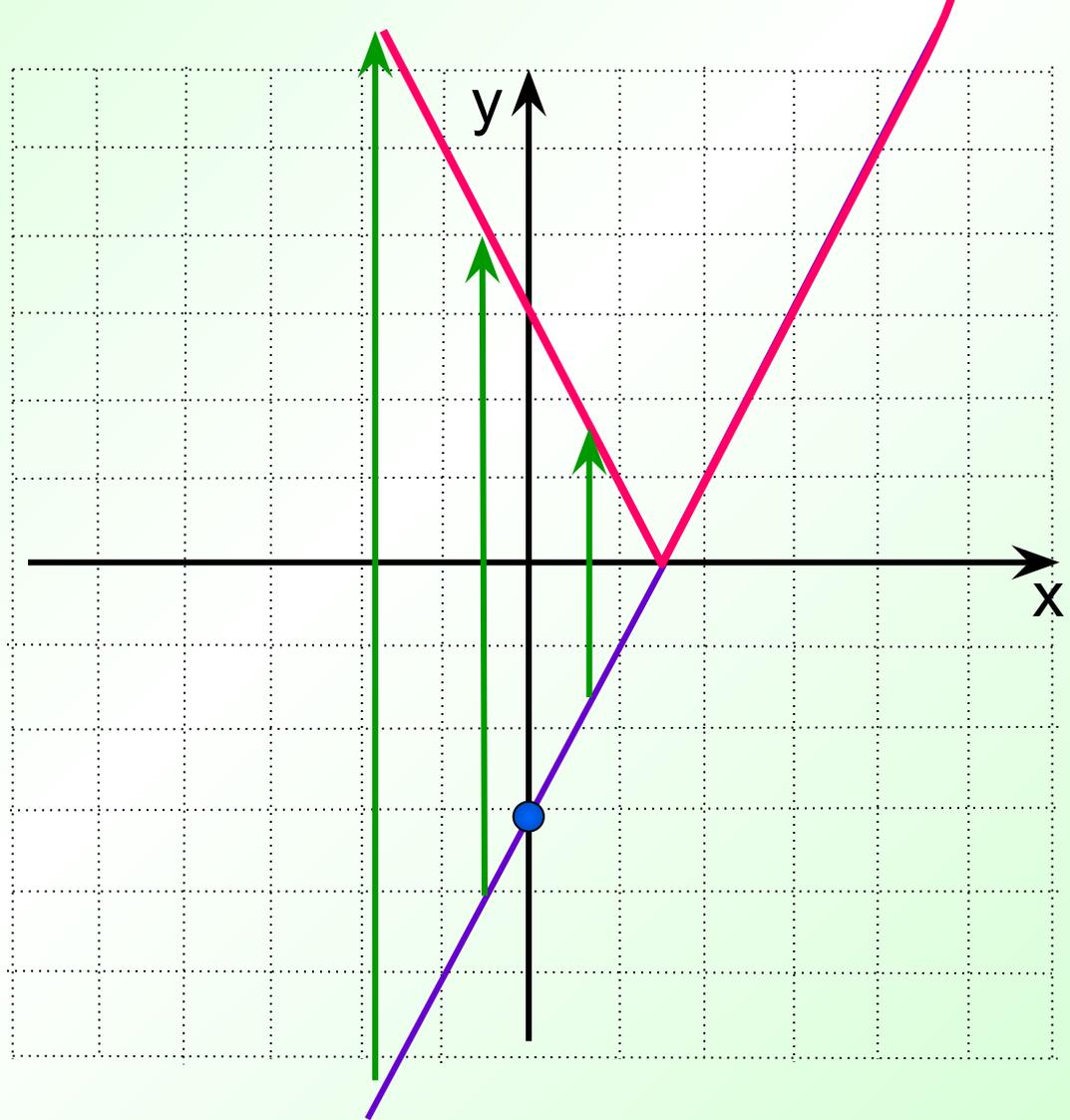




$$y = |2x - 3|$$

$$y = 2x - 3$$

Показат  
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## Линейная функция.

