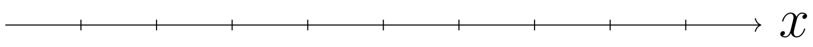
Notation: Sets

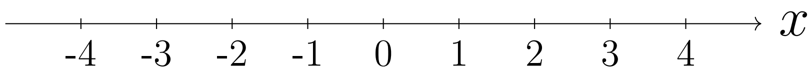
Notation: Sets

$$\xrightarrow{\hspace{6cm}} x$$

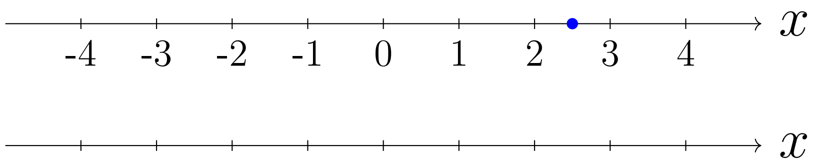
Notation: Sets



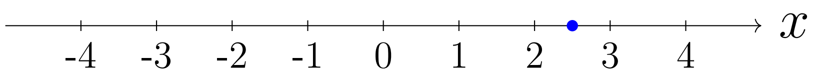
Notation: Sets

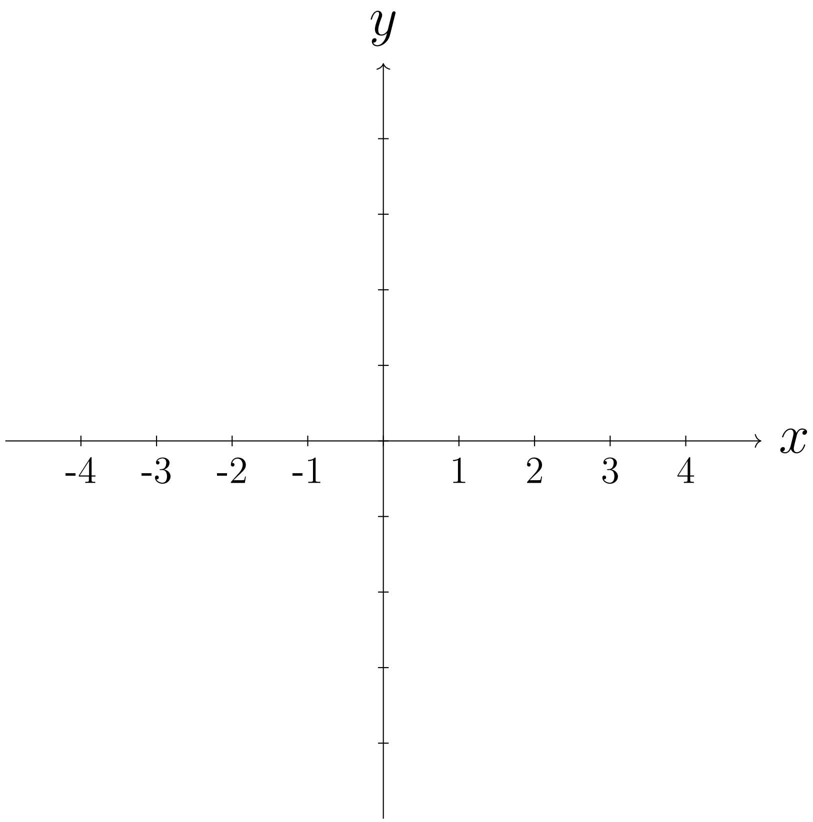


Notation: Sets

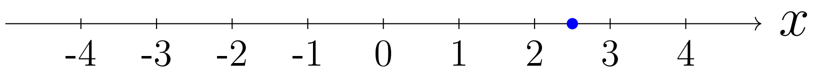


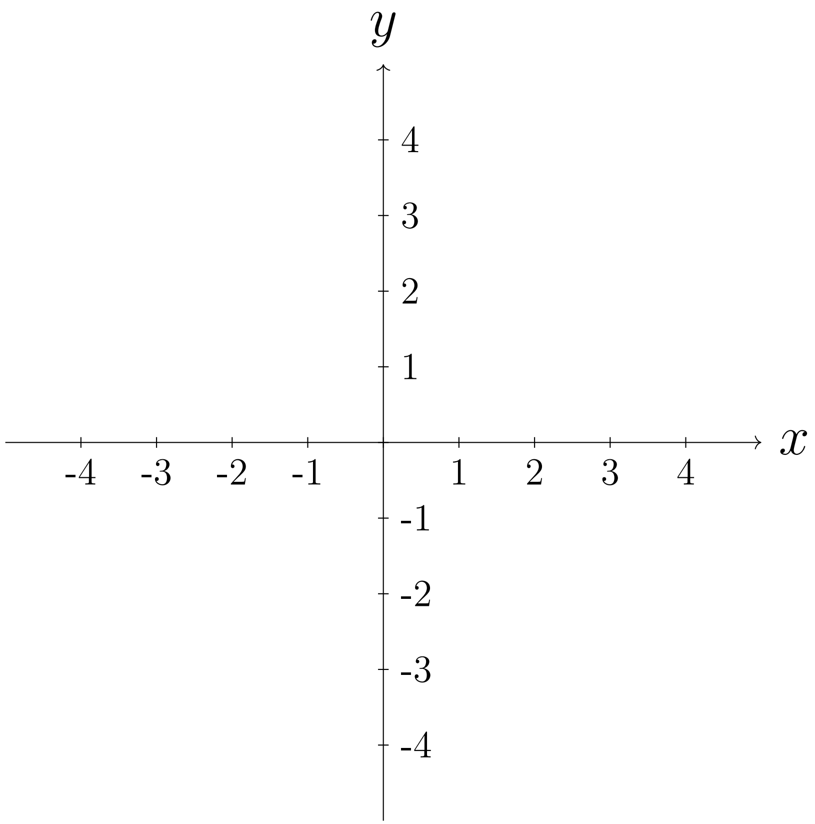
Notation: Sets



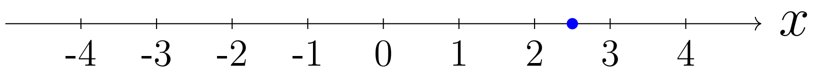


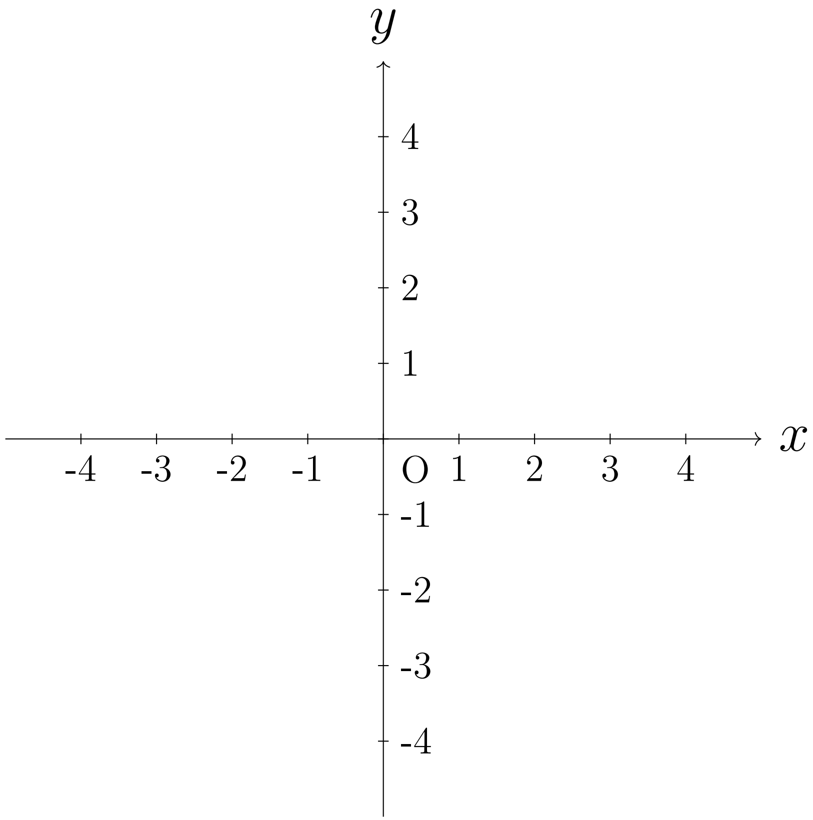
Notation: Sets





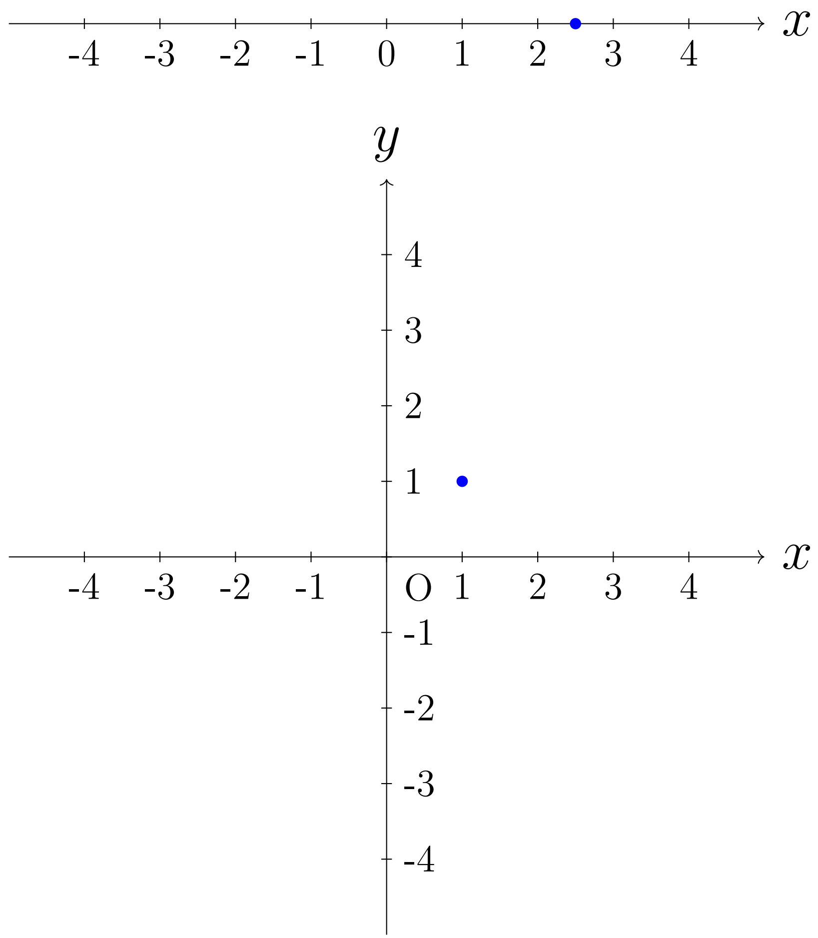
Notation: Sets





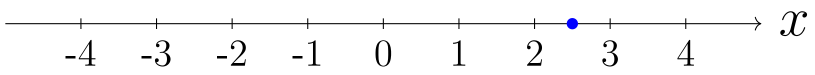
Notation: Sets

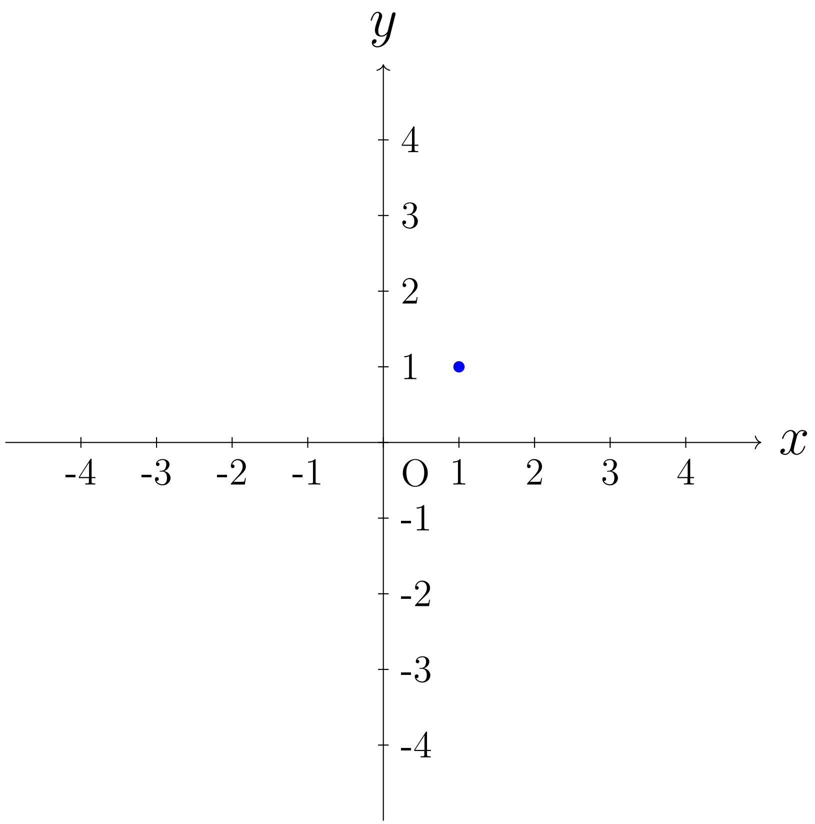
Point: $(1, 1)$



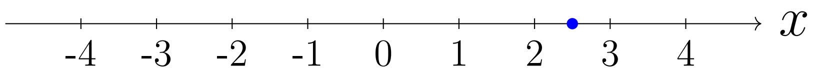
Notation: Sets

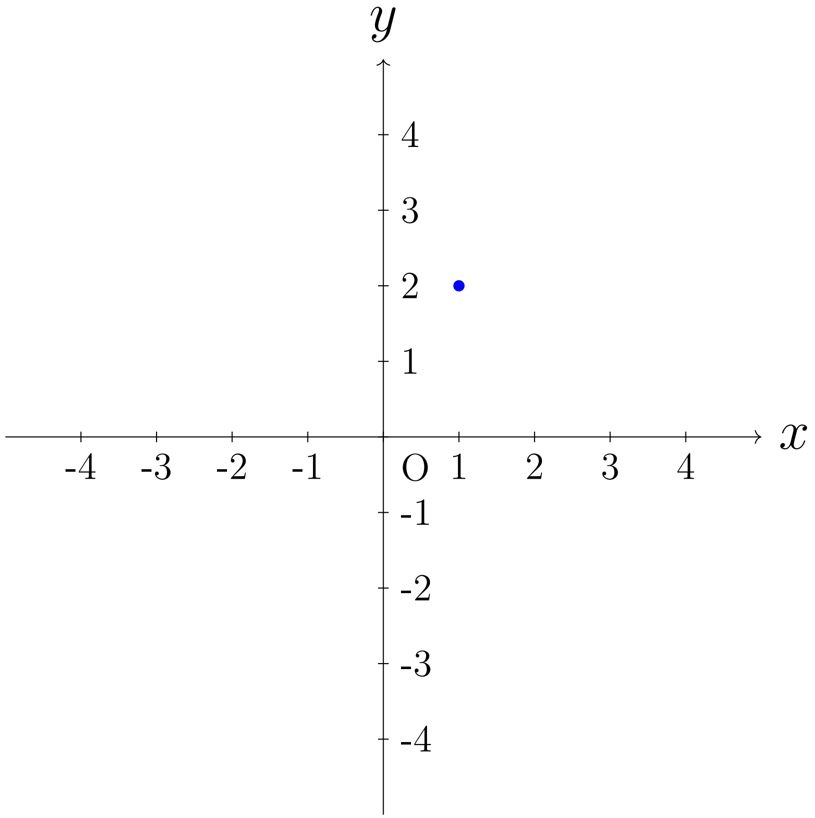
Point: $(1,1) \in \mathbb{R}^2$





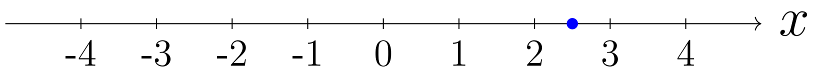
Notation: Sets

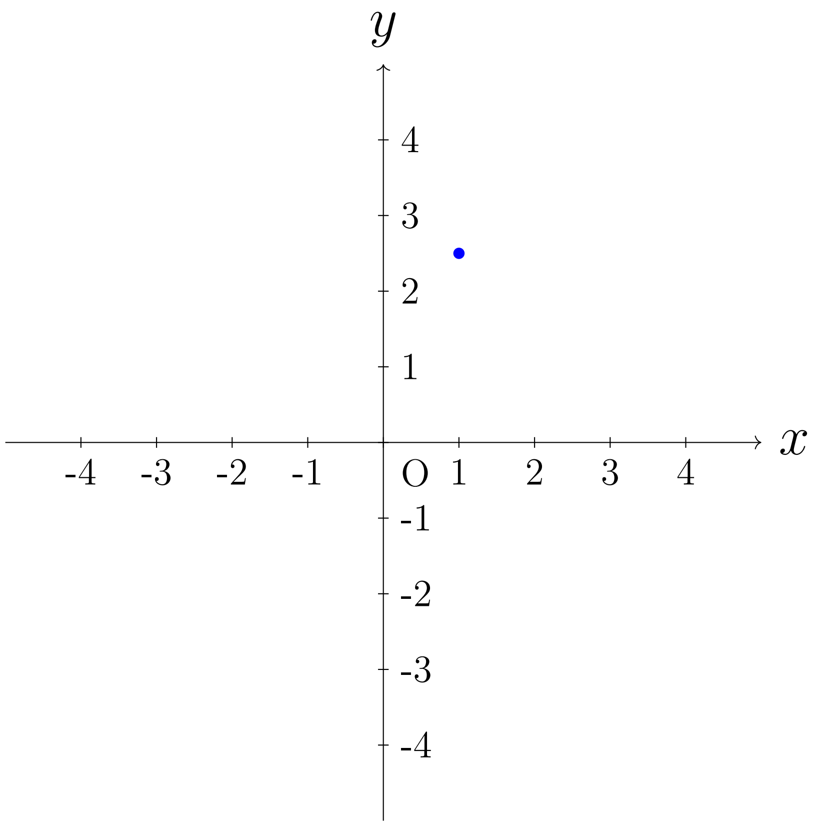




Point: $(1, 2) \in \mathbb{R}^2$

Notation: Sets

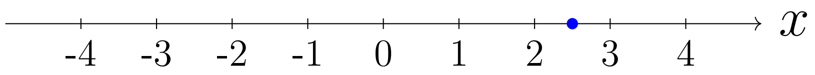


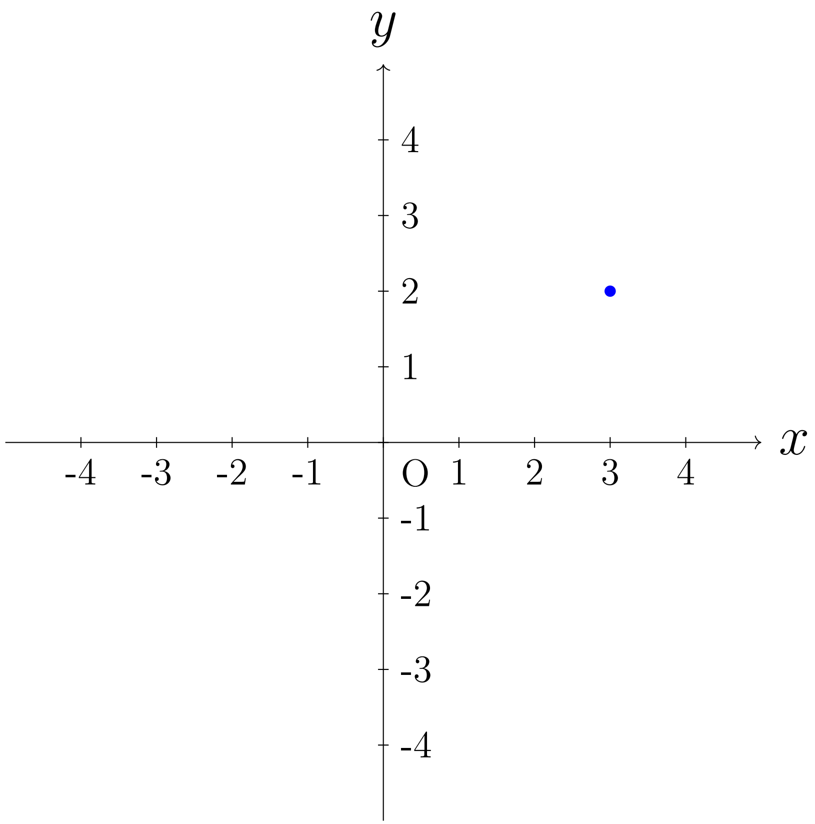


Point: $(1, 2.5) \in \mathbb{R}^2$

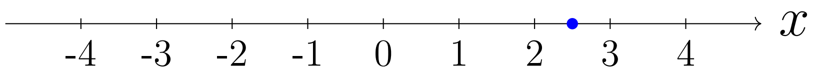
Notation: Sets

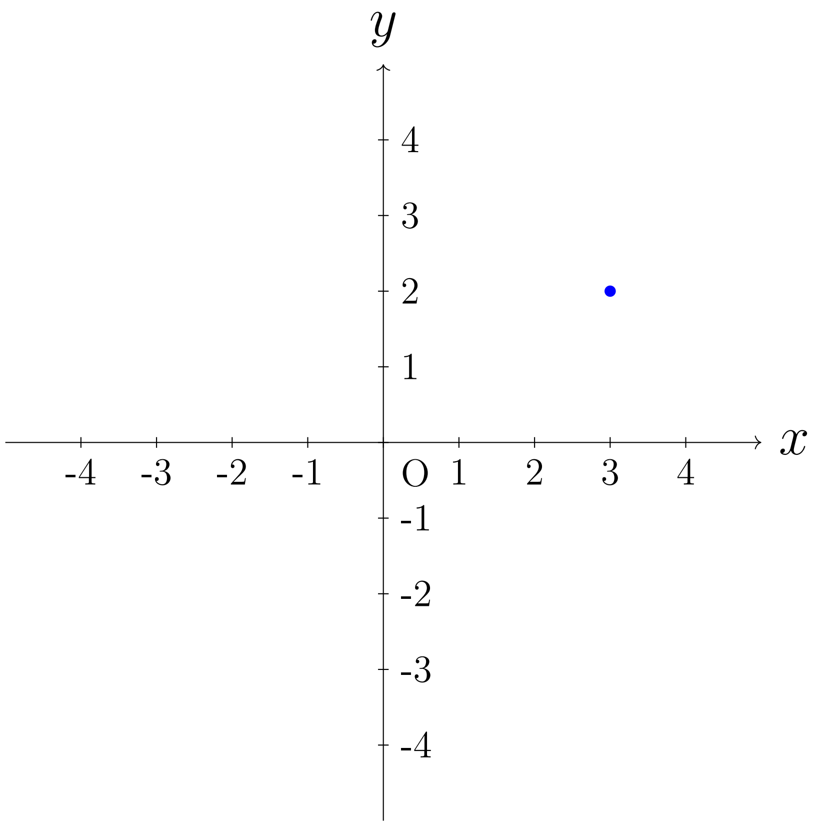
Point: $(3, 2) \in \mathbb{R}^2$



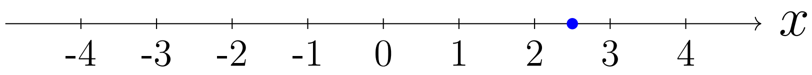


