January 21, 2015

$A = \{x \in \mathbb{N} \mid x > 10\}$

$B = \{x \in \mathbb{N} \mid x \geq 10\}$

$C = \{x \in \mathbb{Z} \mid x \leq 2\}$

$D = \{x \in \mathbb{Z} \mid x > -3\}$

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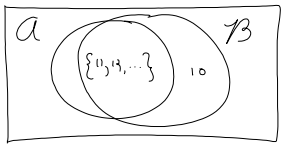
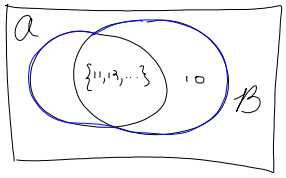
1. 3. 5

$A \cap B = \{x \mid x > 10 \text{ & } x \geq 10\}$



1. 3. 6

$A \cup B = \{x \mid x > 10 \text{ or } x \geq 10\}$



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2.1 Functions

* Relation
  - ordered pair (a, b)
    * Note: an ordered pair is not Interval Notation!

$(2, \varepsilon), (4, \varepsilon), (5, \not\in)$

$\{2, 4, 5\}$
- 1st entry of the ordered pair
- Abscissa of the relation

$\{\circ, \varepsilon, \not\in\}$
- 2nd entry
- ordinate of the relation

Mapping

abscissa to ordinate

$2 \rightarrow \circ$

$4 \rightarrow \varepsilon$

$5 \rightarrow \not\in$

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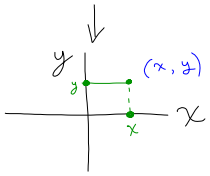
ordered pairs

$(a, b) \rightarrow$ (abscissa, ordinate)

$\rightarrow (x, y)$



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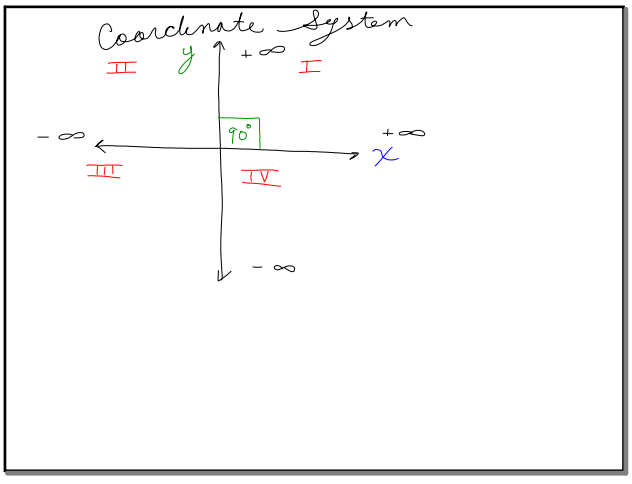

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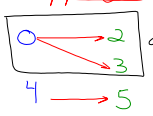
Functions are special from of a Relation

$(0, 2), (4, 5), (0, 3)$

abscissa = $x_s = \{0, 4\}$

ordinate = $y_s = \{2, 5, 3\}$

Mapping



an Issue!

* Not a function

a function must map an x to a specific y

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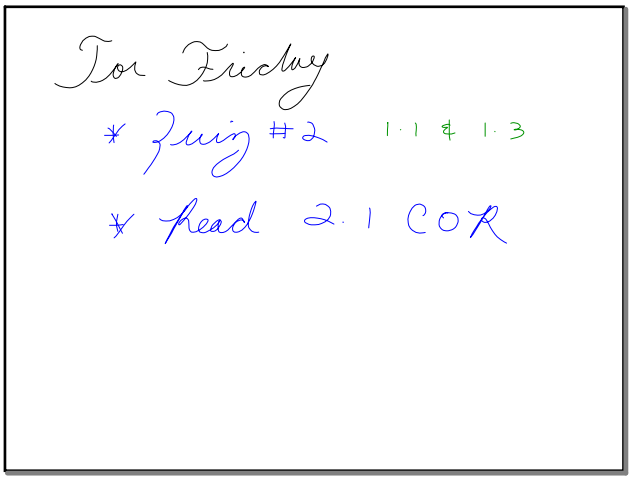

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