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$$y = |k|x| + b|$$



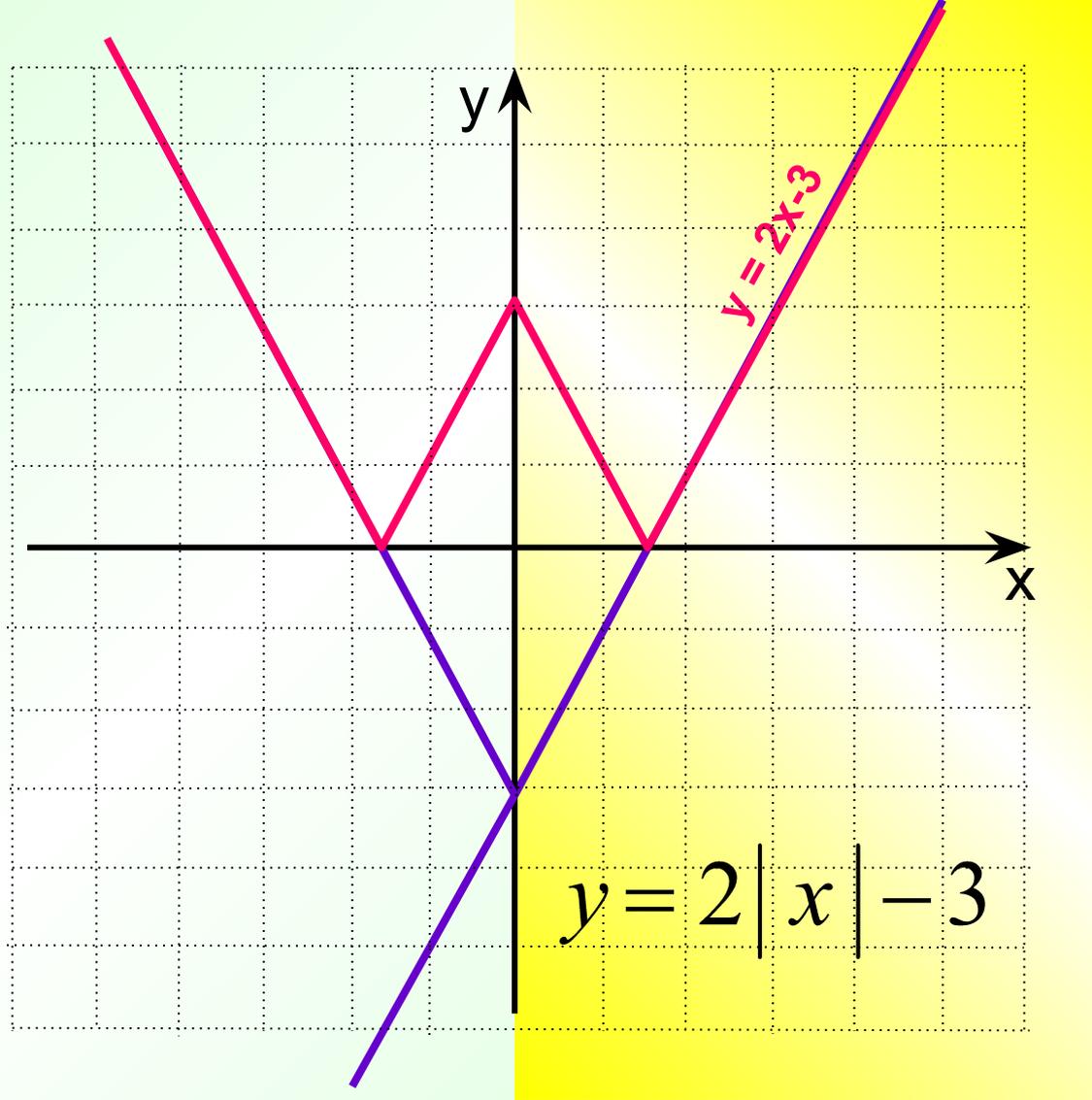


$$y = |2|x| - 3|$$

$$y = 2x - 3$$

$$y = |2|x| - 3|$$

Показат  
ь