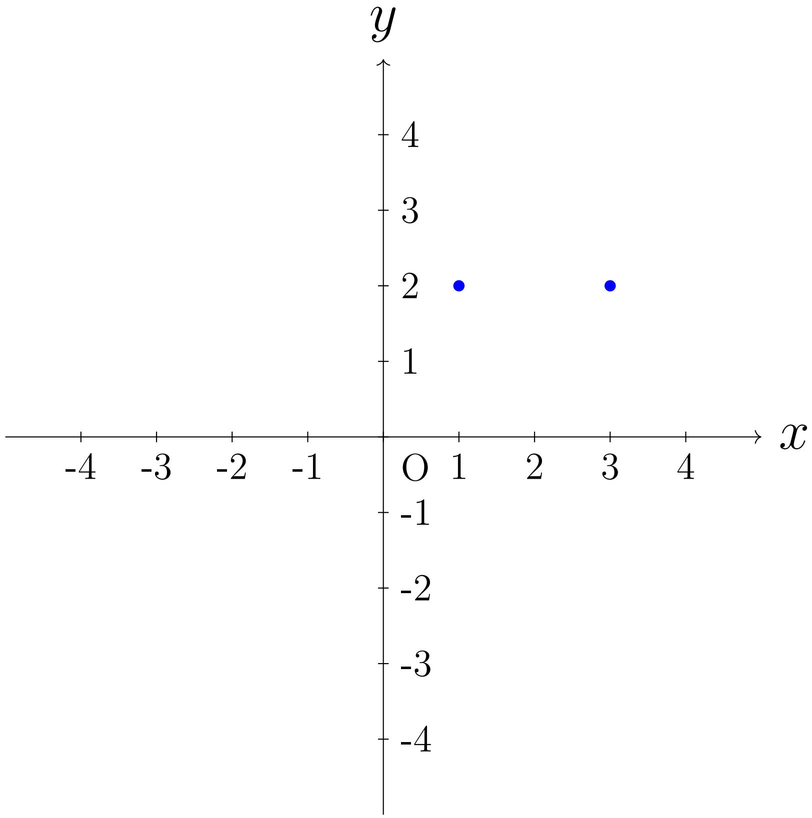
Notation: Sets



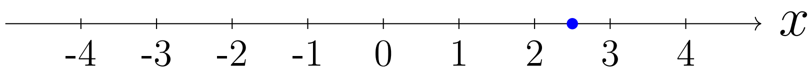


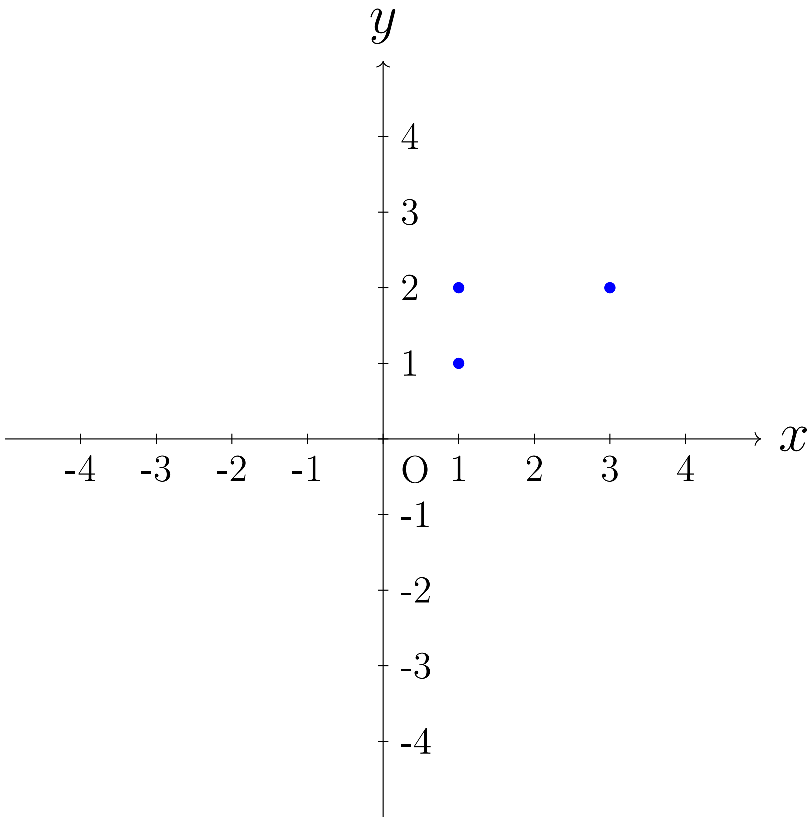
Notation: Sets





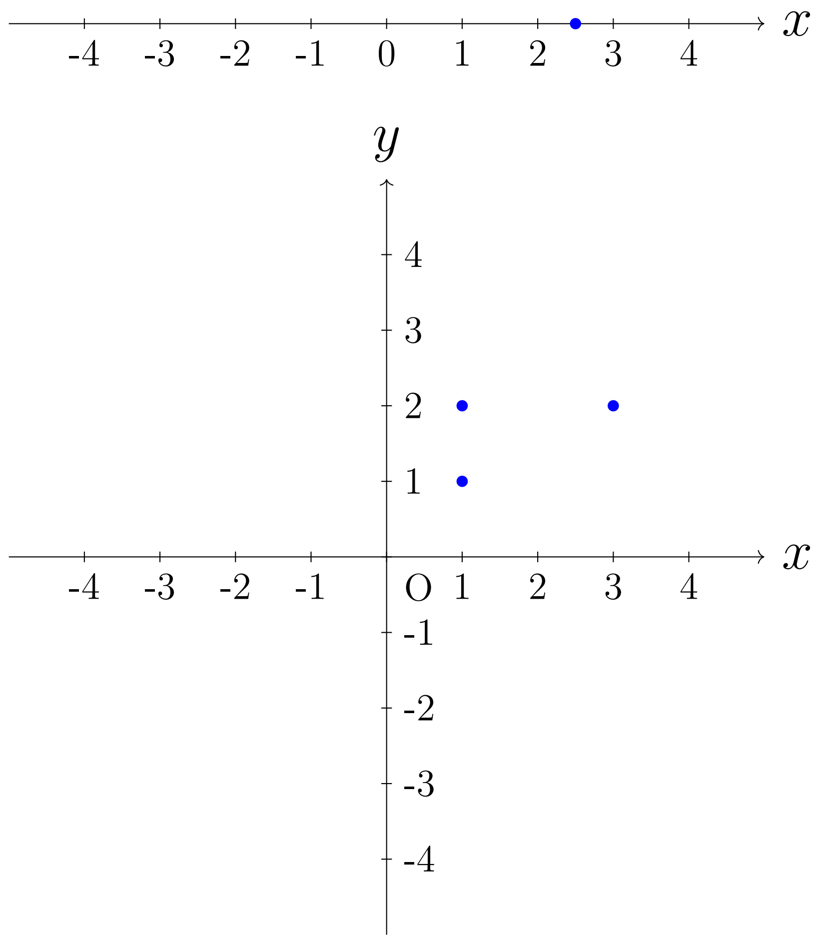
Notation: Sets





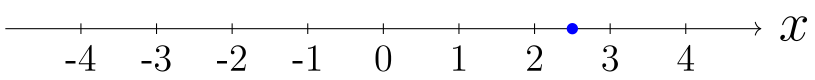
Notation: Sets

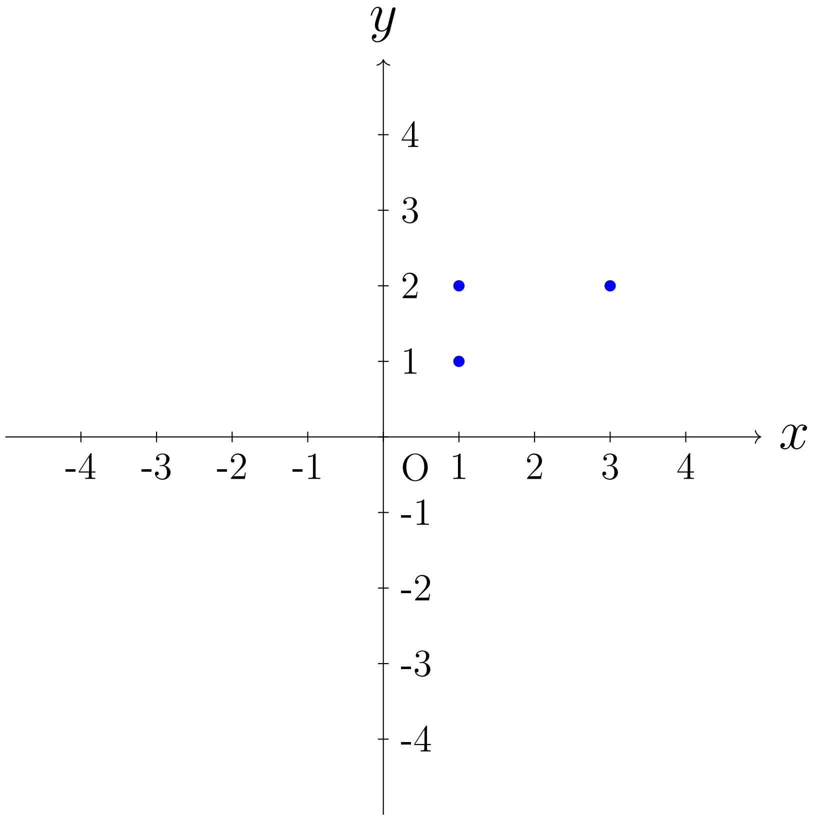
$$\{(1,1),(1,2),(1,3)\}$$



Notation: Sets

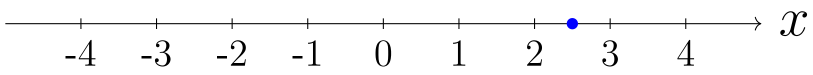
$$S := \{(1,1),(1,2),(1,3)\}$$

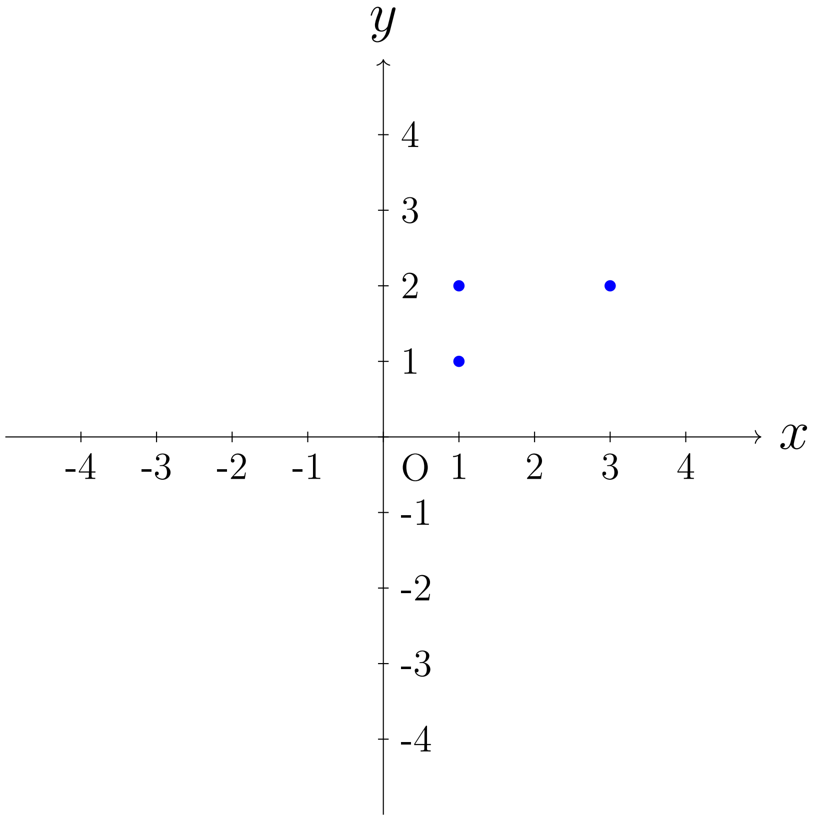




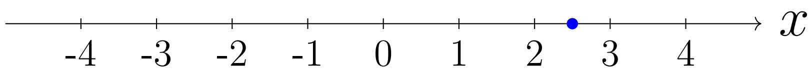
Notation: Sets

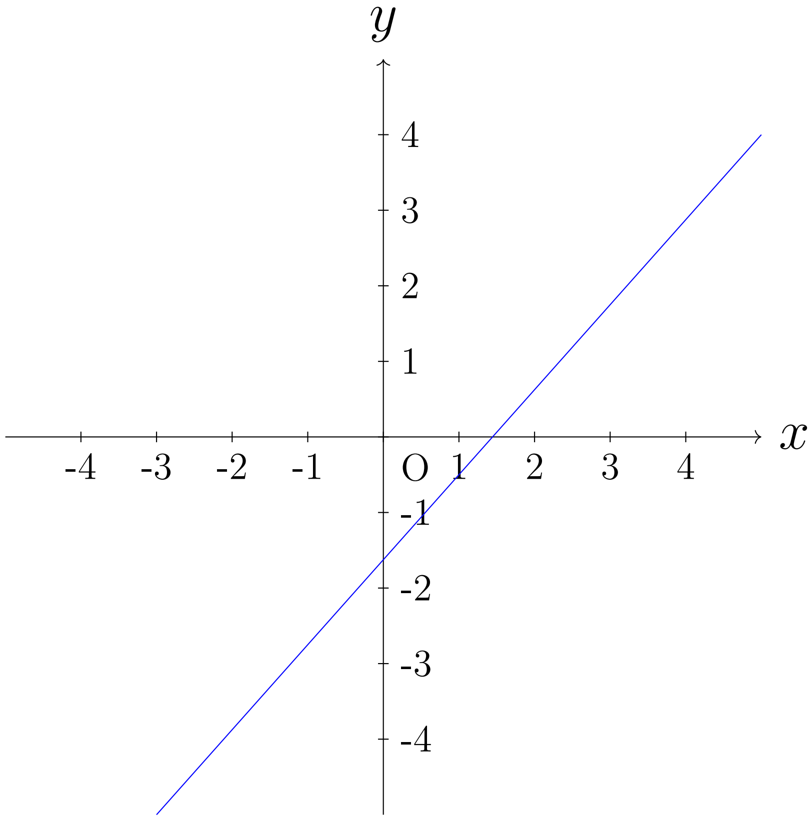
$$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$$





Notation: Sets

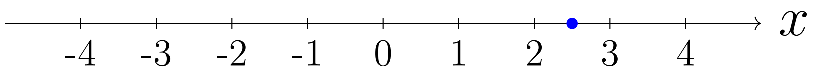


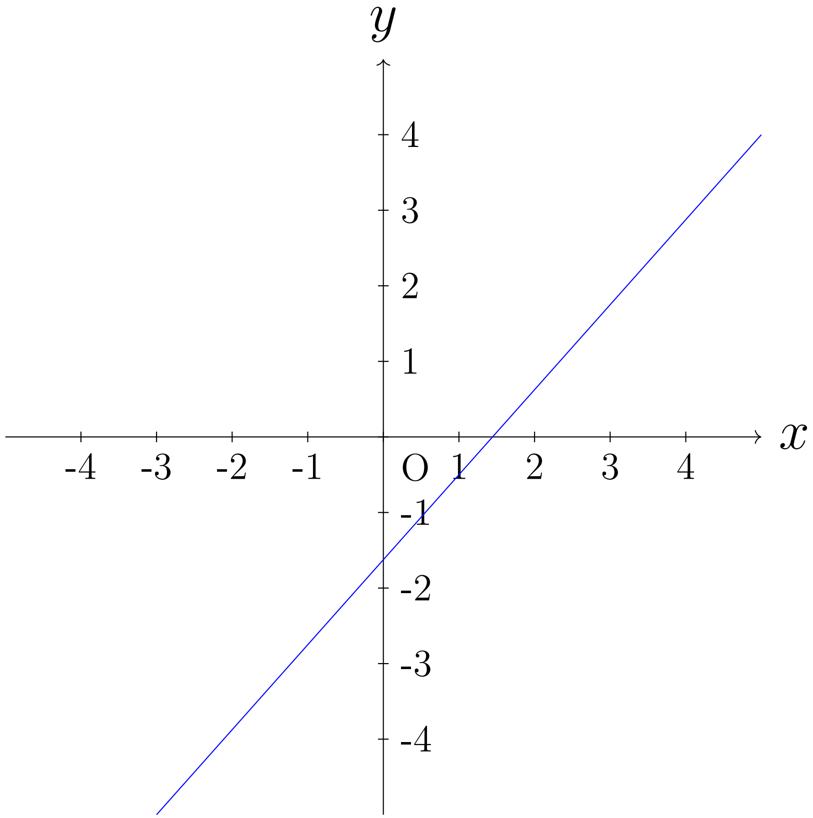


$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line,

Notation: Sets

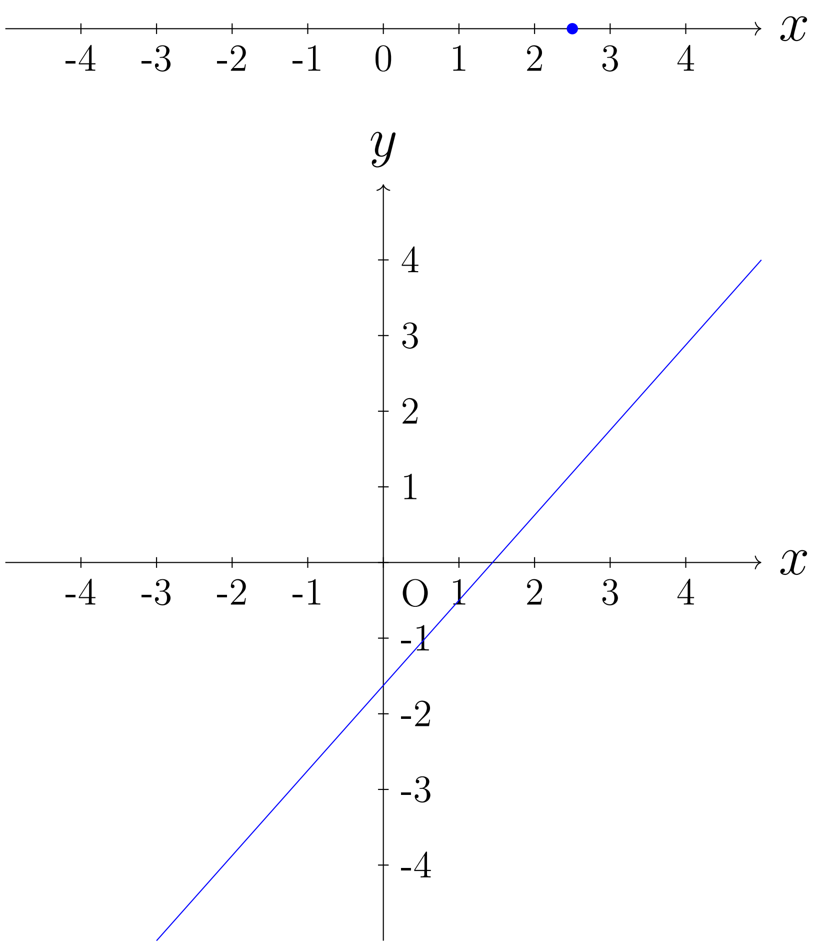




$$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$$

A line, defined by points (x, y) in the plane

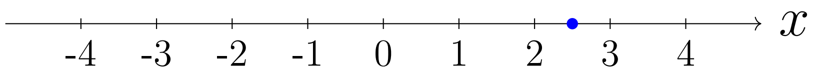
Notation: Sets

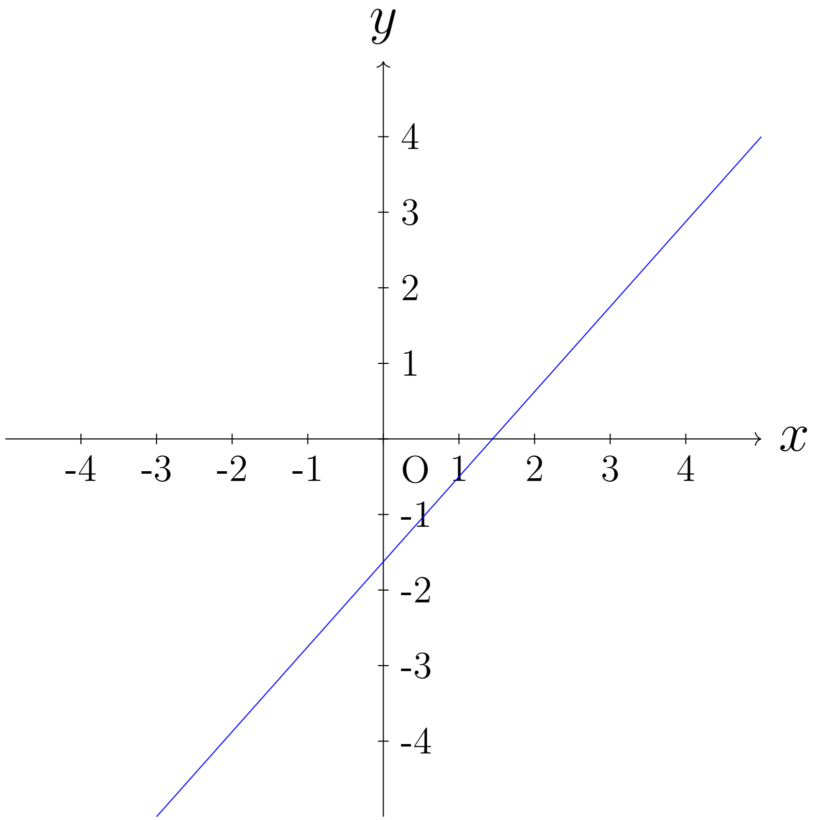


$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

Notation: Sets



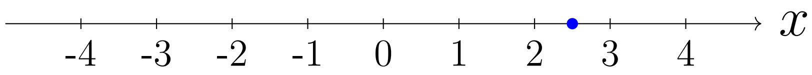


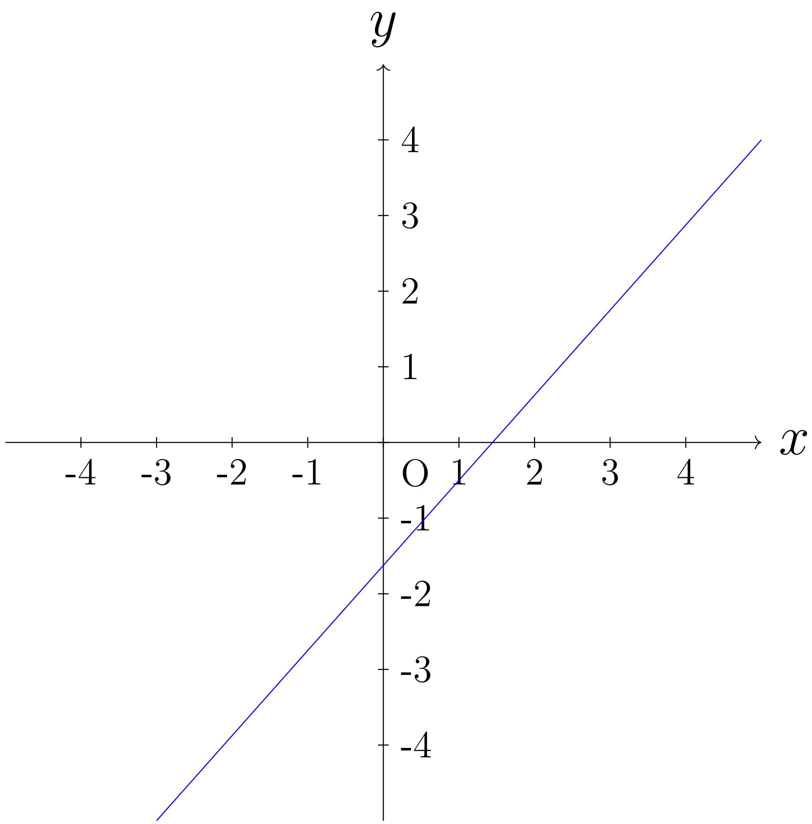
$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

