Section 1.2: cont'd

Wednesday, September 25, 2013
9:32 AM

True or False?

$\mathbb{Q} \cap \mathbb{I} = \emptyset$	T
$\mathbb{Q} \cup \mathbb{I} = \mathbb{R}$	T
$\mathbb{N} \subseteq \mathbb{W}$	T
$\mathbb{Z} \subseteq \mathbb{W}$	F
$\mathbb{R} \subseteq \mathbb{Q}$	F
$\mathbb{W} \subseteq \mathbb{I}$ (irrational, (not integer))	F
$\{0\} \in \mathbb{W}$	F
$\emptyset \cap \mathbb{N} = \mathbb{N}$	F
$\mathbb{W} \cup \mathbb{N} = \mathbb{W}$	T

you use $\subseteq$ to compare two sets

$\in$ to compare the contents of a set with the set itself

$\mathbb{W}$ contains numbers

$\_\_\_ \in \mathbb{W}$

numbers

example:

let $A = \{-49, -25/2, -\sqrt{3}, 0, 0.7, 5.\overline{2}\}$

find

$A \cap \mathbb{N}$	$= \emptyset = \{\}$
$A \cap \mathbb{W}$	$= \{0\}$
$A \cap \mathbb{Z}$	$= \{-49, 0\}$
$A \cap \mathbb{Q}$	$= \{-49, -25/2, 0, 0.7, 5.\overline{2}\}$
$A \cap \mathbb{I}$	$= \{-\sqrt{3}\}$

$A \cap R = A$

interval notation:

$x \geq 1$

square bracket means that 1 is included

interval notation: $[1, \infty)$

$x \geq 1$ and $x < 3$

interval notation: $[1, 3)$

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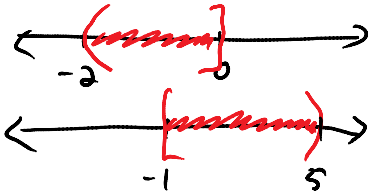
handout:

$(-2, 0] \cup [-1, 5)$

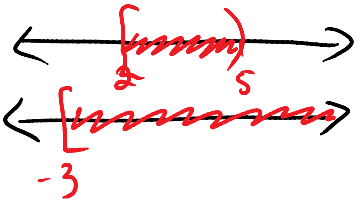


$(-2, 5)$

$(-2, 0] \wedge [-1, 5)$

$[-1, 0]$

$[2, 5) \cup [-3, \infty)$



$[-3, \infty)$