## Построение графиков с помощью параллельного переноса вдоль осей координат

$$y = |x| + 2$$

$$y = |x + 2|$$

$$y = |x| - 3$$

$$y = |x - 1|$$

$$y = |x - 1| + 2$$

$$y = |x + 3| + 1$$

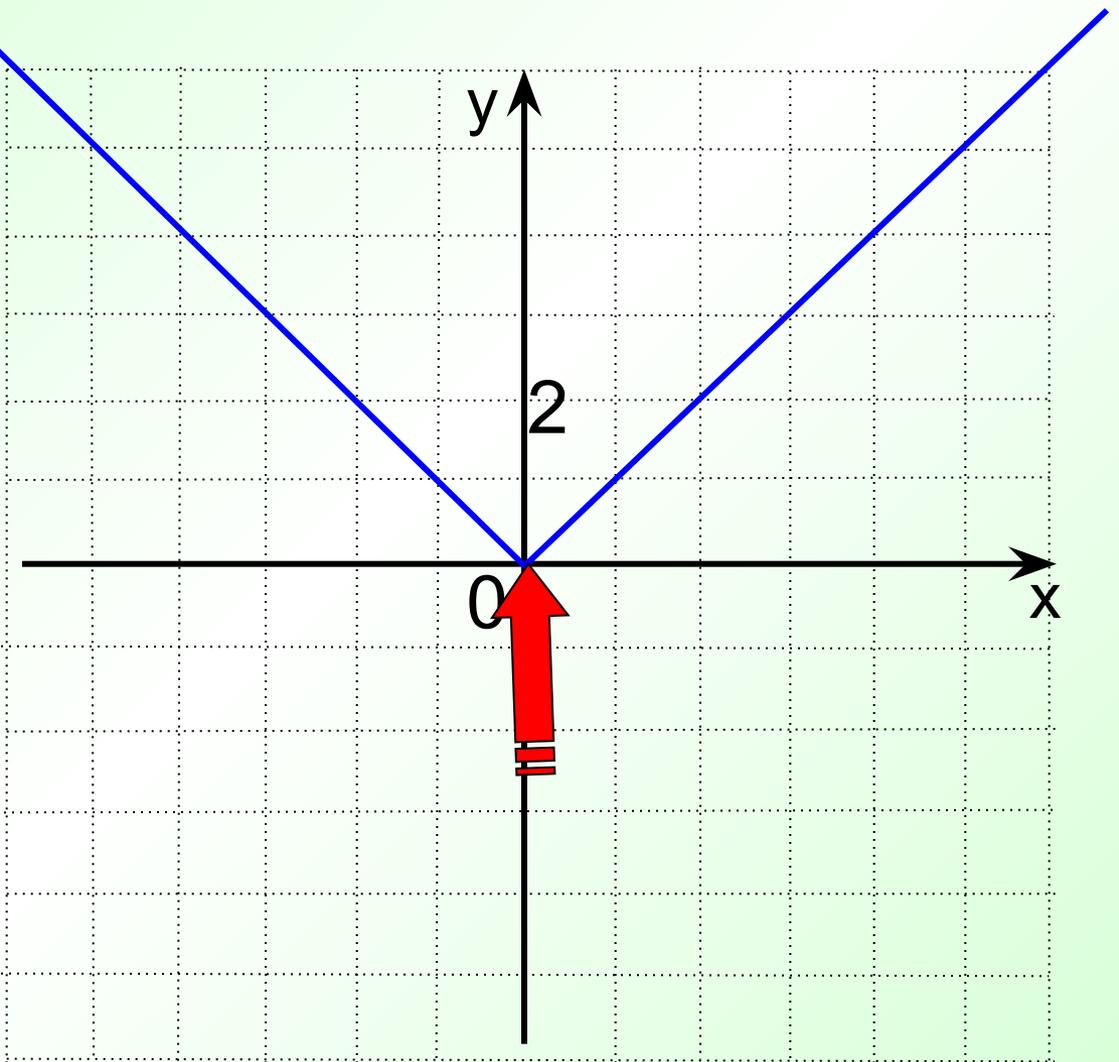