$\{???\}$

Notation: Sets



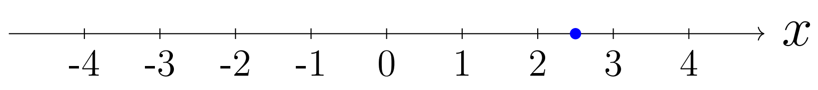


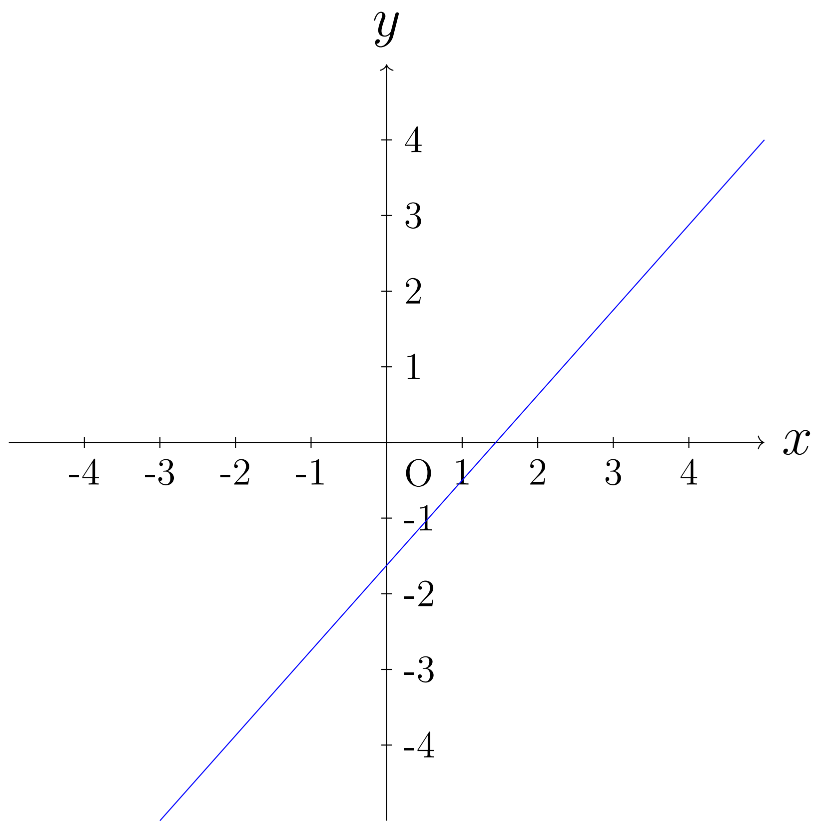
$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

$\{(x, y)\}$

Notation: Sets



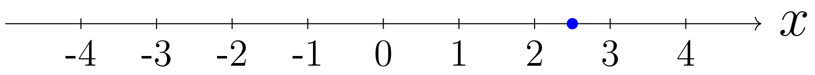


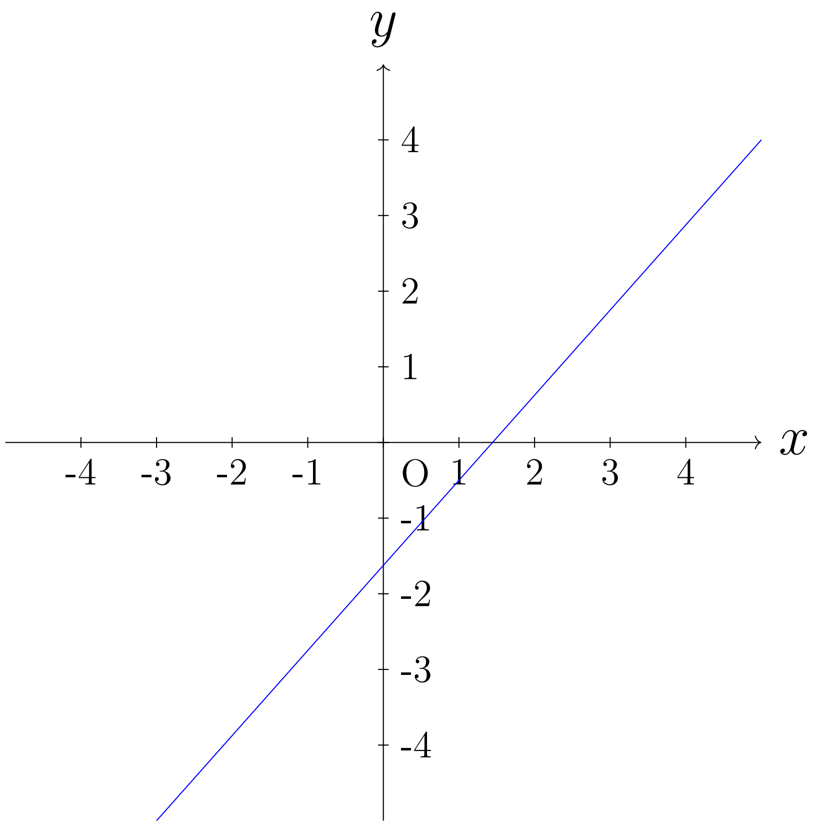
$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

$\{(x, y) \in \mathbb{R}^2\}$

Notation: Sets



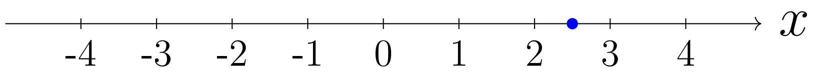


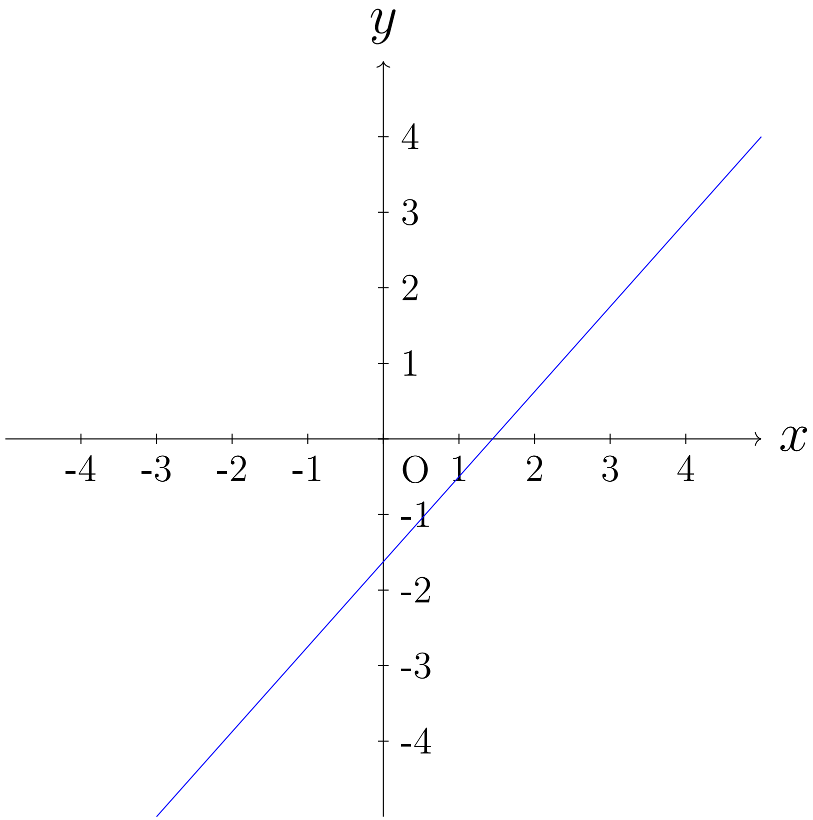
$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

$\{(x, y) \in \mathbb{R}^2 \mid \}$

Notation: Sets



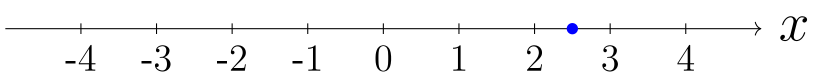


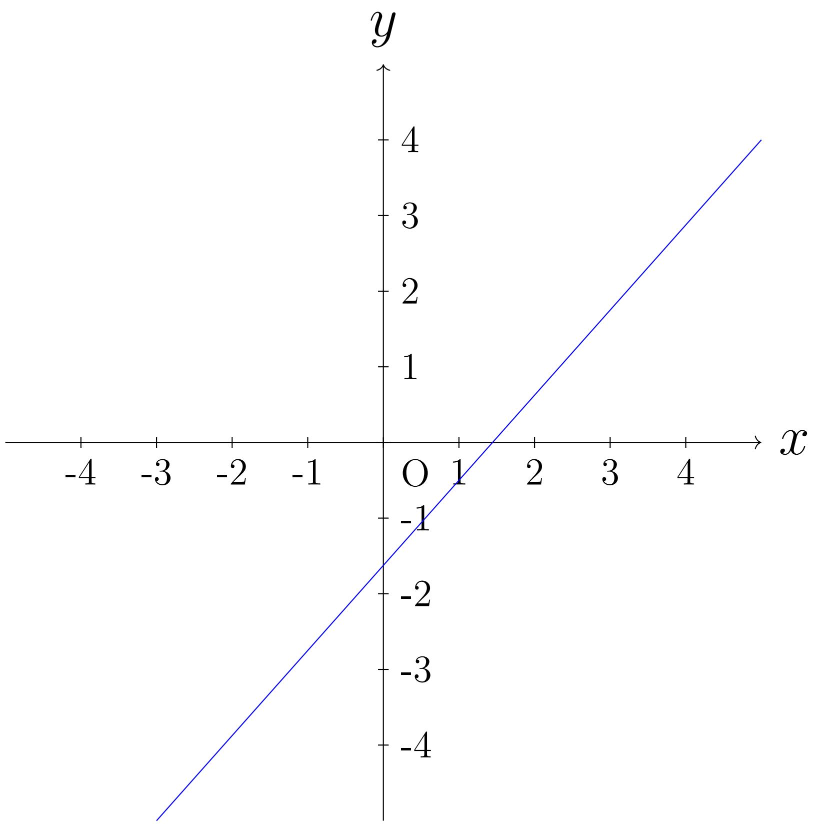
$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

$\{(x,y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Notation: Sets



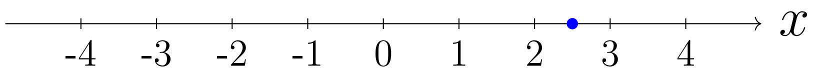


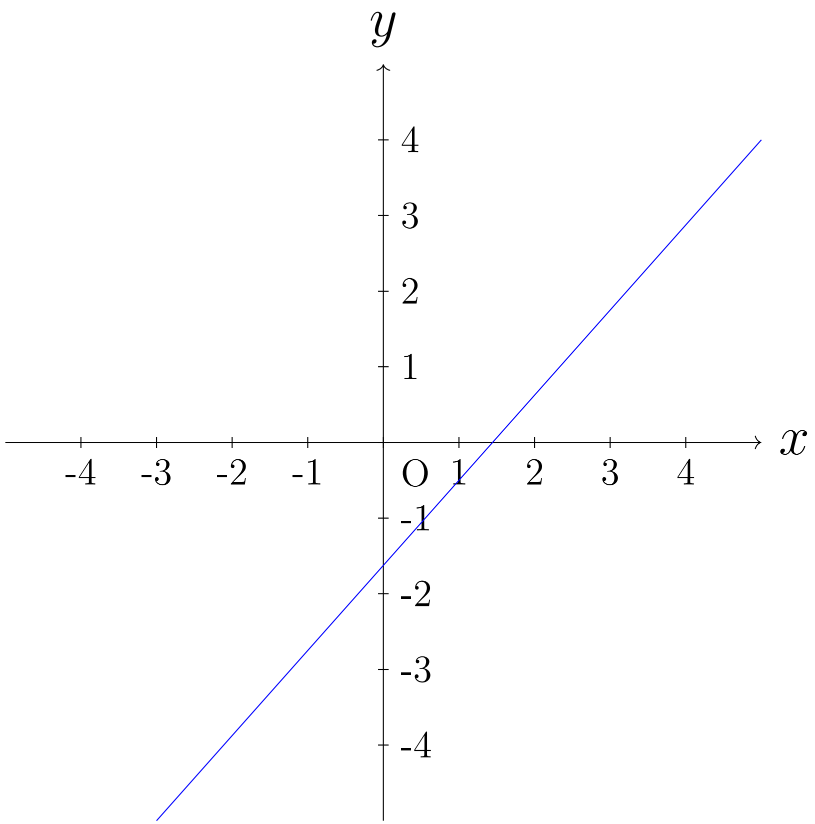
$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

$C := \{(x, y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Notation: Sets





$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

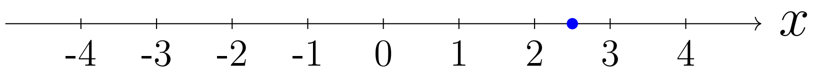
A line, defined by points (x, y) in the plane so that $y = x - 1.7$

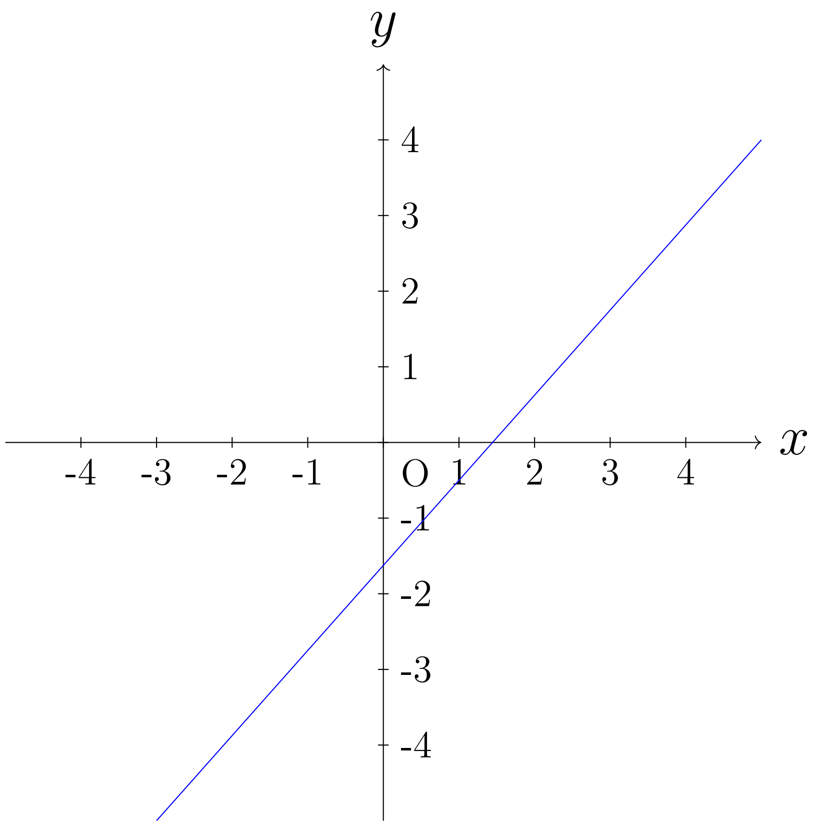
$C := \{(x, y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Examples.

1. $\mathbb{R}$: set of all real numbers. $2, \pi$ etc $\in \mathbb{R}$

Notation: Sets





$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

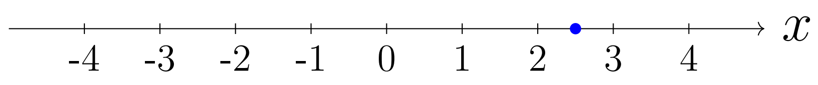
A line, defined by points (x, y) in the plane so that $y = x - 1.7$

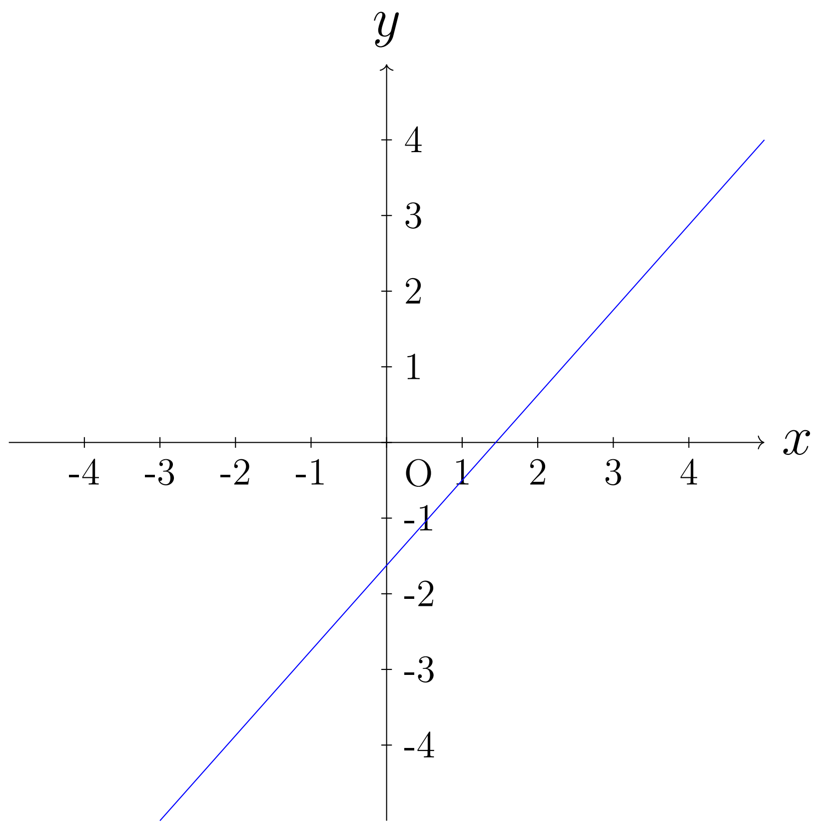
$C := \{(x, y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Examples.

