

1.1 Inequalities

Reading math

⇒ $x < 3$ x is less than 3 $x \leq 2$ x is less than or equal to 2

"And" statements:

⇒ $-2 \leq x < 5$ x is greater than or equal to -2 AND x is less than 5

From your text book define:

⇒ Integers: $\{\dots, -2, -1, 0, 1, 2, \dots\}$

⇒ Real Numbers: The set of all decimals- negative, positive, terminating and non terminating and zero

Reading math:

$$\{x \mid -2 < x \leq 7, x \in \mathbb{R}\}$$

⇒ The set of all x such that x is greater than negative two and less than or equal to 7 and x is an element of the Reals

Inequalities can be expressed graphically (# line)
or with set notation

Graph

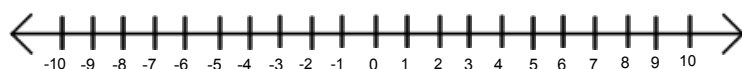


Set Notation

$$\{x / x \geq 1, x \in \mathbb{R}\}$$



$$\{x / x < 2, x \in \mathbb{R}\}$$



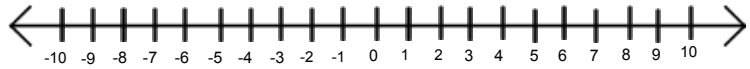
$$\{x / x > 1, x \in \mathbb{I}\}$$

And Statements:

$$\{x / -2 \leq x < 1, x \in \mathbb{R}\}$$



$$\{x / -3 \leq x \leq 1, x \in \mathbb{I}\}$$



small list of #'s so could be written $\{-3, -2, -1, 0, 1\}$

Or Statements

$$\{x / x \leq -3 \text{ or } x > 2, x \in \mathbb{R}\}$$



Biggest Mistakes

WRONG

$$< x >$$

Both big sides facing x

WRONG

$$> x <$$

Both small sides facing x

Should write as :

$$\text{smallest \# } < x < \text{largest \#}$$

When you only have one value, x should be on the left

i.e. $x > 8$

or

$$x < -5$$

HMWK
Finish last days Homework Handouts
Inequalities Handouts:
What Happened...
3M- More Practice