$$y = |x| + 2$$

Показат  
ь

1.  $y = |x|$

2.  $y = |x| + 2$  

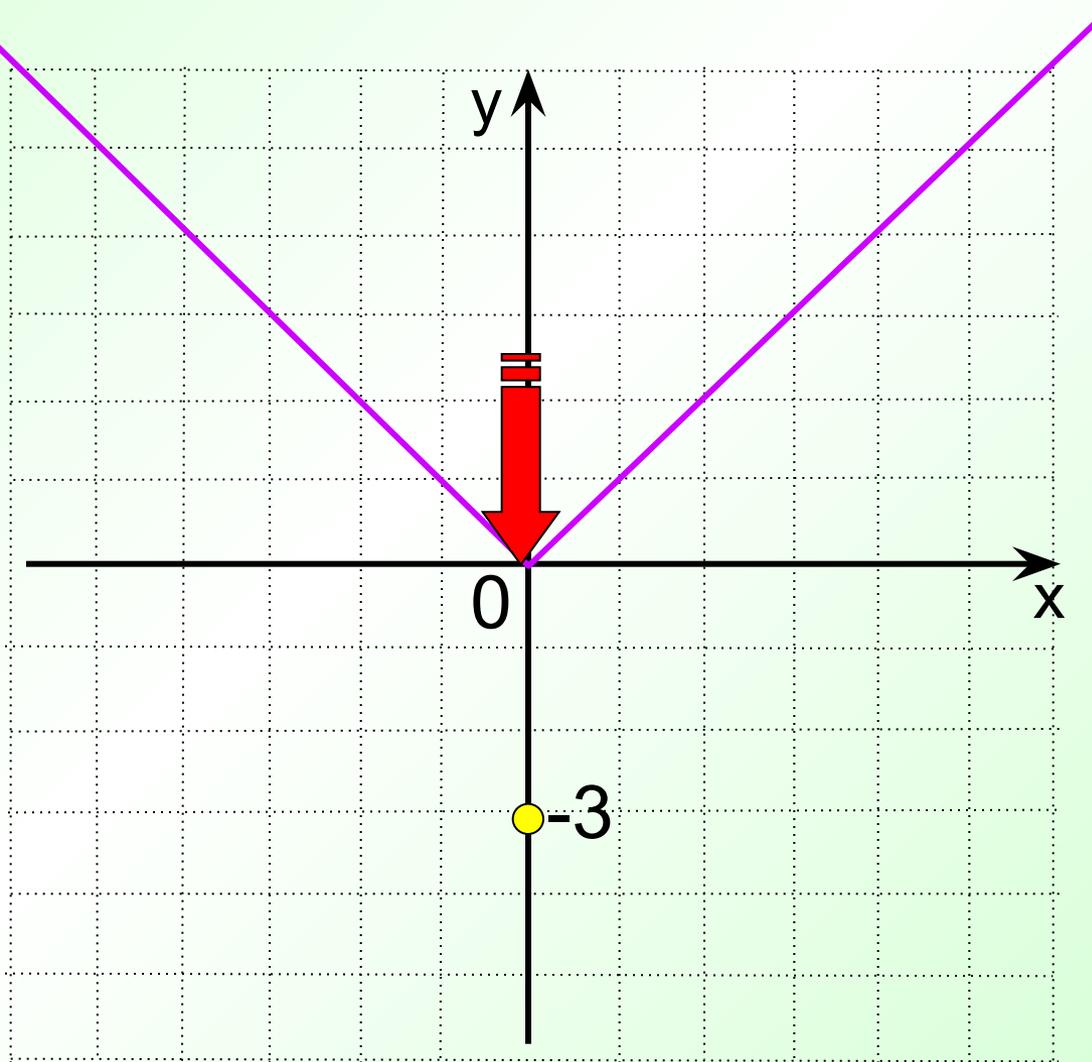



$$y = |x| - 3$$

Показат  
ь

1.  $y = |x|$

2.  $y = |x| - 3$  