1. $\mathbb{R}$: set of all real numbers. $2, \pi$ etc $\in \mathbb{R}$
2. $\{x \in \mathbb{R}\}$

Notation: Sets





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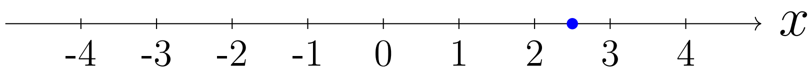
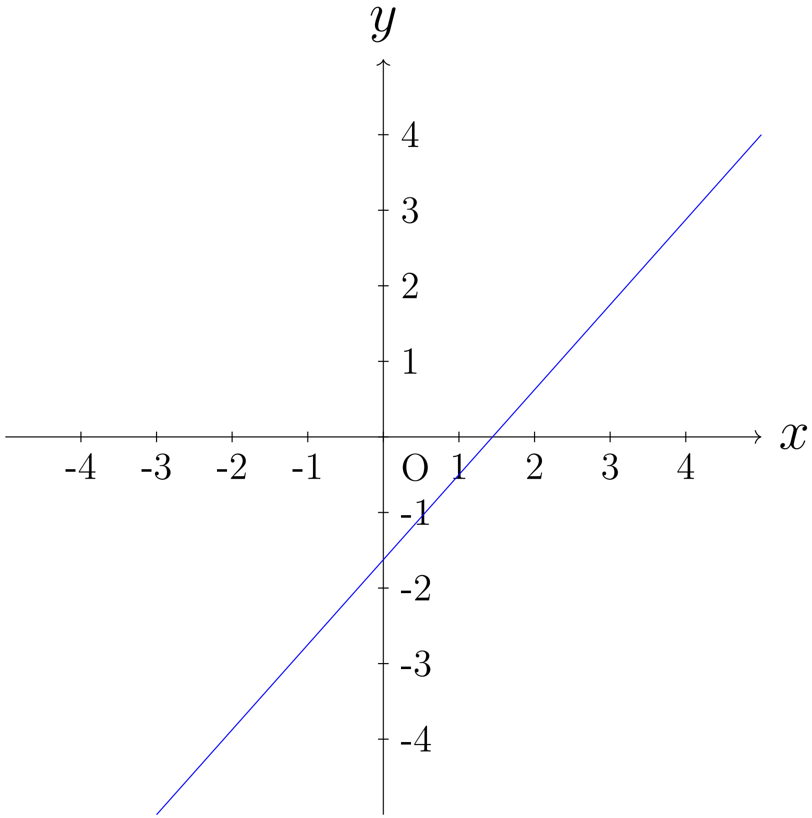
Examples.

1. $\mathbb{R}$: set of all real numbers. $2, \pi$ etc $\in \mathbb{R}$
2. $\{x \in \mathbb{R} \mid \}$

Notation: Sets





$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

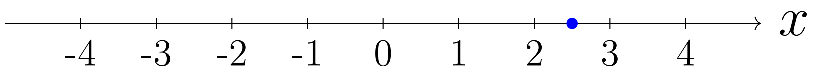
A line, defined by points (x, y) in the plane so that $y = x - 1.7$

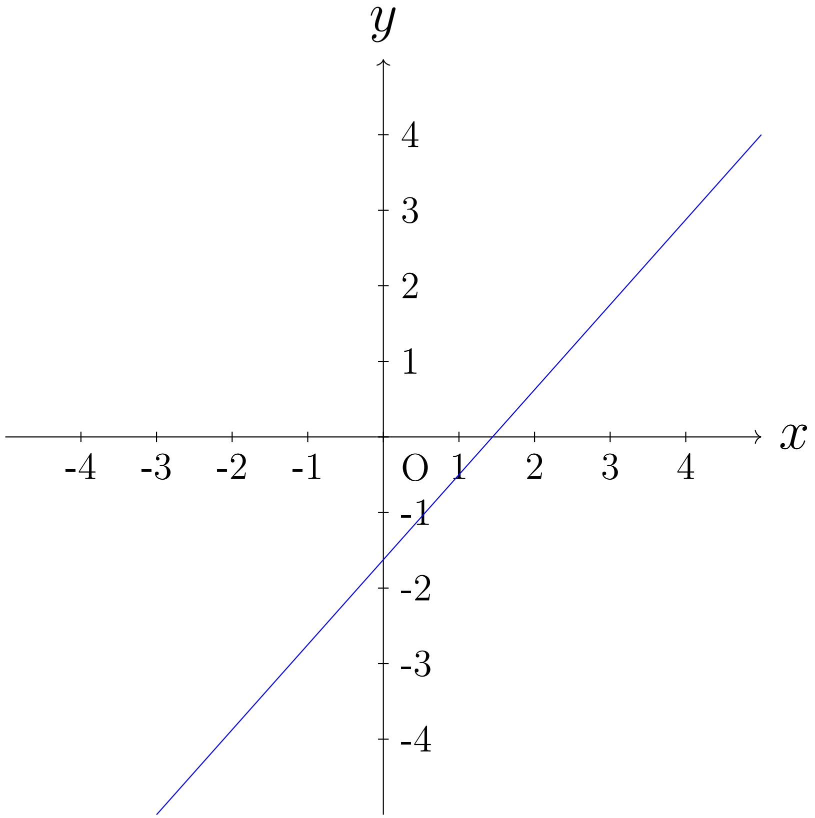
$C := \{(x, y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Examples.

1. $\mathbb{R}$: set of all real numbers. $2, \pi$ etc $\in \mathbb{R}$
2. $\{x \in \mathbb{R} \mid \alpha < x\}$

Notation: Sets





$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

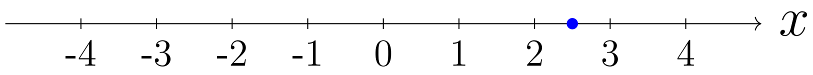
A line, defined by points (x, y) in the plane so that $y = x - 1.7$

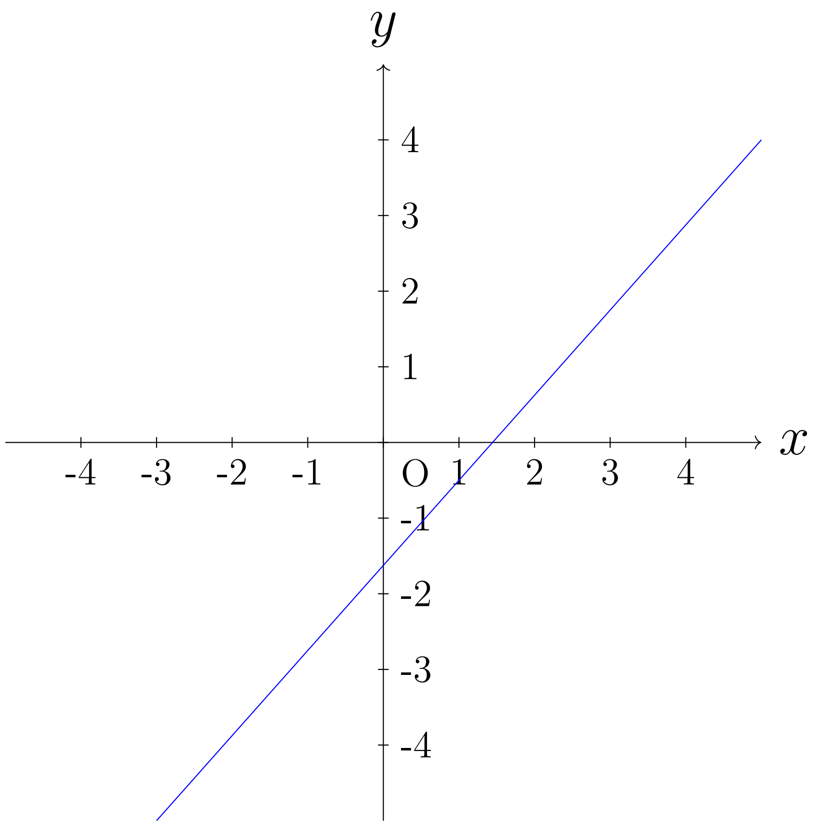
$C := \{(x,y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Examples.

1. $\mathbb{R}$: set of all real numbers. $2, \pi$ etc $\in \mathbb{R}$
2. $\{x \in \mathbb{R} \mid \alpha < x < \beta\}$

Notation: Sets





$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

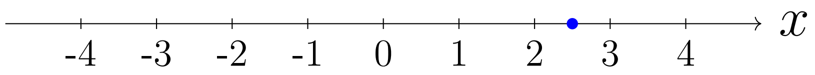
A line, defined by points (x, y) in the plane so that $y = x - 1.7$

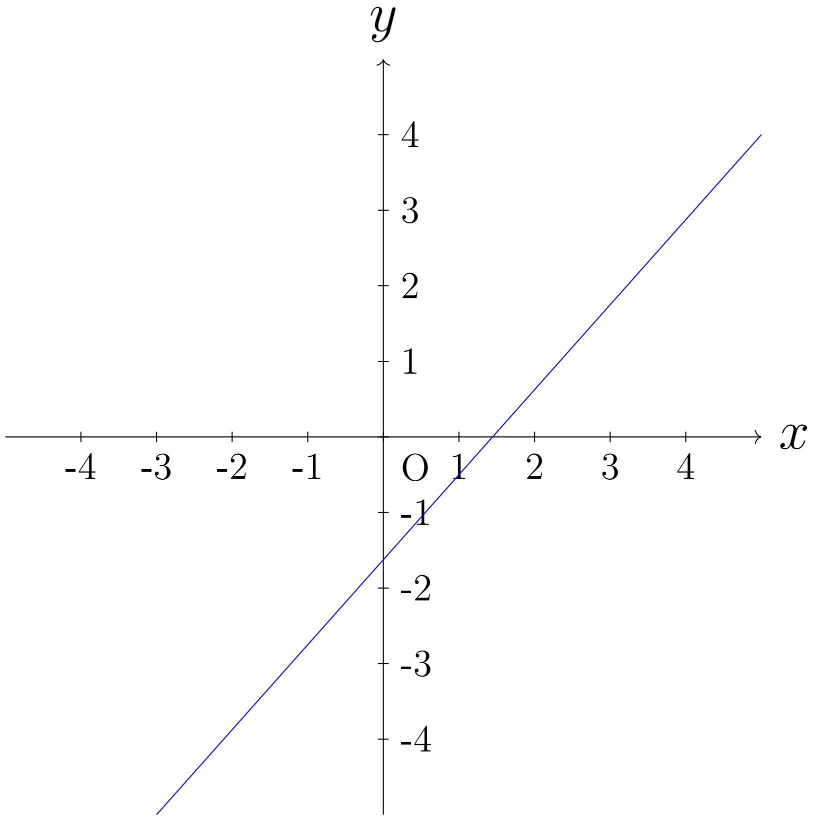
$C := \{(x,y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Examples.

1. $\mathbb{R}$: set of all real numbers. $2, \pi$ etc $\in \mathbb{R}$
2. $:= \{x \in \mathbb{R} \mid \alpha < x < \beta\}$

Notation: Sets





$S := \{(1,1),(1,2),(1,3)\} \subset \mathbb{R}^2$

A line, defined by points (x, y) in the plane so that $y = x - 1.7$

$C := \{(x, y) \in \mathbb{R}^2 \mid y = x - 1.75\}$

Examples.

1. $\mathbb{R}$: set of all real numbers. $2, \pi$ etc $\in \mathbb{R}$
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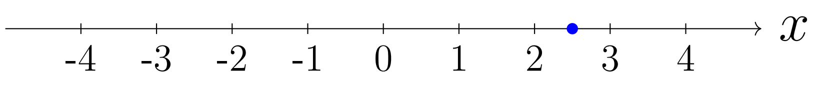
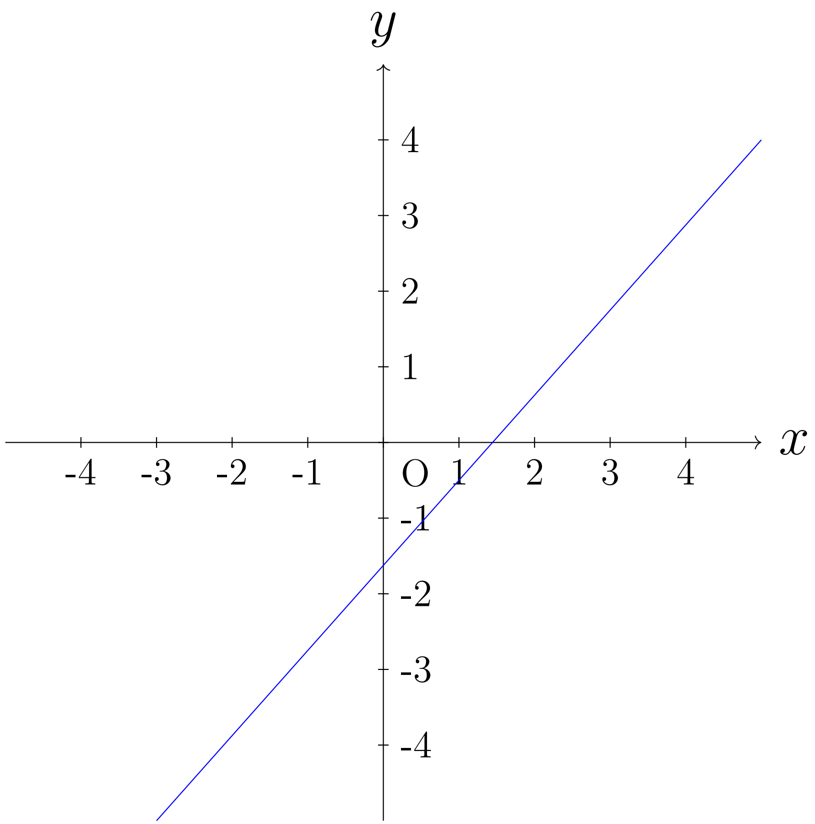
Notation: Sets





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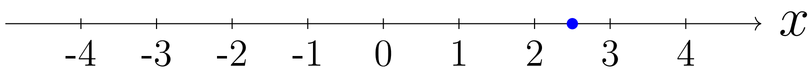

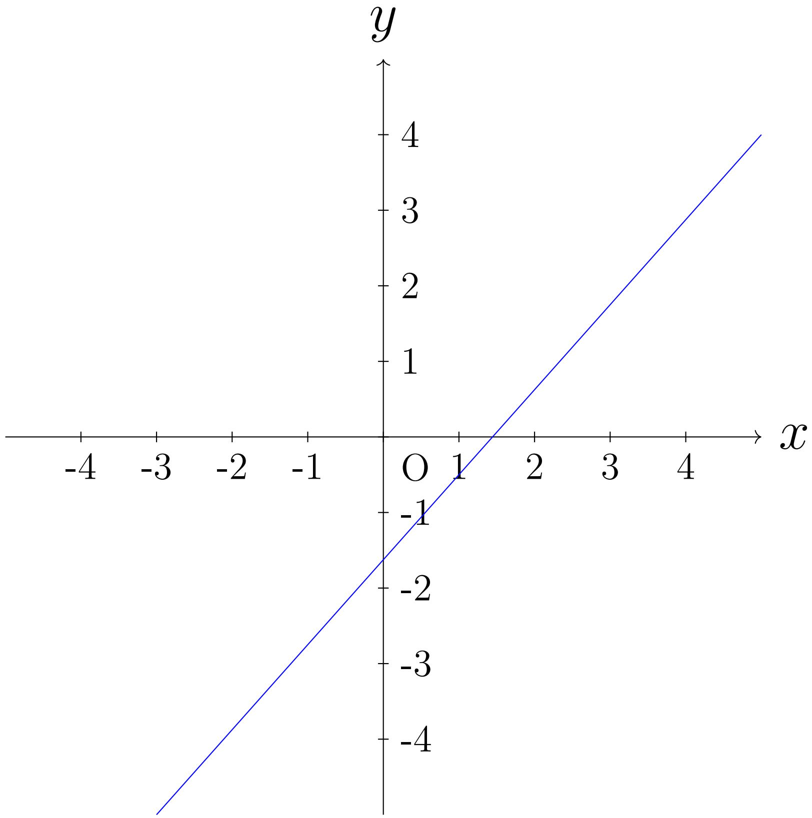

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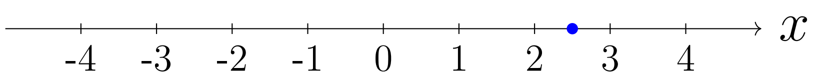

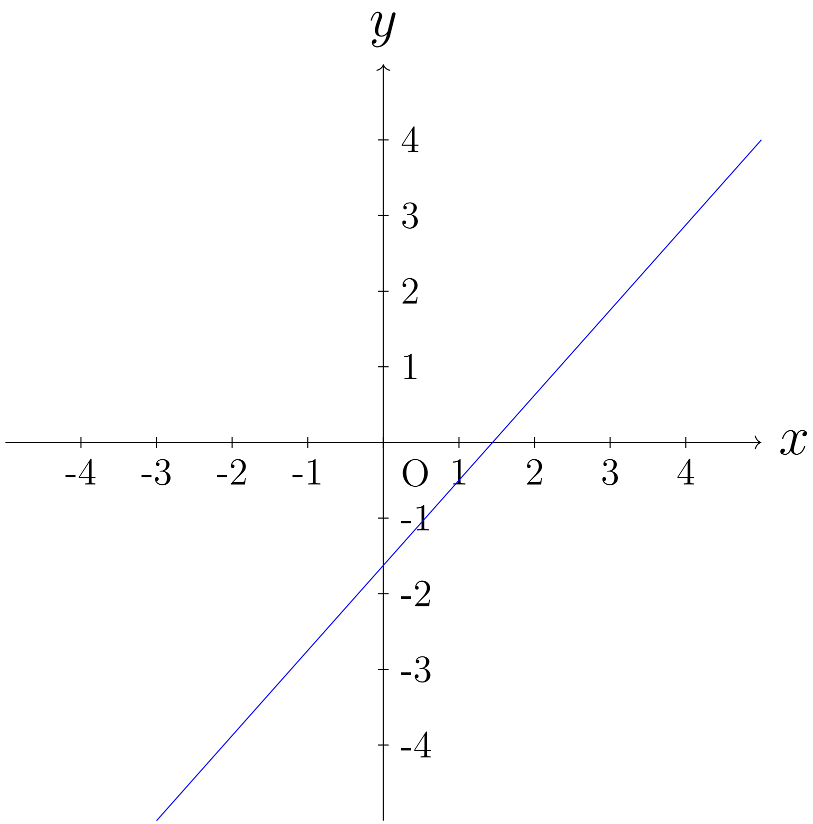

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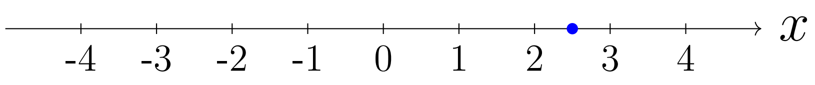

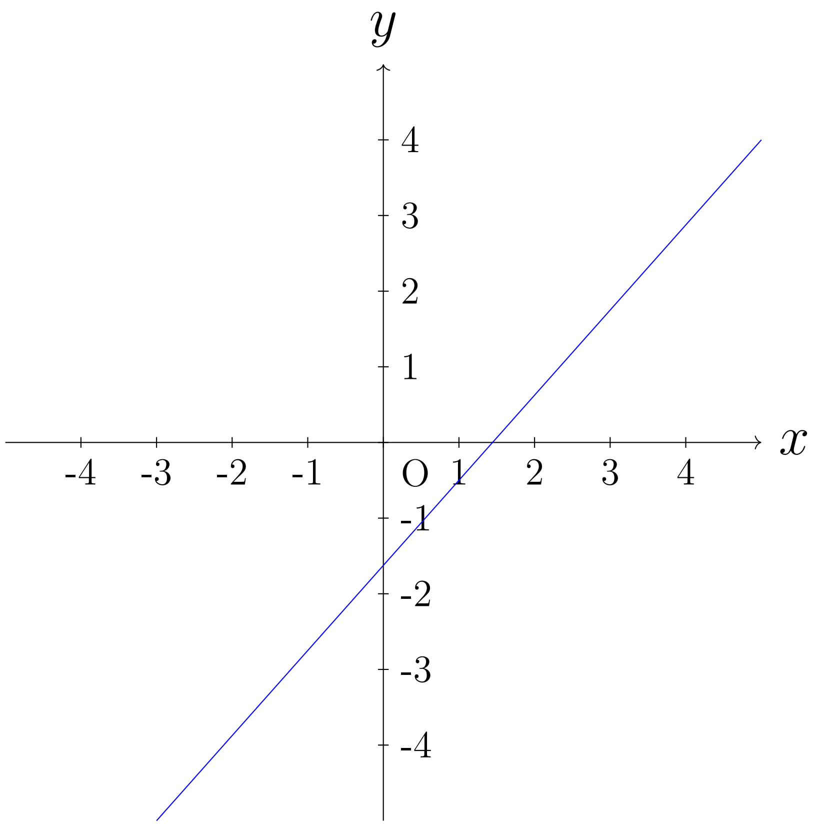

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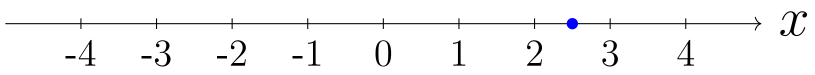

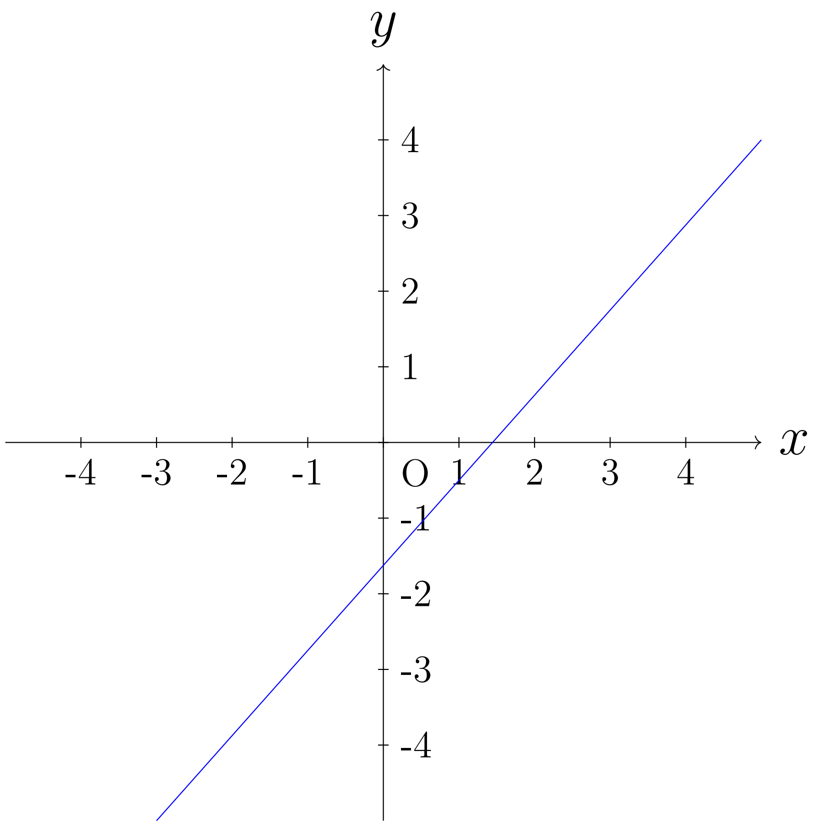

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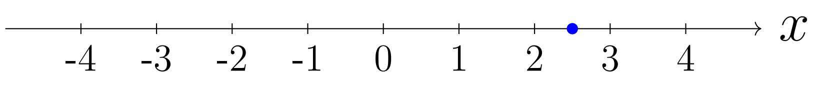

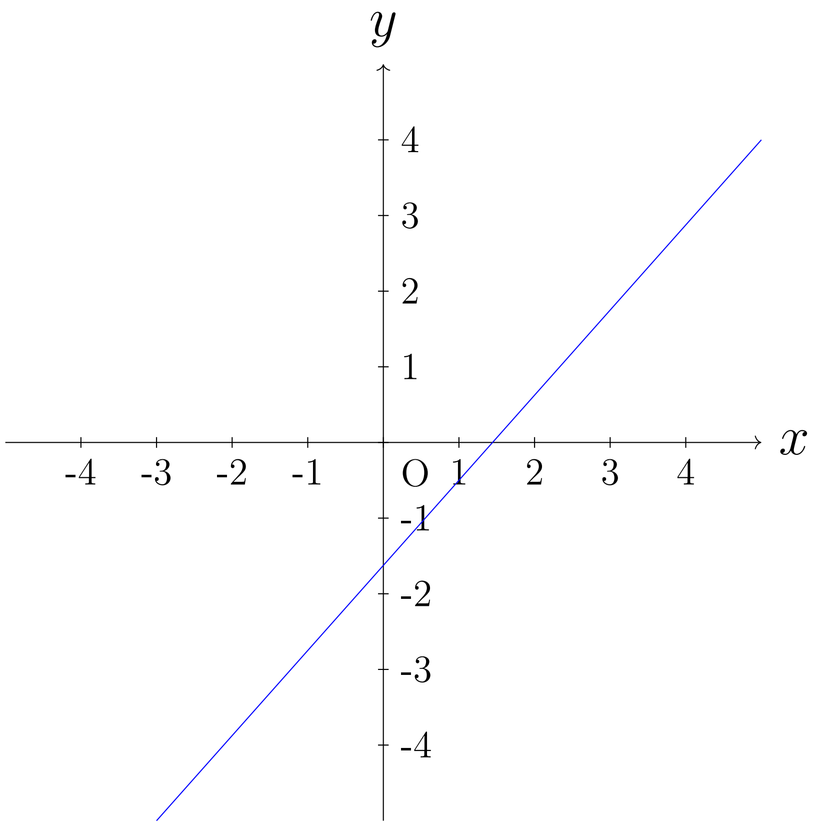

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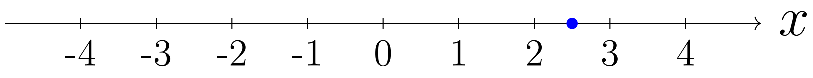

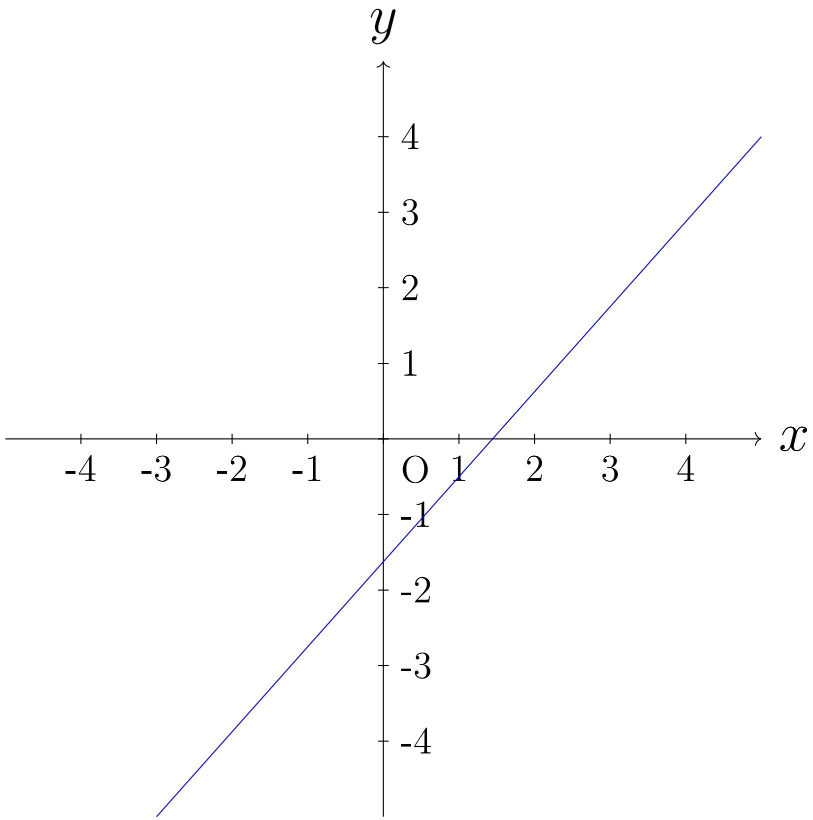

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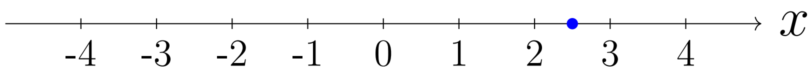

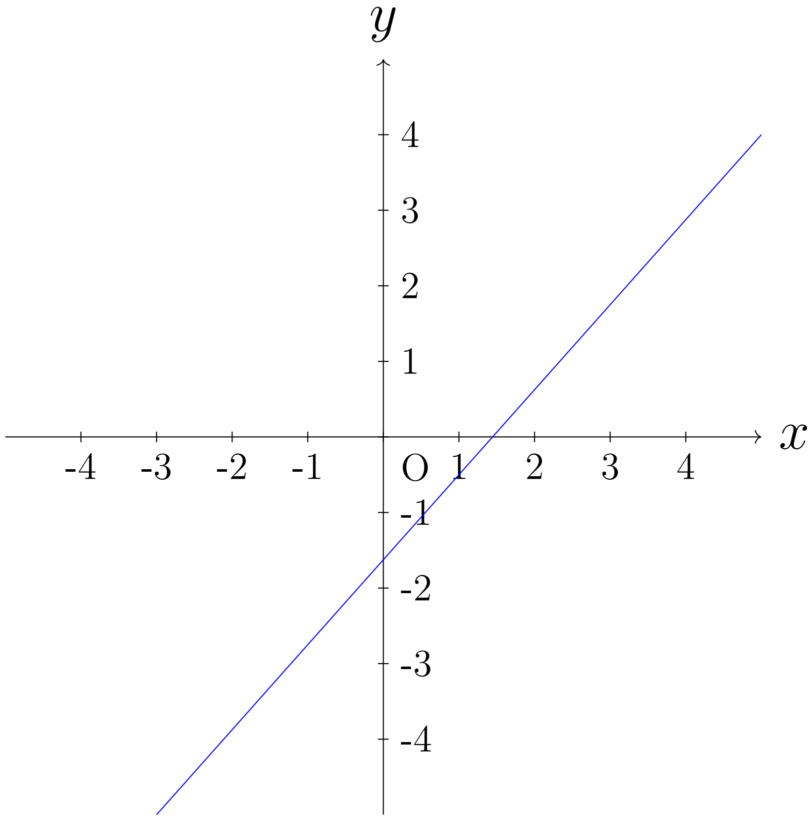

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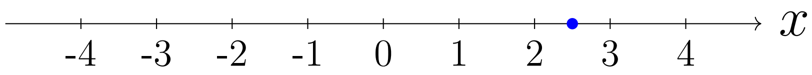

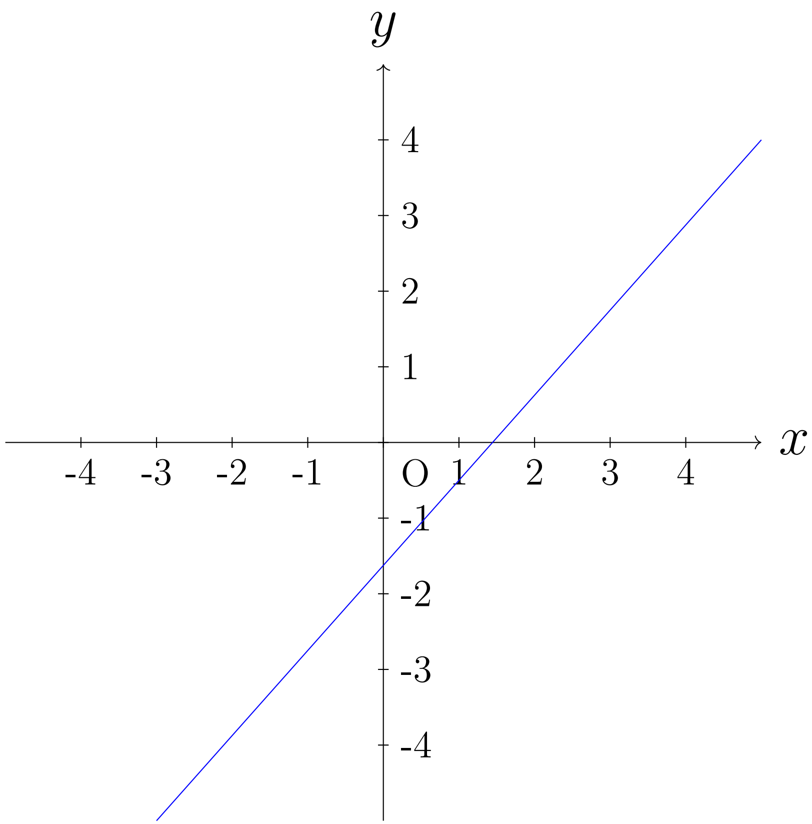

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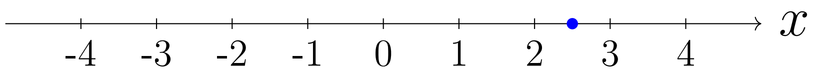

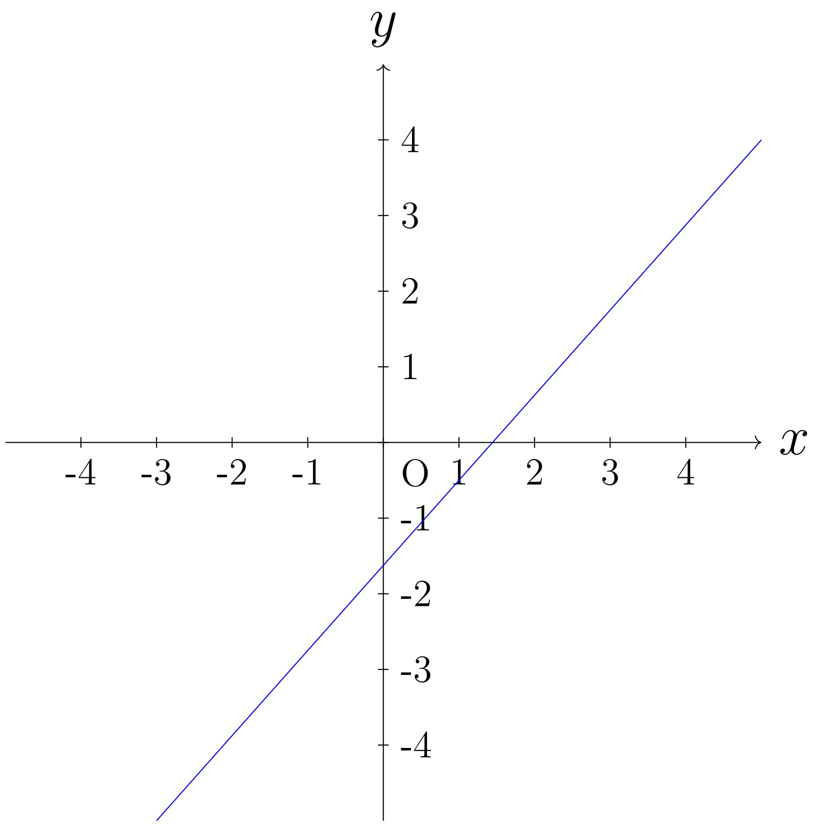

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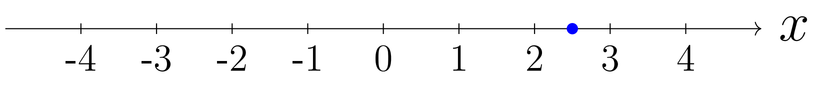

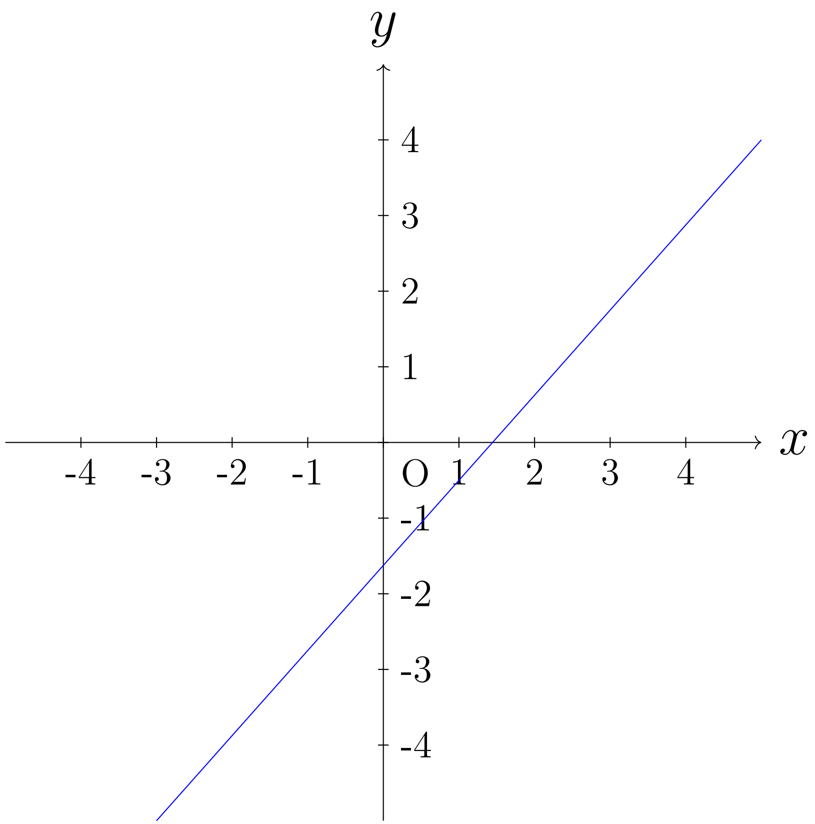

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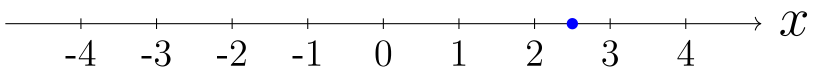

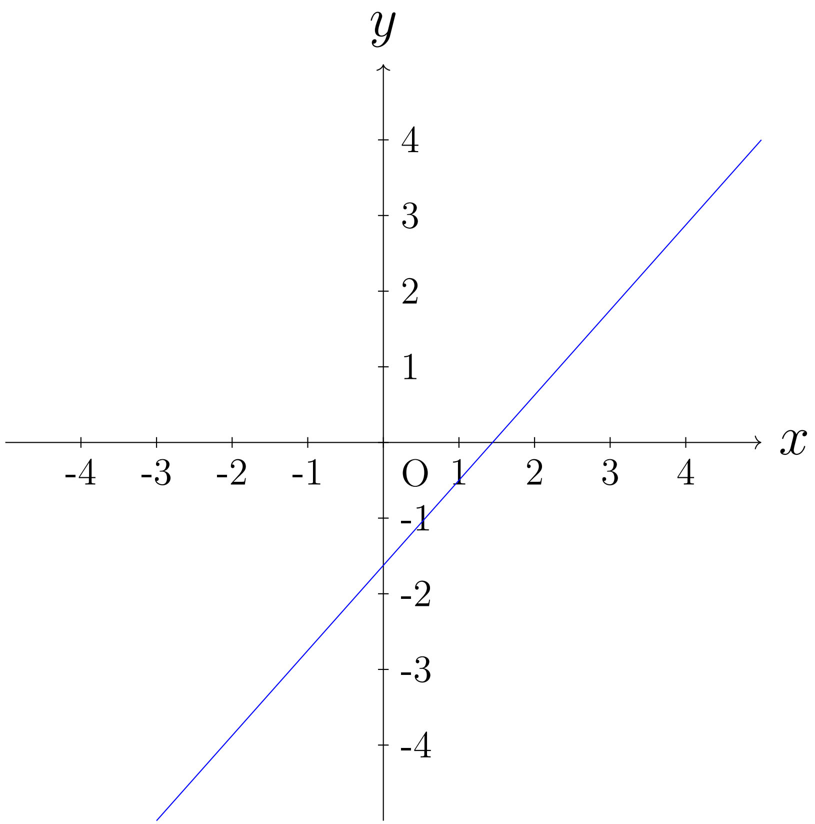

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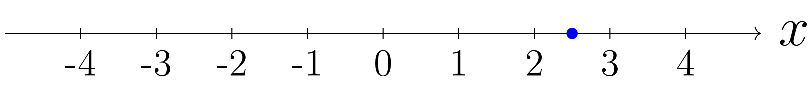

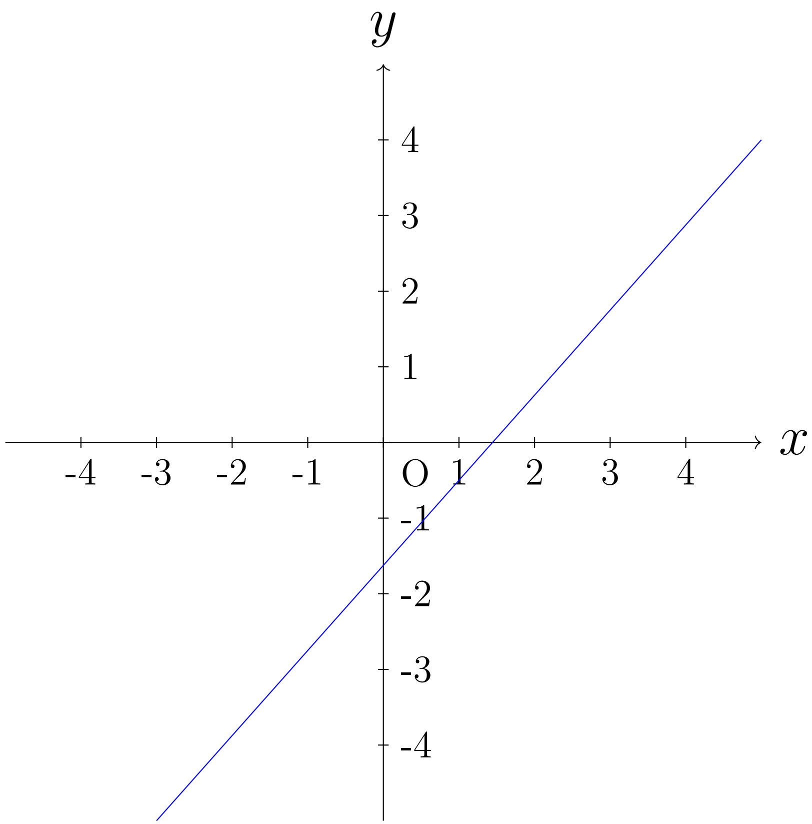

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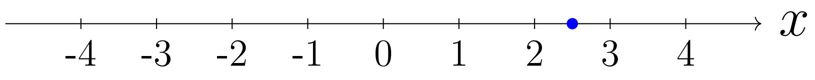

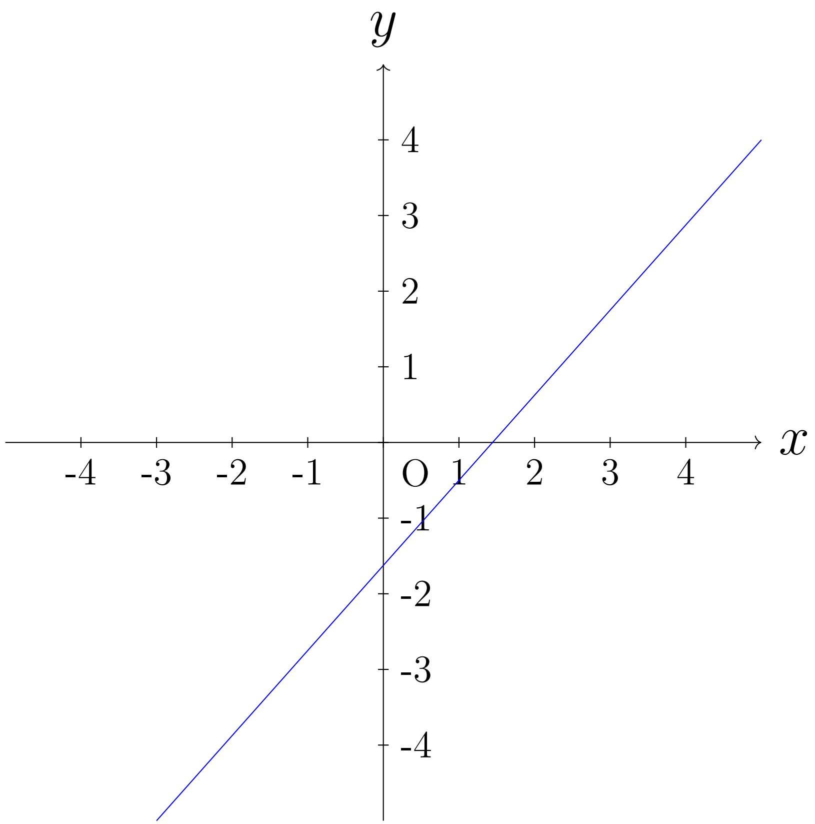

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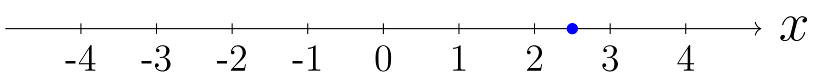