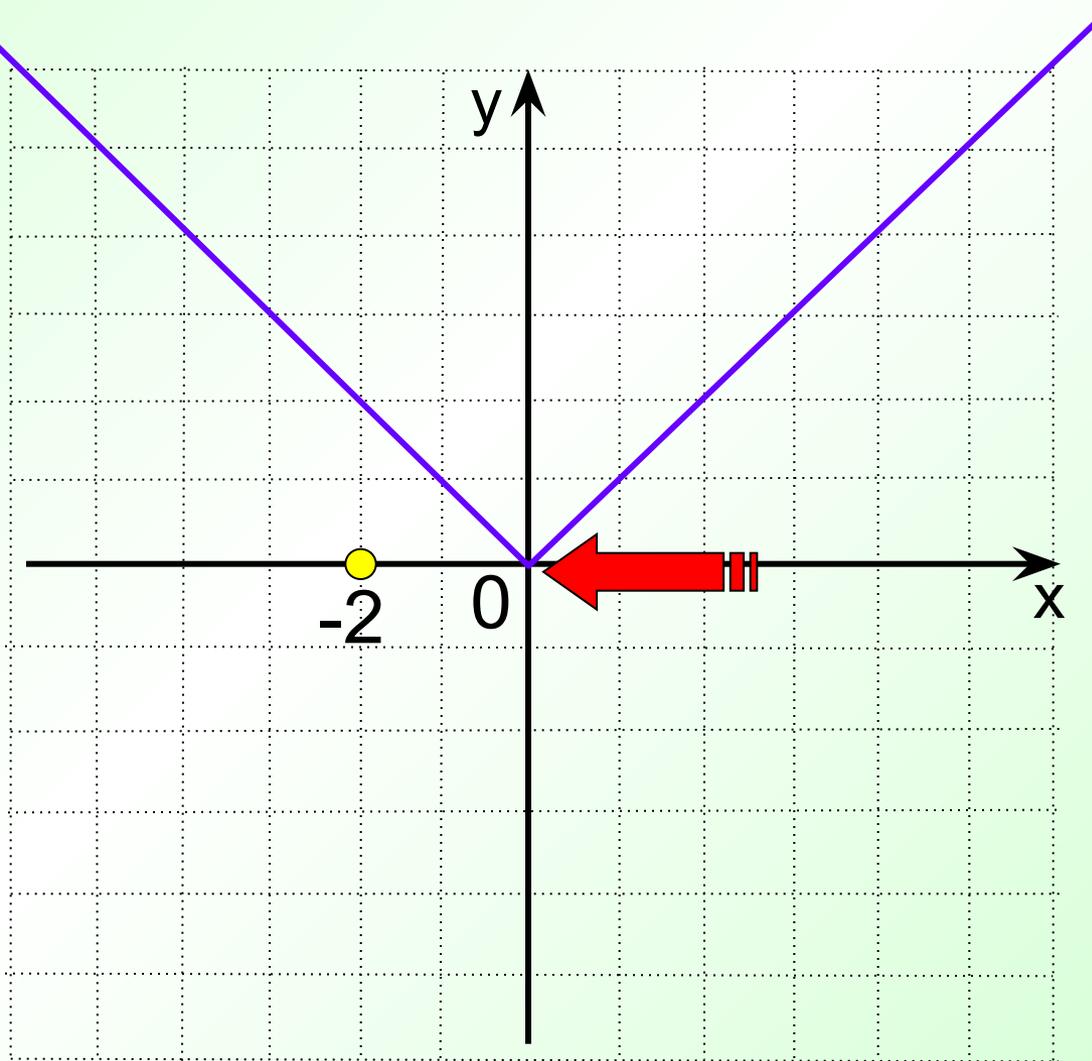



$$y = |x + 2|$$

Показат  
ь

1.  $y = |x|$

2.  $y = |x+2|$

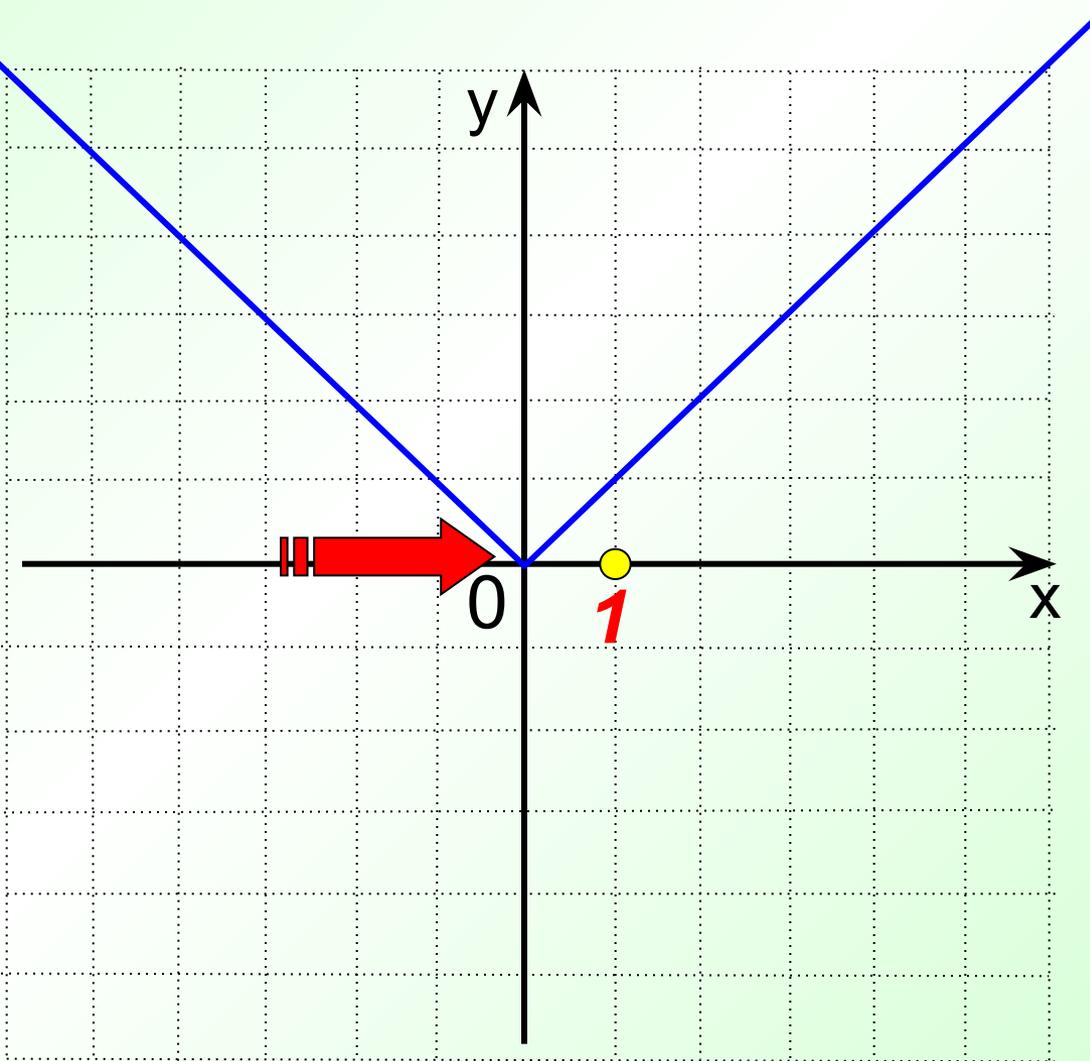



$$y = |x - 1|$$

Показат  
ь

1.  $y = |x|$

2.  $y = |x - 1|$