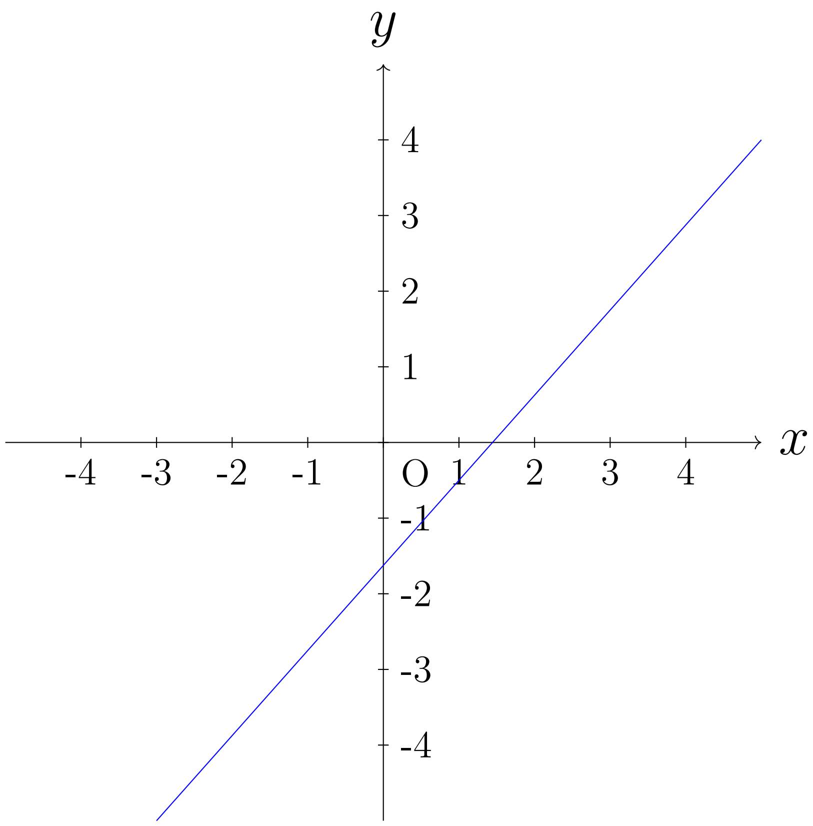

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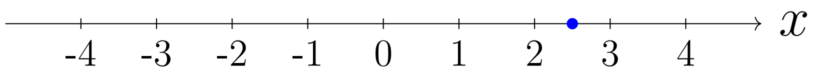

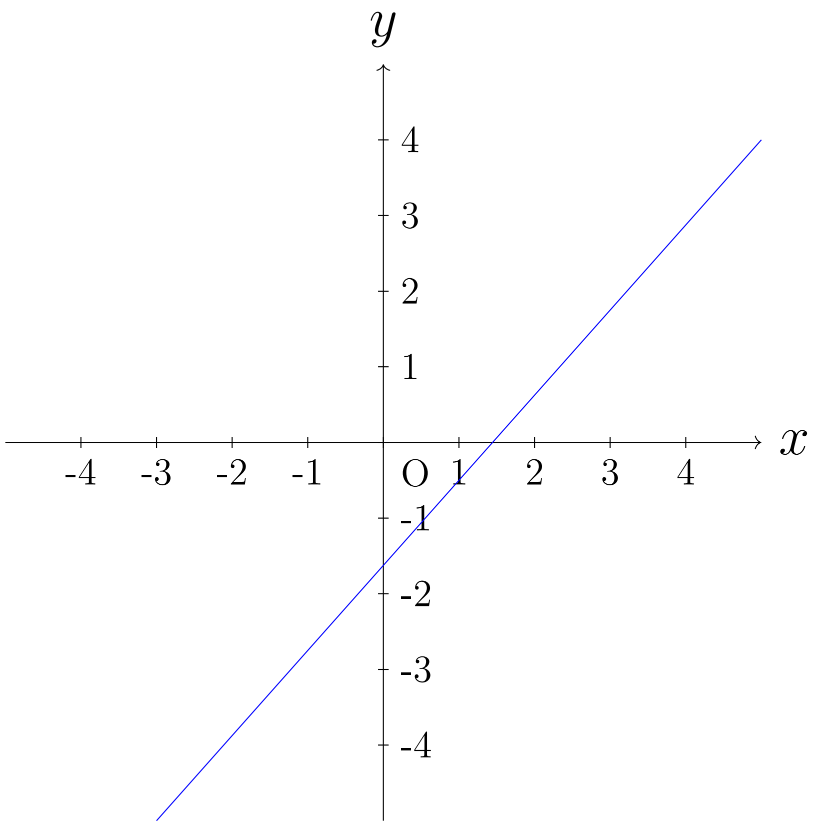

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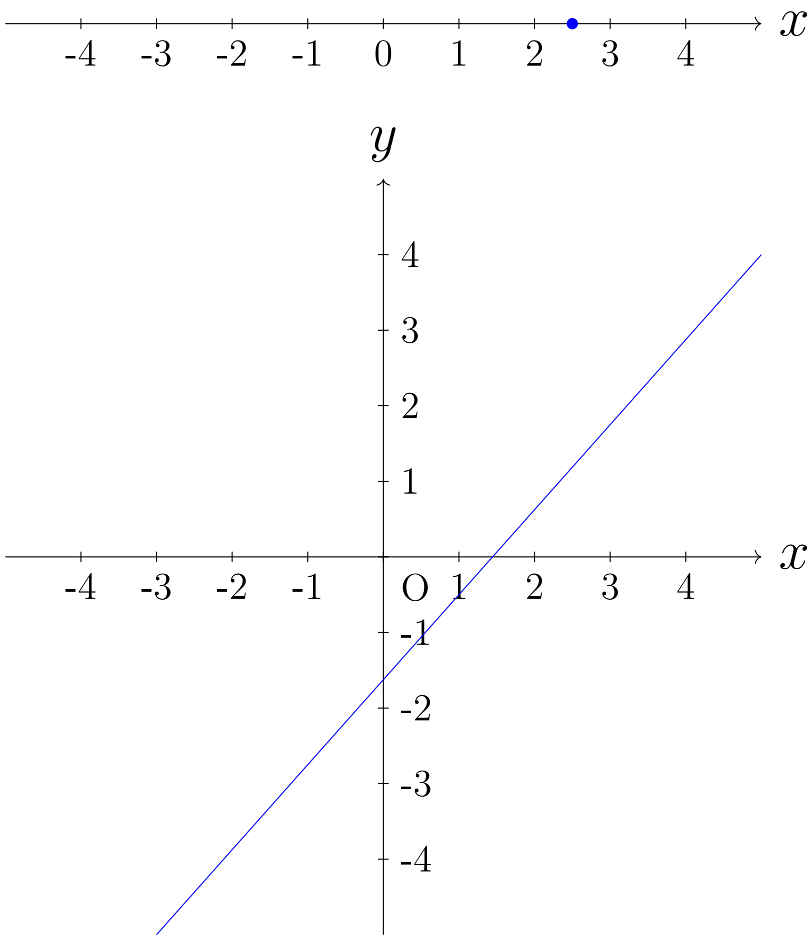

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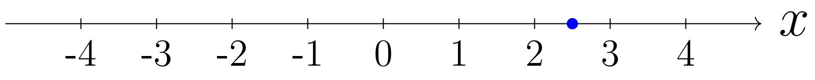

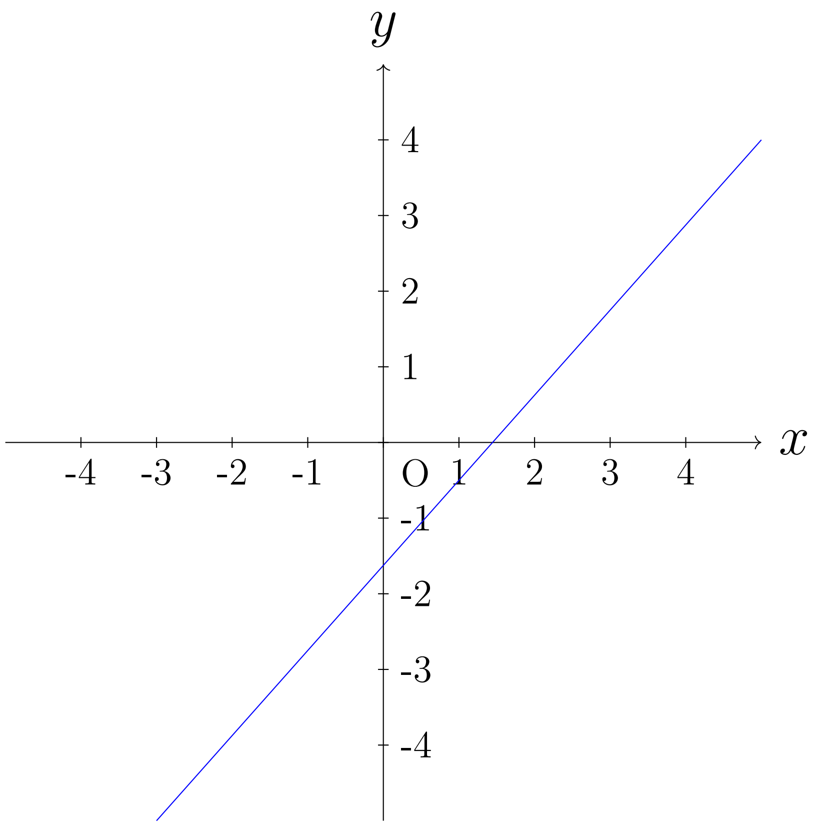

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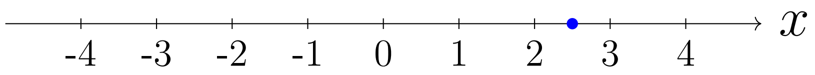

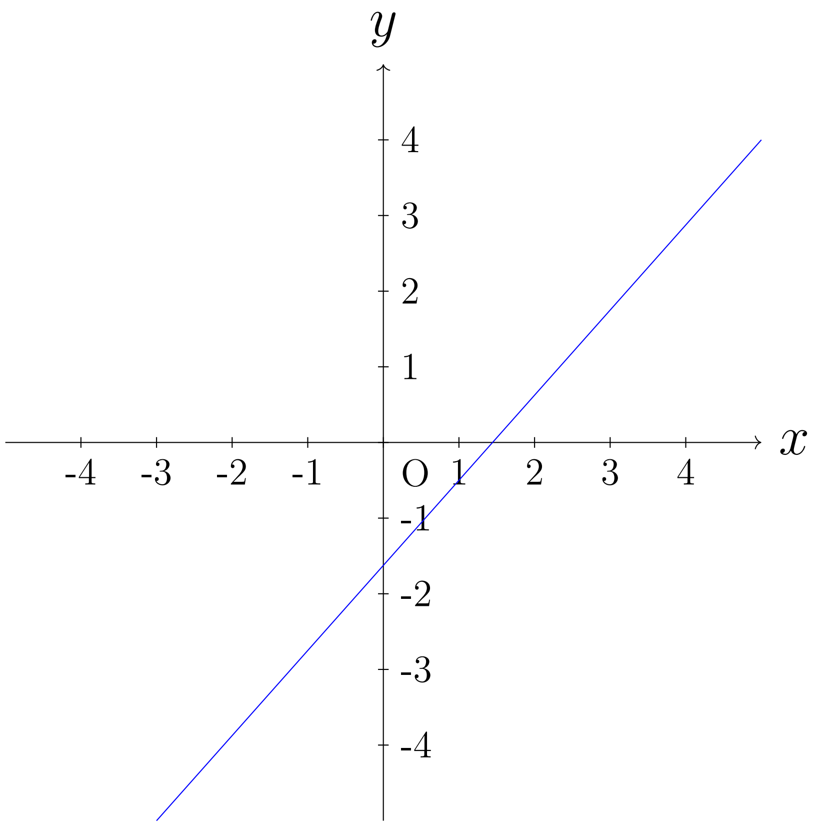

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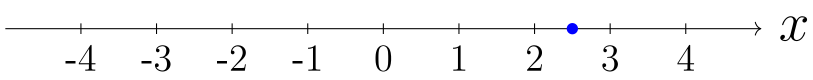

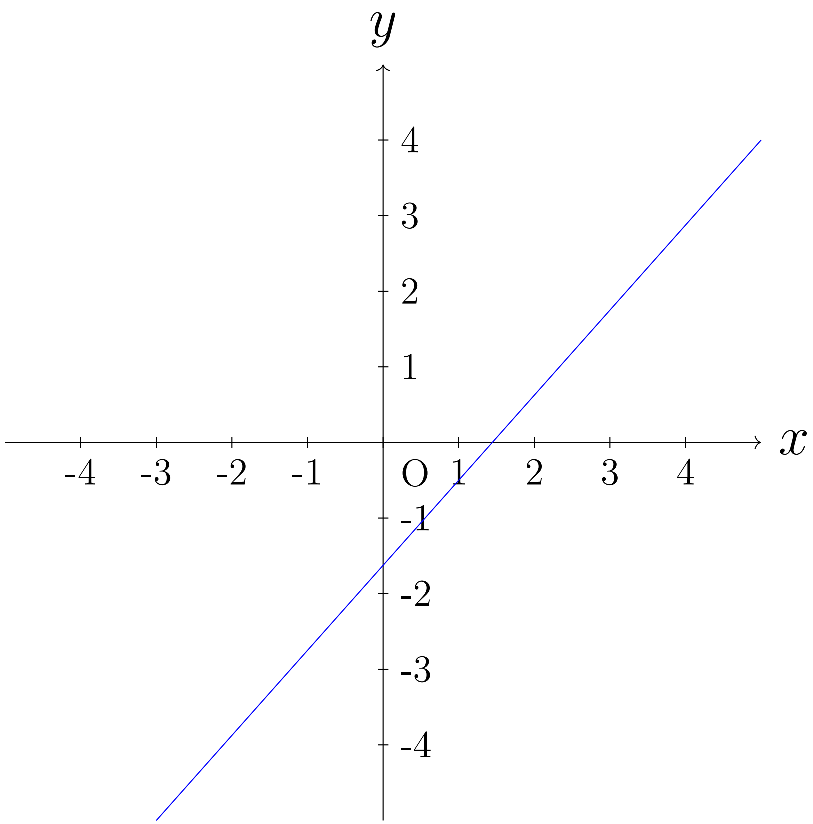

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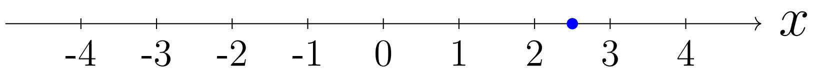

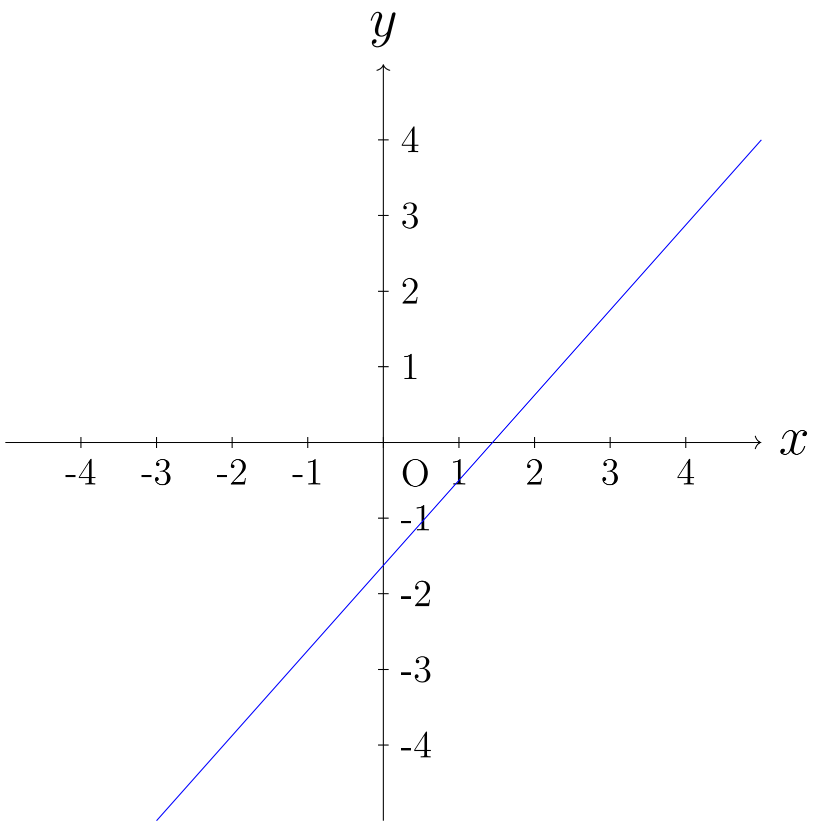

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A line, defined by points (x, y) in the plane so that $y = x - 1.7$

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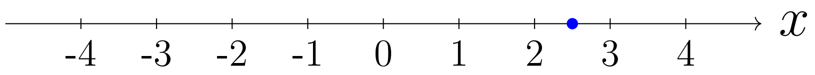

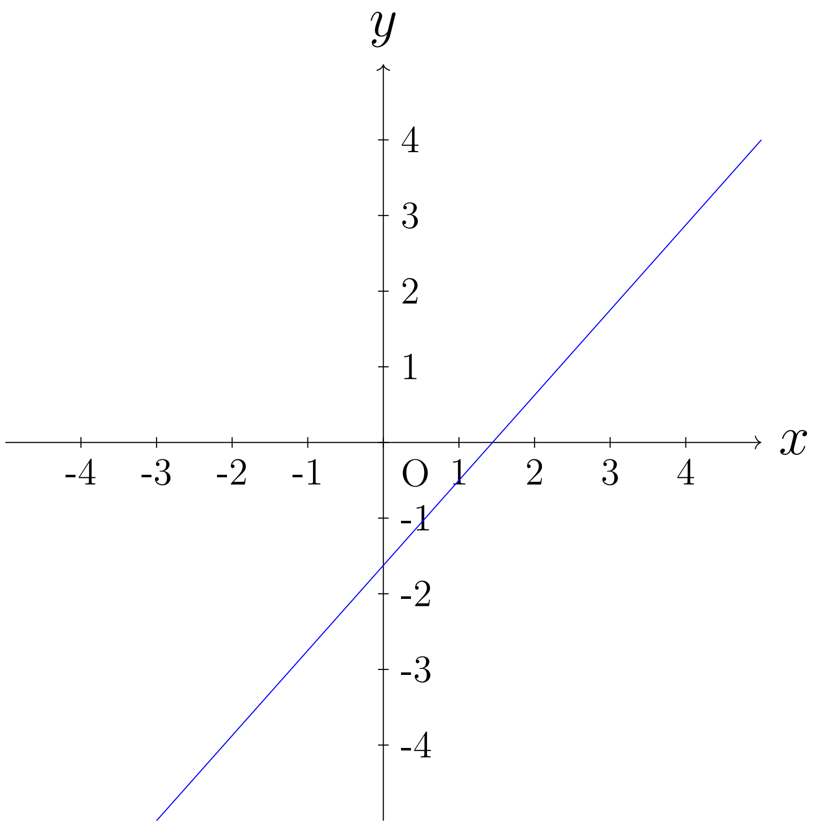

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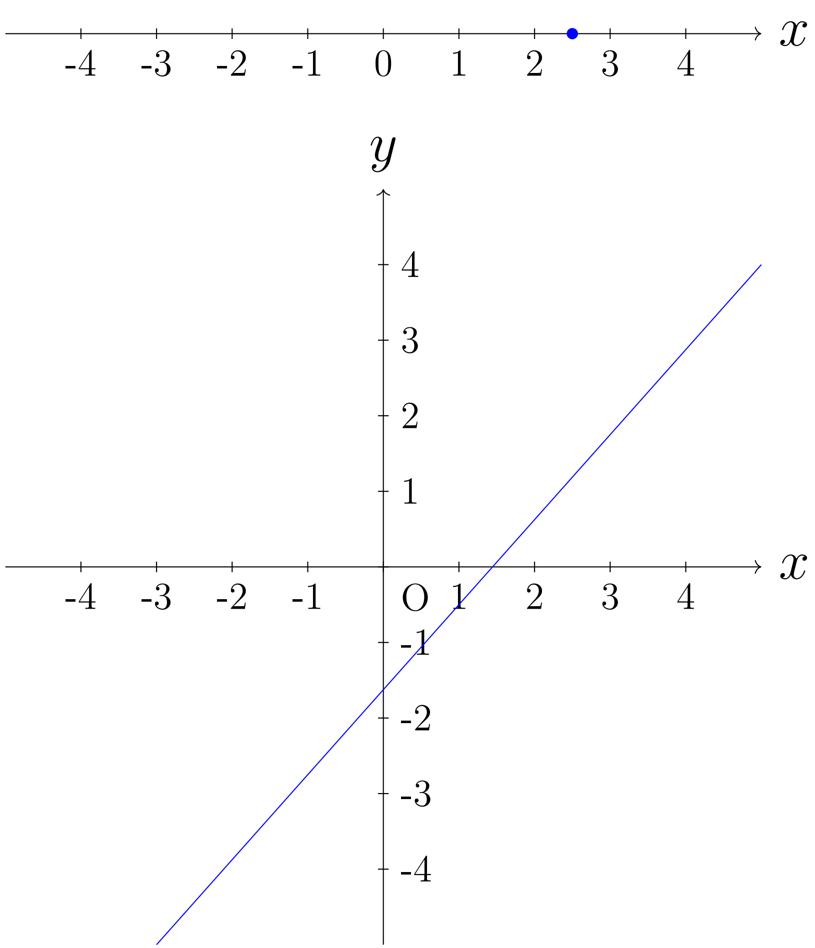

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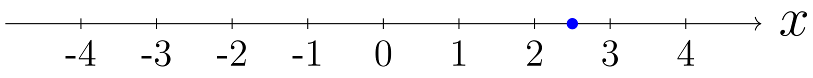
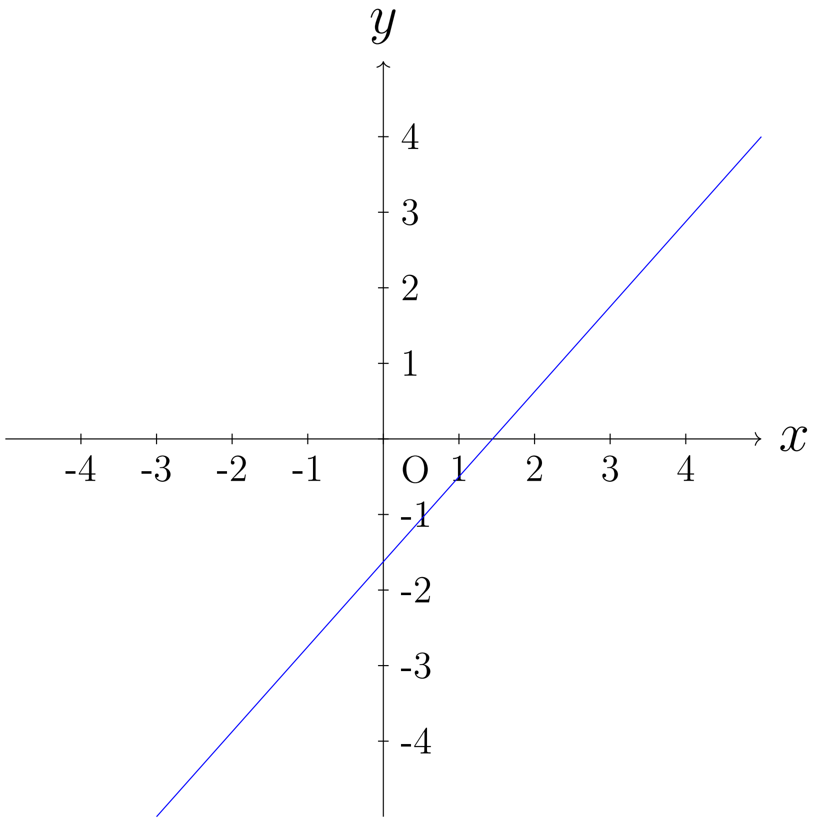
Notation: Sets





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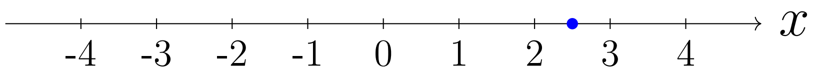

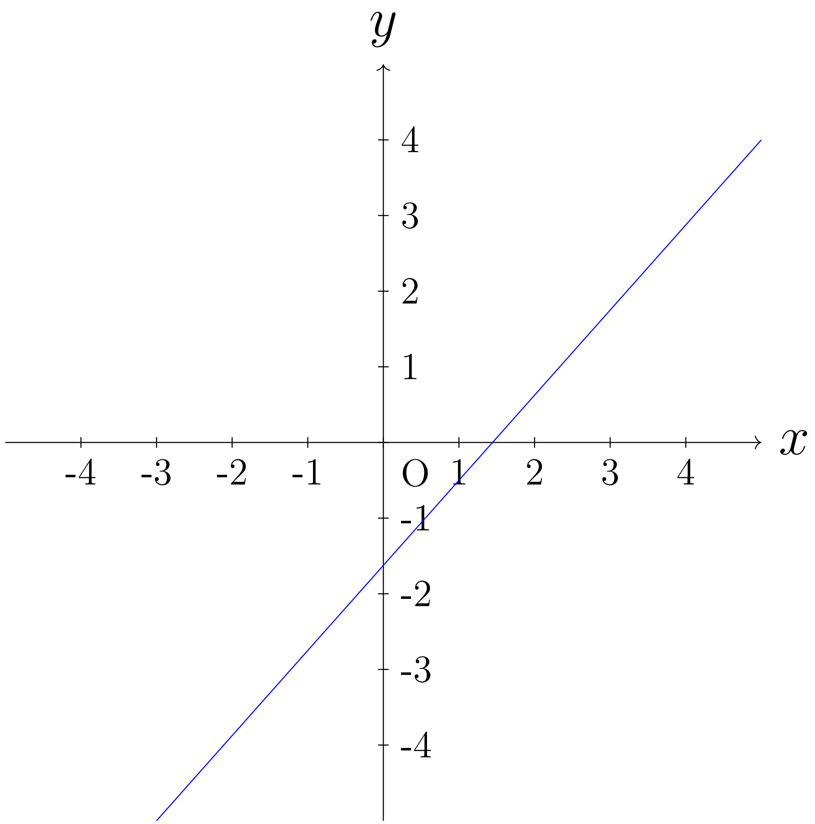

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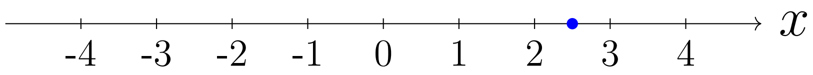

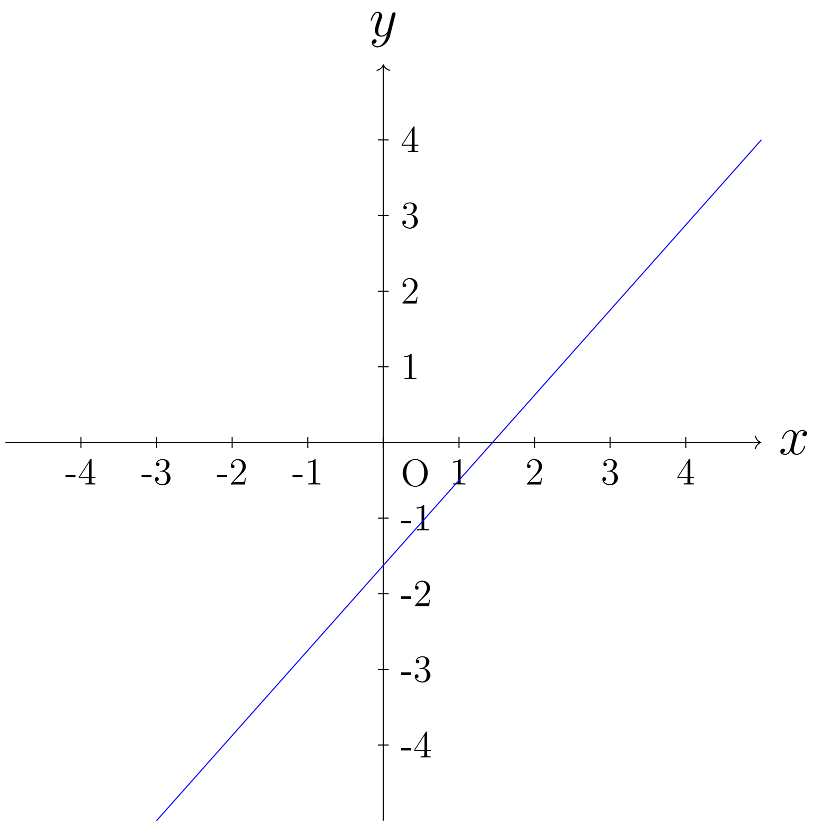

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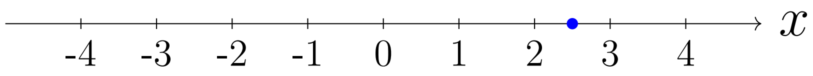

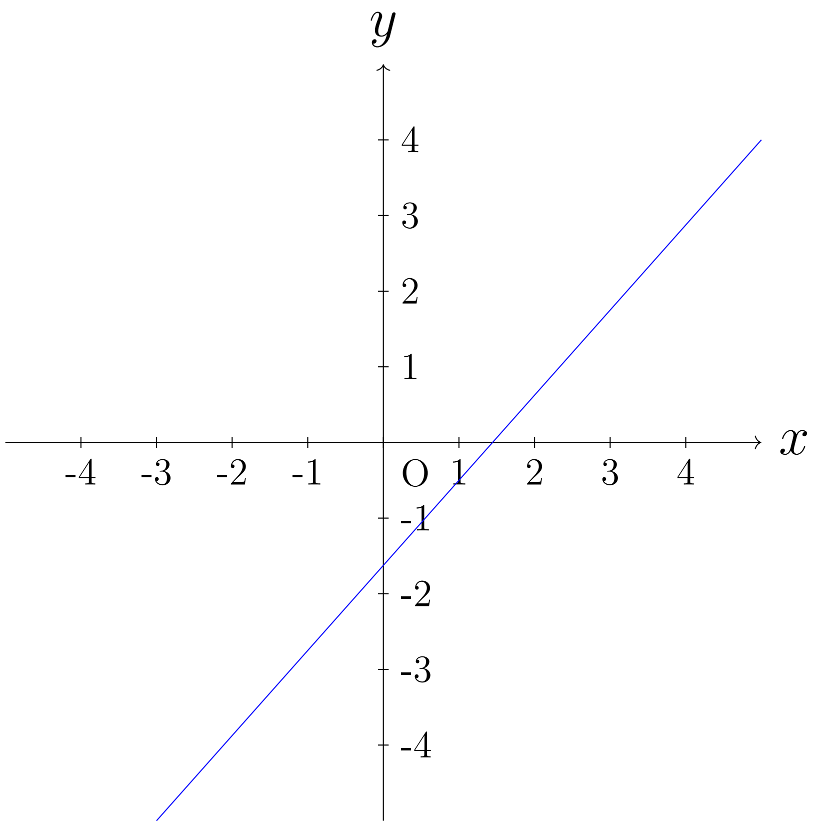

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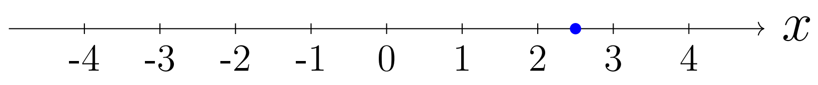

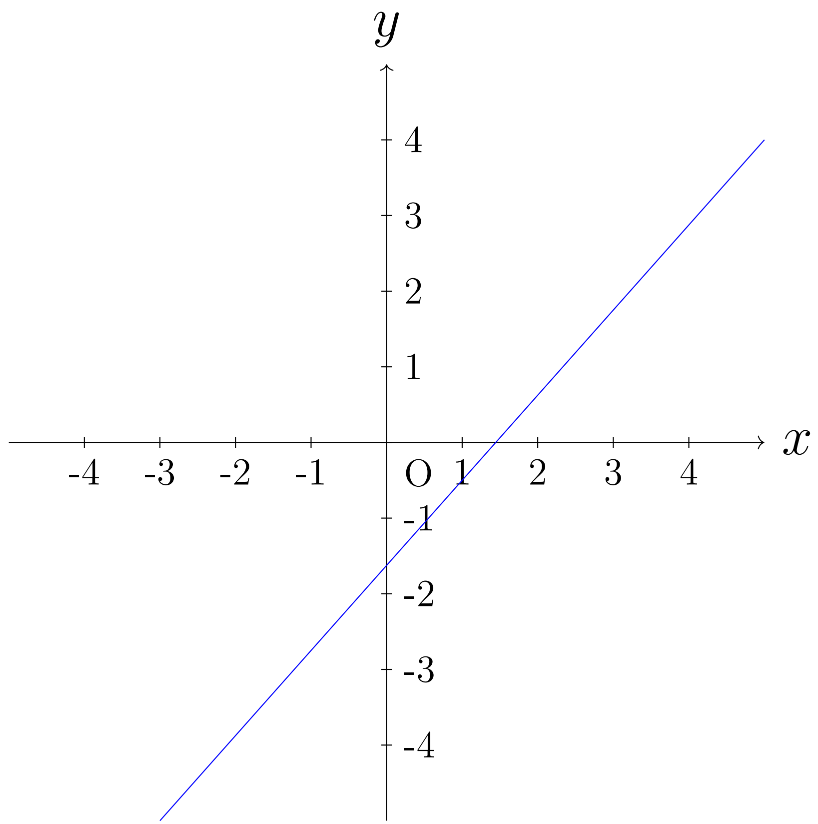

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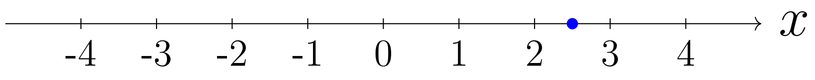

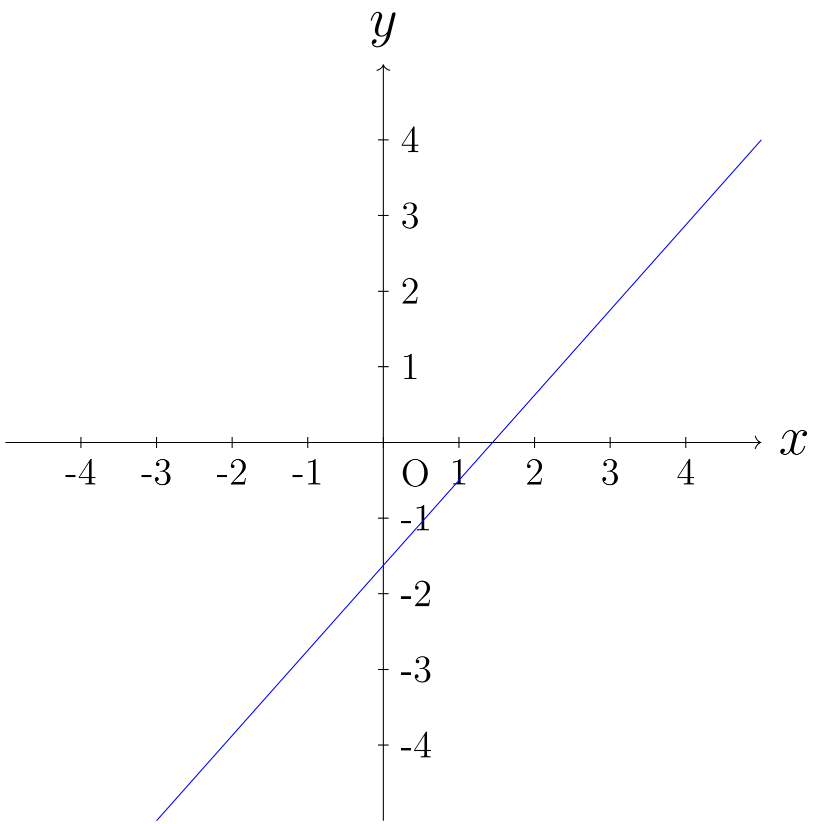

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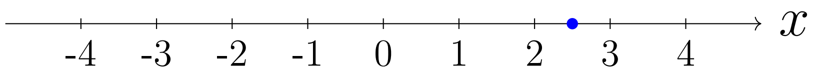

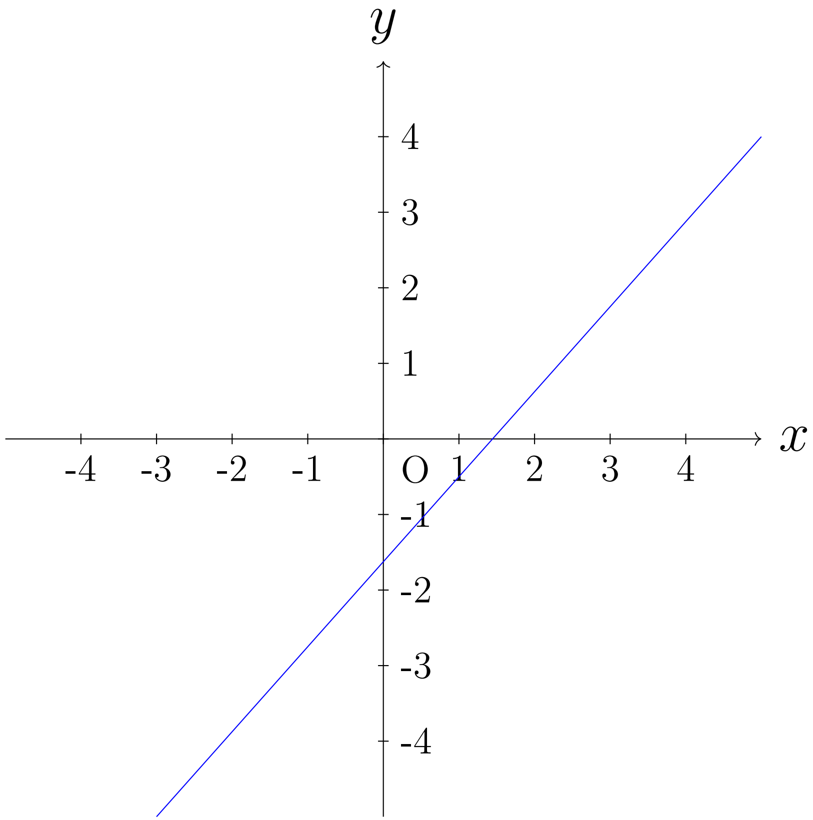

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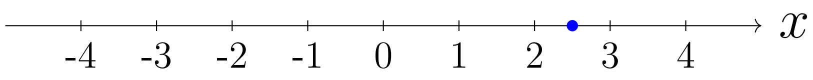

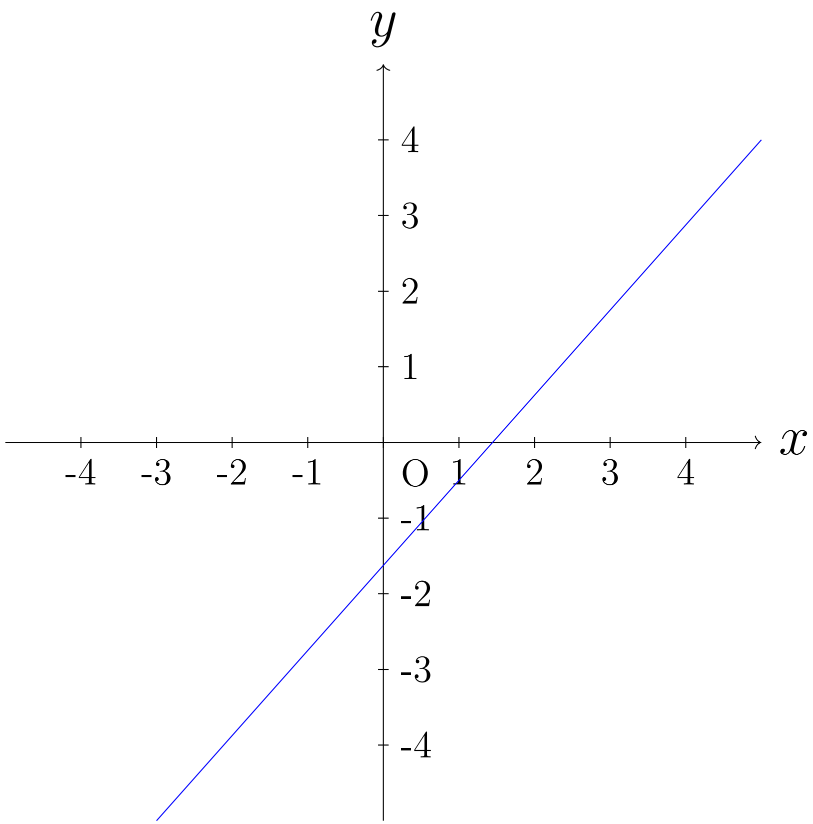

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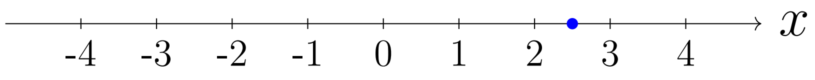

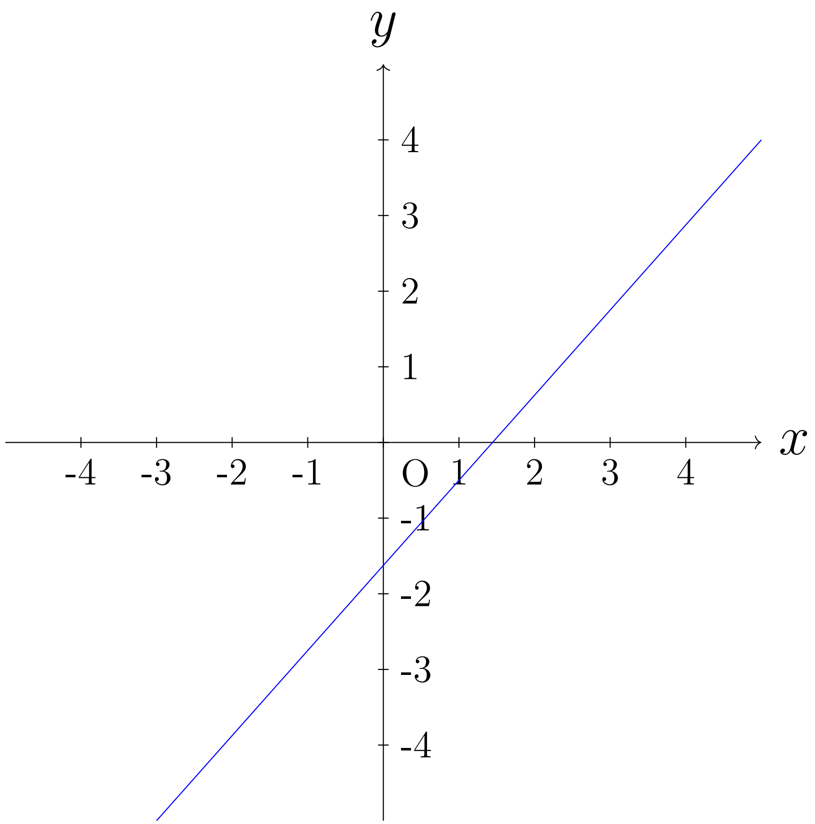

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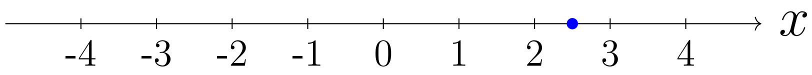
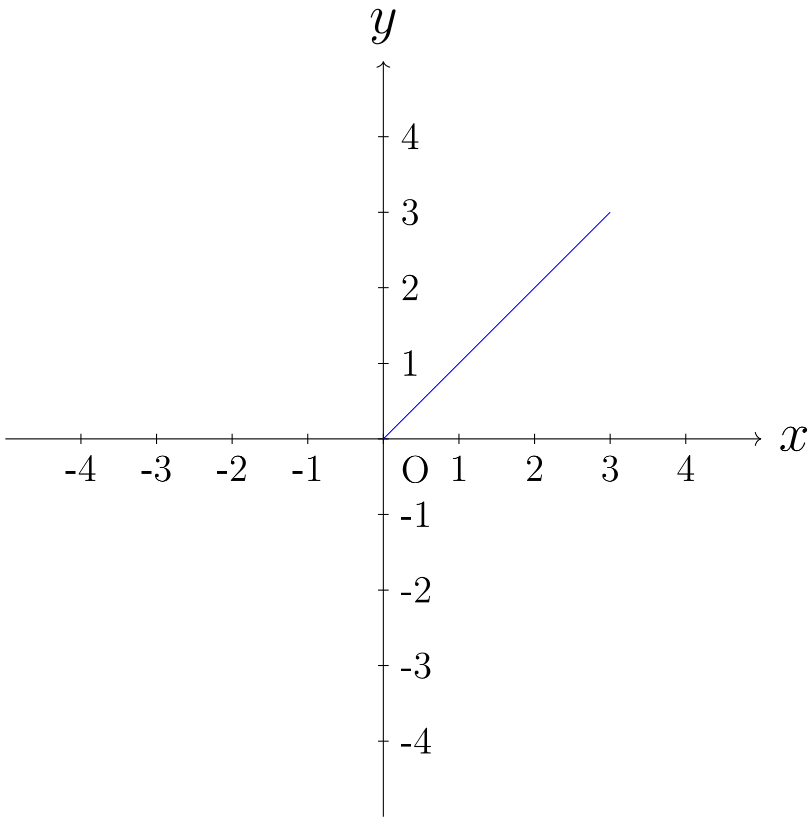
Notation: Sets