$$y = |x - 1| + 2$$

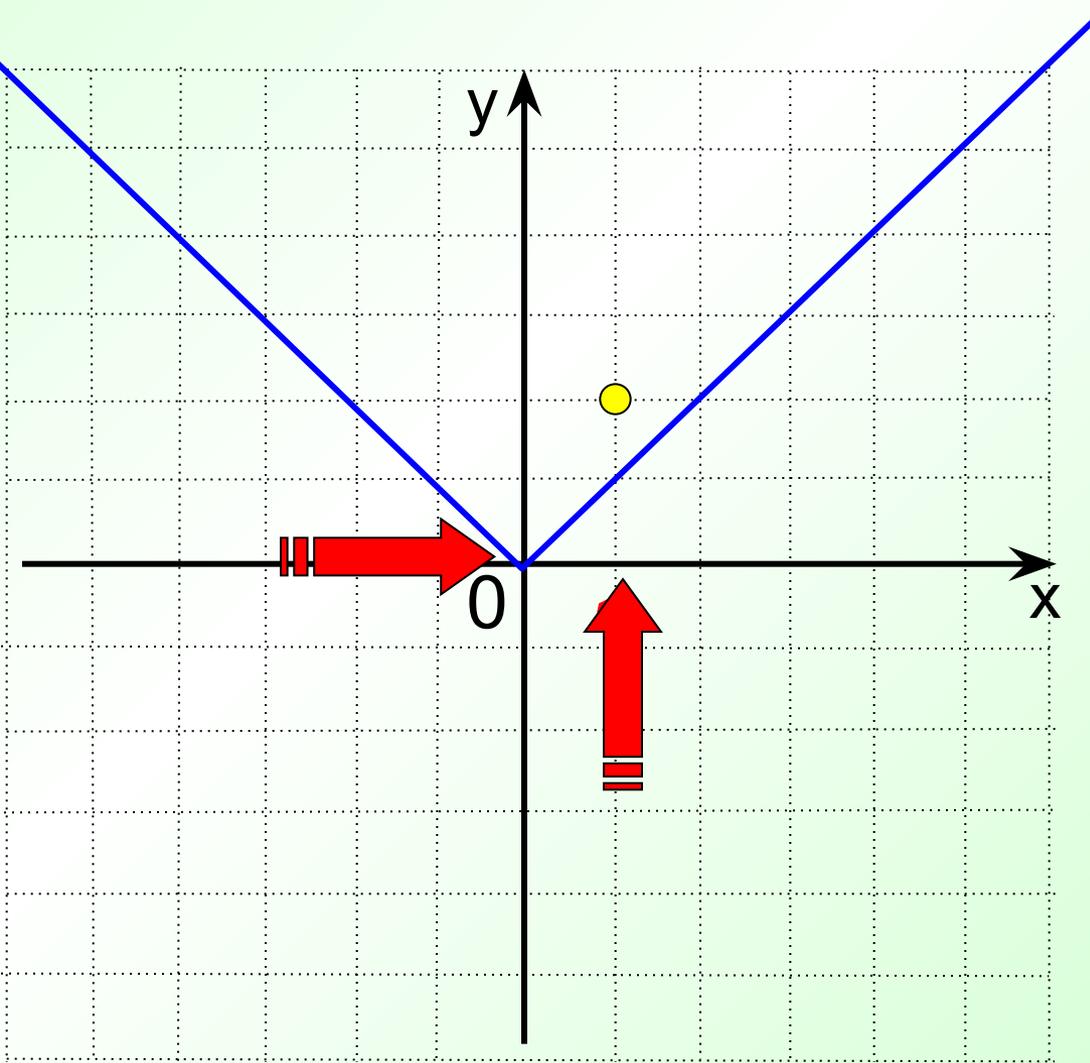
Показат  
ь

1.  $y = |x|$

2.  $y = |x - 1|$



3.  $y = |x - 1| + 2$





$$y = |x + 3| + 1$$

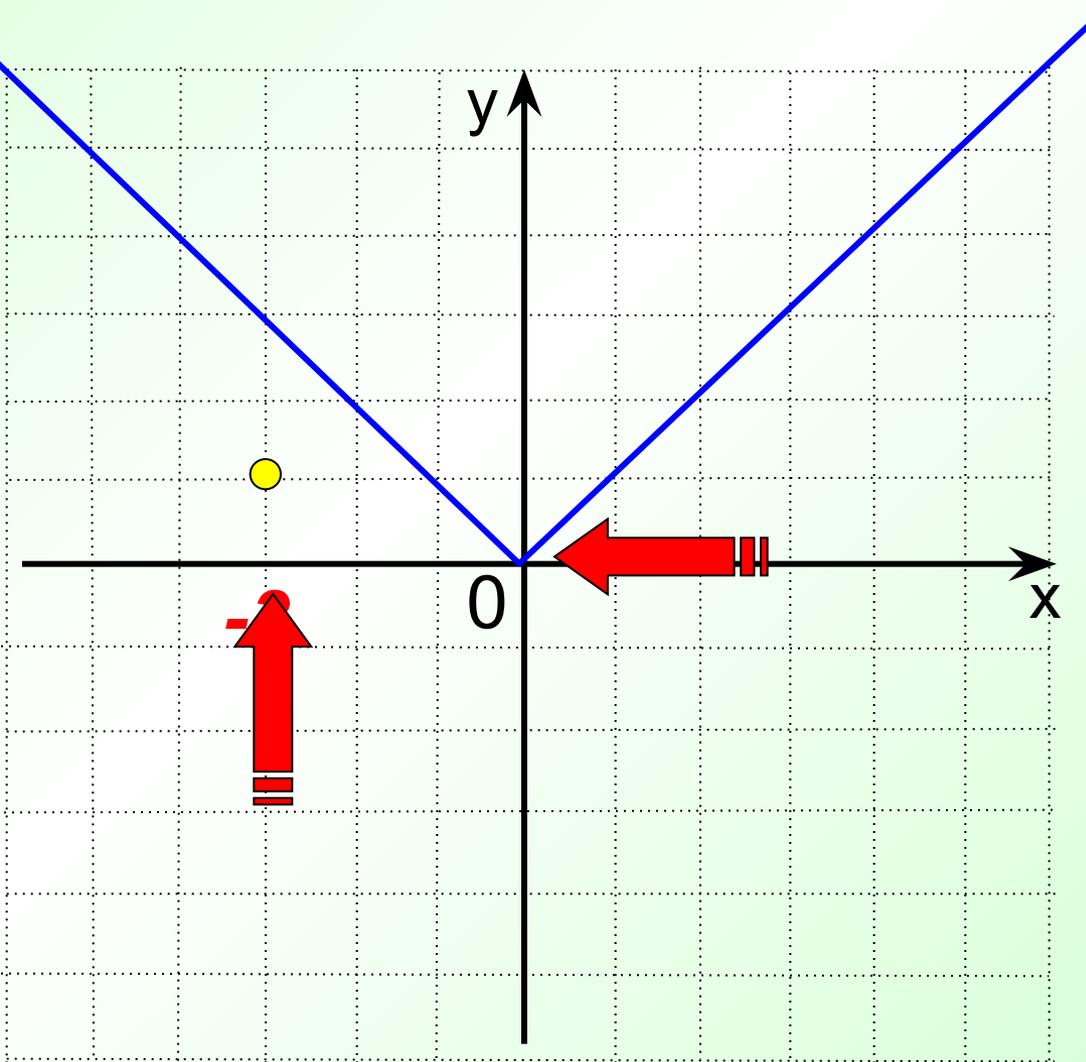
Показат  
ь

1.  $y = |x|$

2.  $y = |x+3|$



3.  $y = |x+3|+1$





## Обратная пропорциональность.

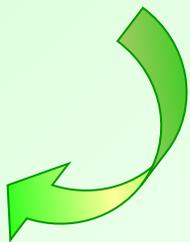
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$$y = \frac{k}{|x|}$$