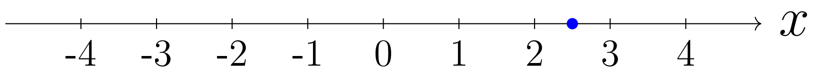
$\{???\}$

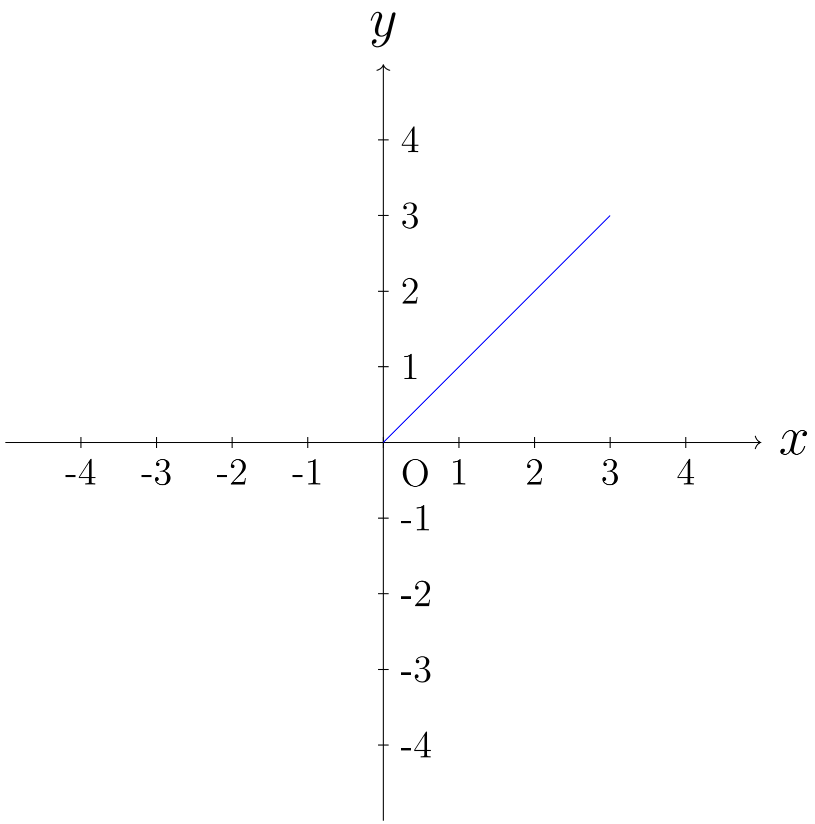




Notation: Sets

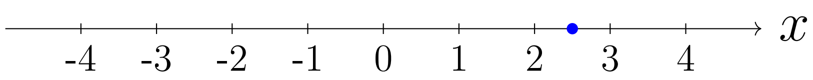
$$\{(x, y)\}$$

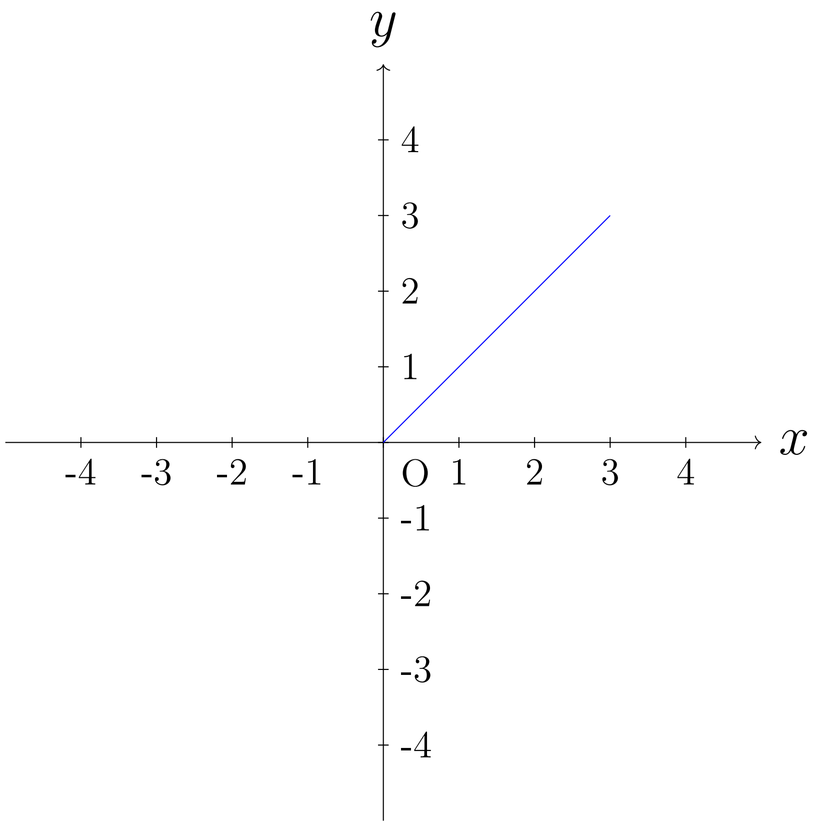




Notation: Sets

$$\{(x, y) \in \mathbb{R}^2\}$$





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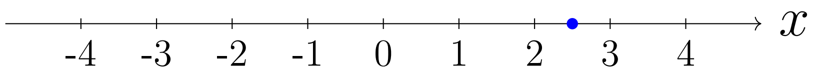
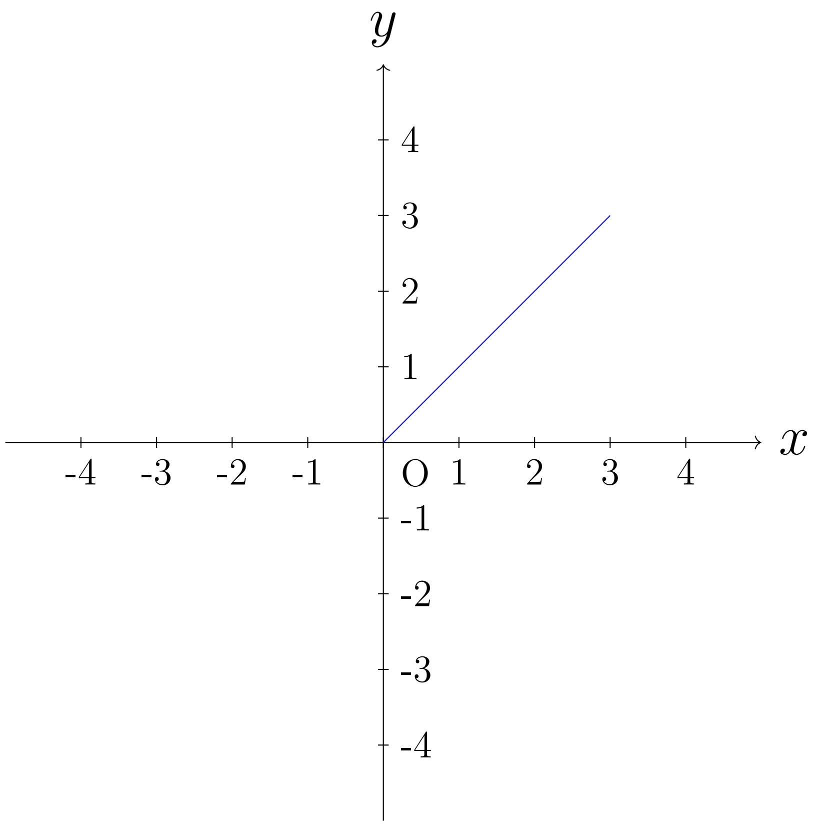
$$\{(x, y) \in \mathbb{R}^2 \mid \}$$





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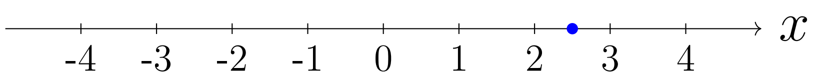
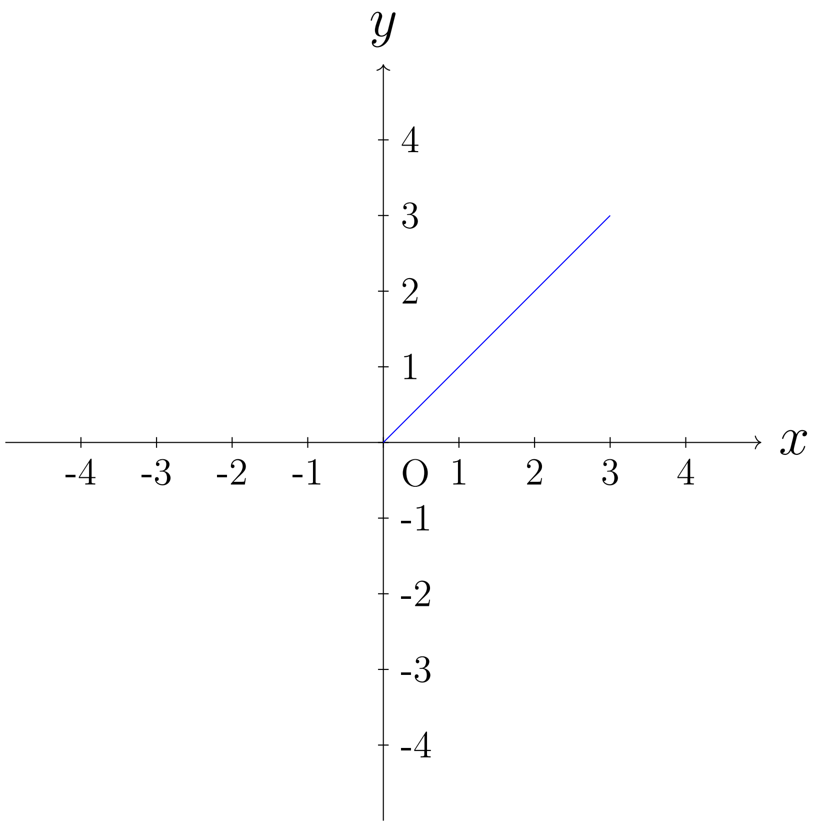
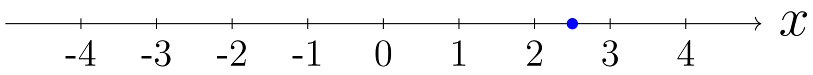
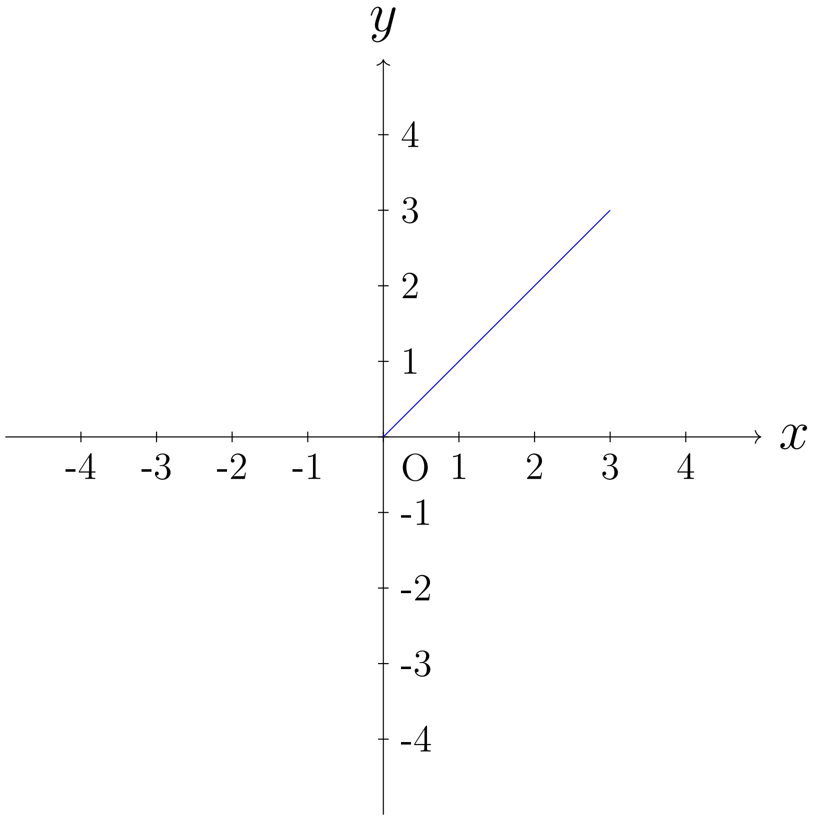




Notation: Sets

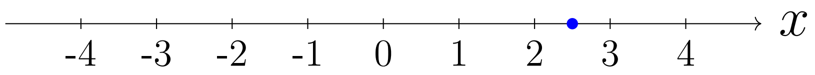
$$\{(x, y) \in \mathbb{R}^2 \mid y = x, 0 < x\}$$

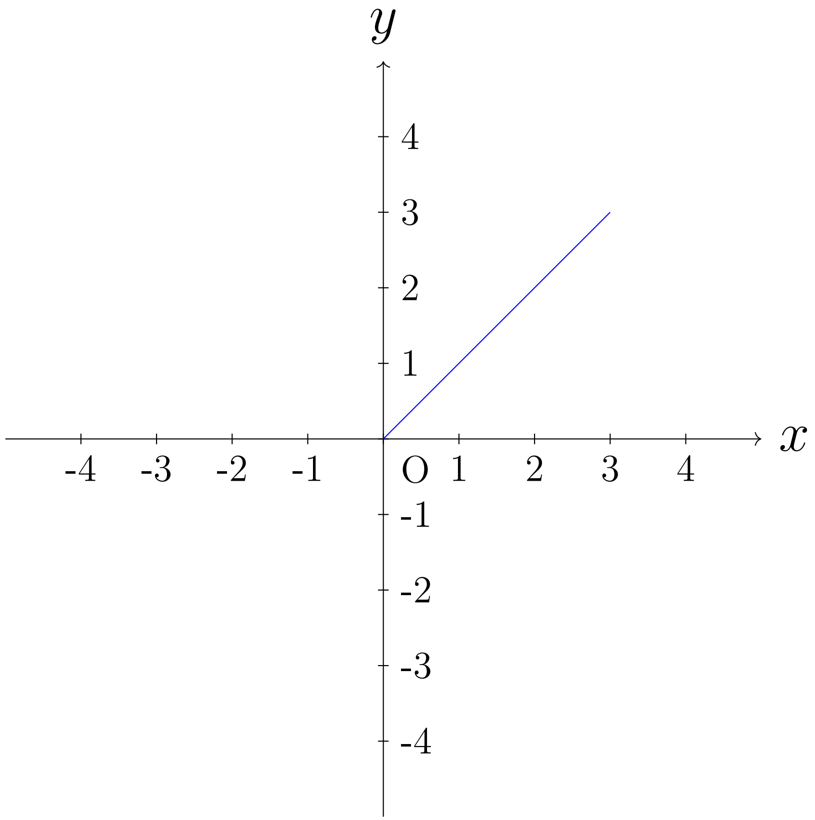




Notation: Sets

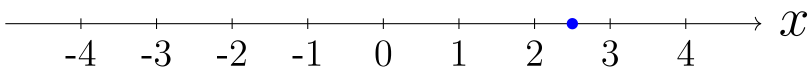
$$\{(x, y) \in \mathbb{R}^2 \mid y = x, 0 < x < 3\}$$

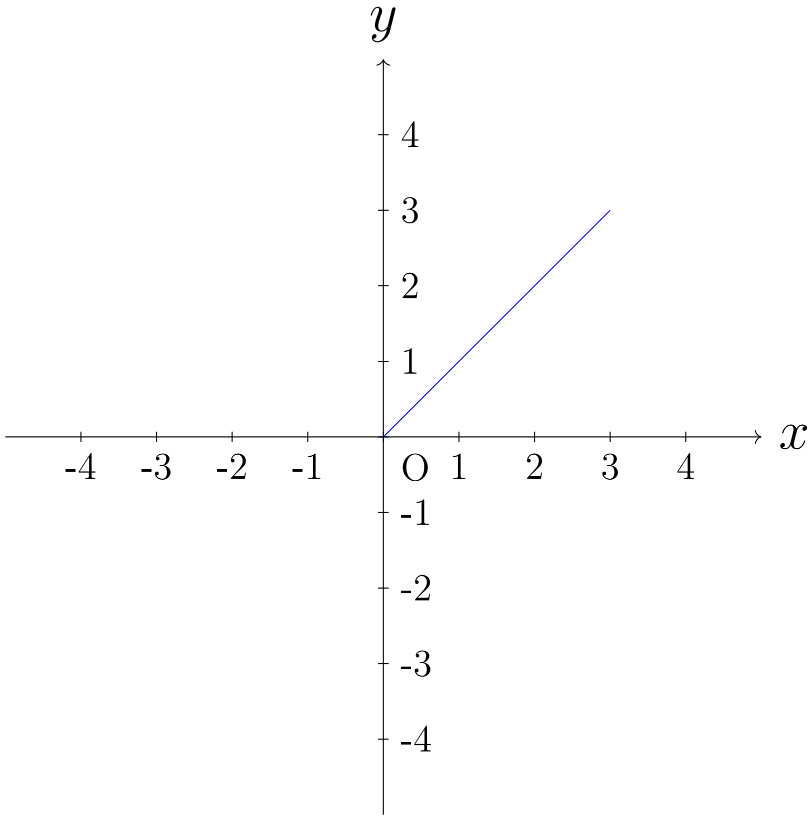




Notation: Sets

$$L := \{(x, y) \in \mathbb{R}^2 \mid y = x, 0 < x < 3\}$$





Notation: Sets

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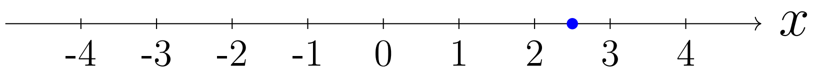

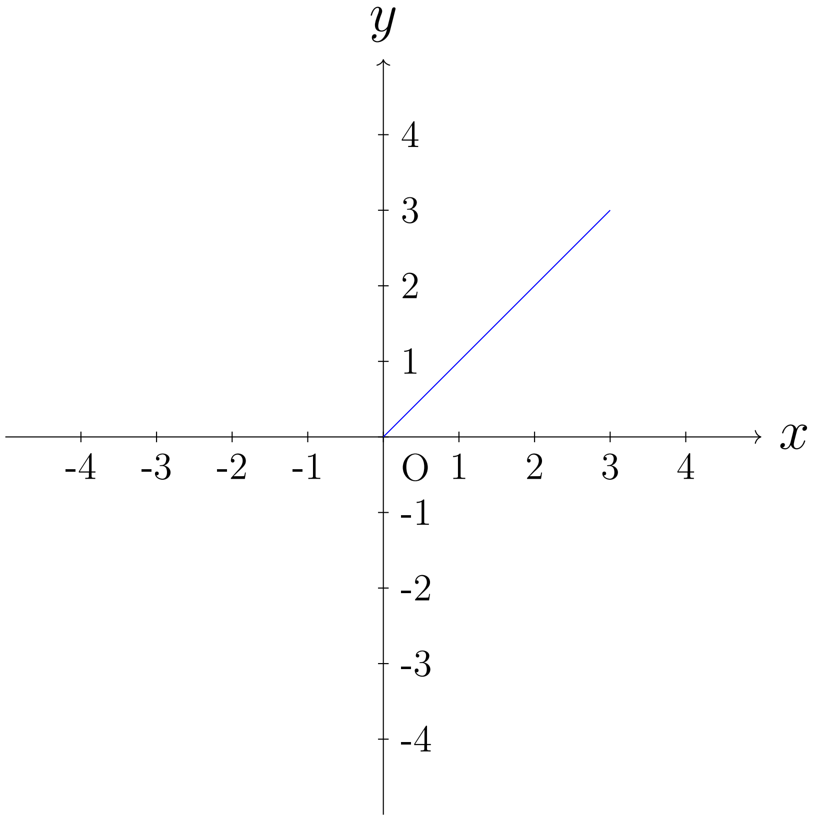

Notation: Functions

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$\mathbb{R}$

Notation: Functions

$\mathbb{R} \to \mathbb{R}$

Notation: Functions

$f : \mathbb{R} \to \mathbb{R}$

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$f : \mathbb{R} \to \mathbb{R}$

$f(x) = x - 1.75$

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$g : \{1, 2\} \to \{1, 2, 3\}$

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$g : \{1, 2\} \to \{1, 2, 3\}$
$g(1) = 3$
$g(2) = 1$

Notation: Functions

$f : \mathbb{R} \to \mathbb{R}$

$f(x) = x - 1.75$

$g : \{1, 2\} \to \{1, 2, 3\}$
$g(1) = 3$
$g(2) = 1$

$\mathbb{R}^2$

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Definition. A "parametrized plane curve"

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Explicitly,
$\gamma(t) = (f_1(t), f_2(t))$, for planes

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