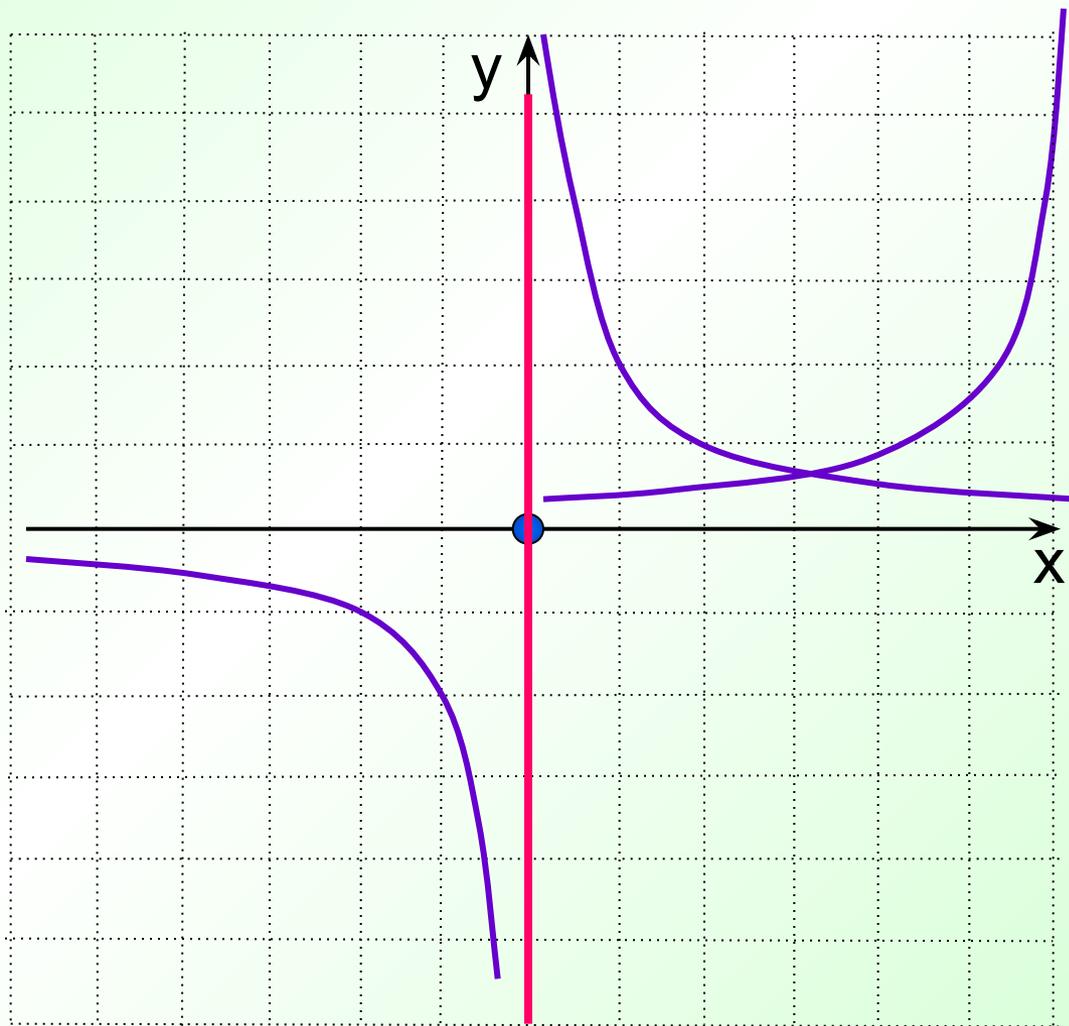


$$y = \frac{2}{|x|}$$



Гипербола в  
I и III координатных четвертях.

**Показать**



# ДОМАШНЯЯ РАБОТА

ПОСТРОИТЬ ГРАФИКИ ФУНКЦИЙ

$$y = |x + 3|$$

$$y = |x| + 3$$

$$y = -2|x| - 2$$

$$y = 6 - |x - 5|$$

$$y = \frac{1}{3}|x - 6| - 3$$