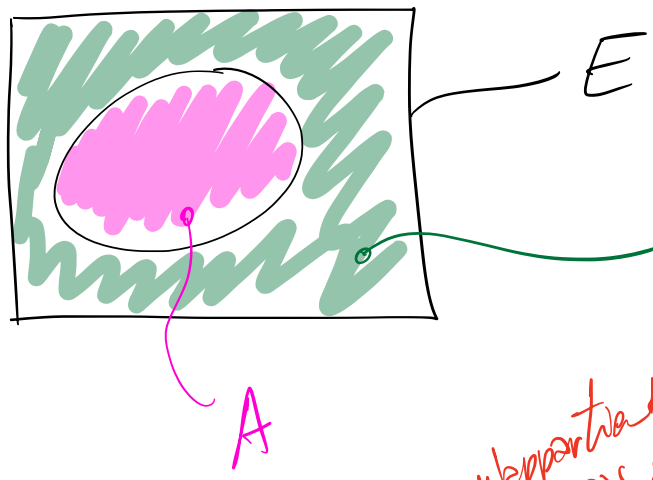
Ensembles & intervalles

E, A des ensembles



$\bar{A} = C_E^A$

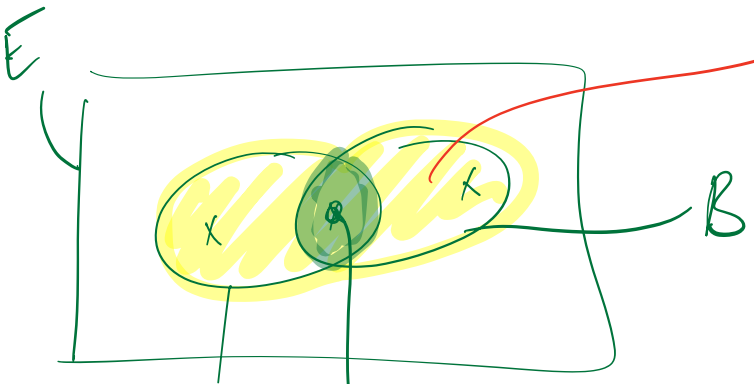
complémentaire de A dans E.

n'appartient pas à

$$\bar{A} = \{x \in E \mid x \notin A\}$$

appartient à

tel que

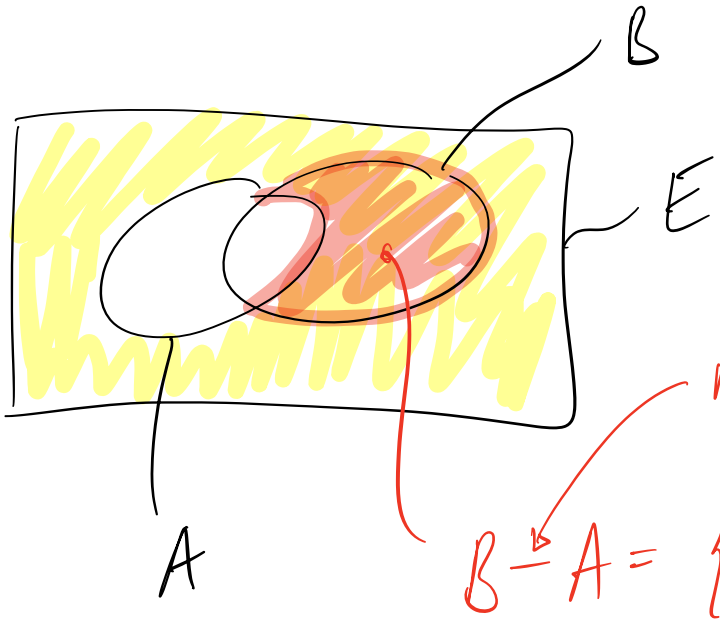


$A \cup B = \{x \in E \mid x \in A \text{ ou } x \in B\}$

union

$A \cap B = \{x \in E \mid x \in A \text{ et } x \in B\}$

inter



moins

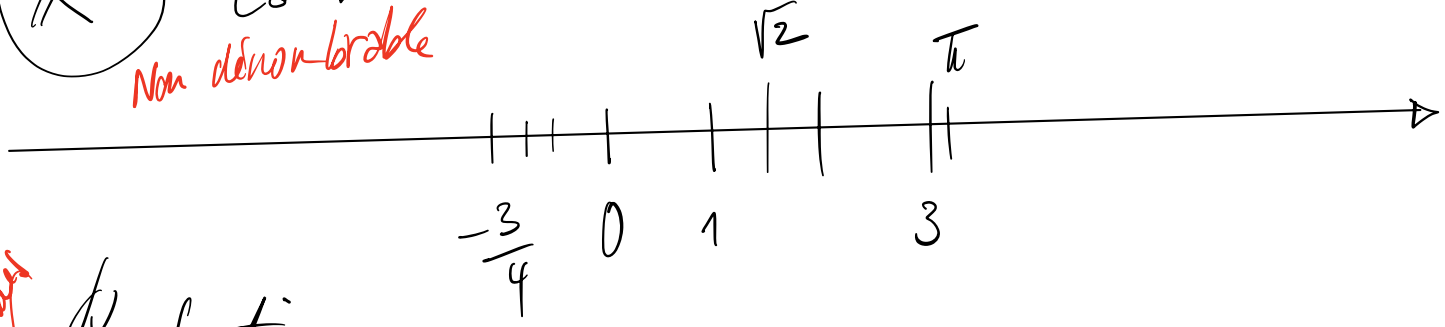
$$B - A = \{ x \in B \mid x \notin A \} =$$

$$B \cap \bar{A}$$

↑ intersection

$\mathbb{R}$ Ensemble des nombres réels

Non dénombrable



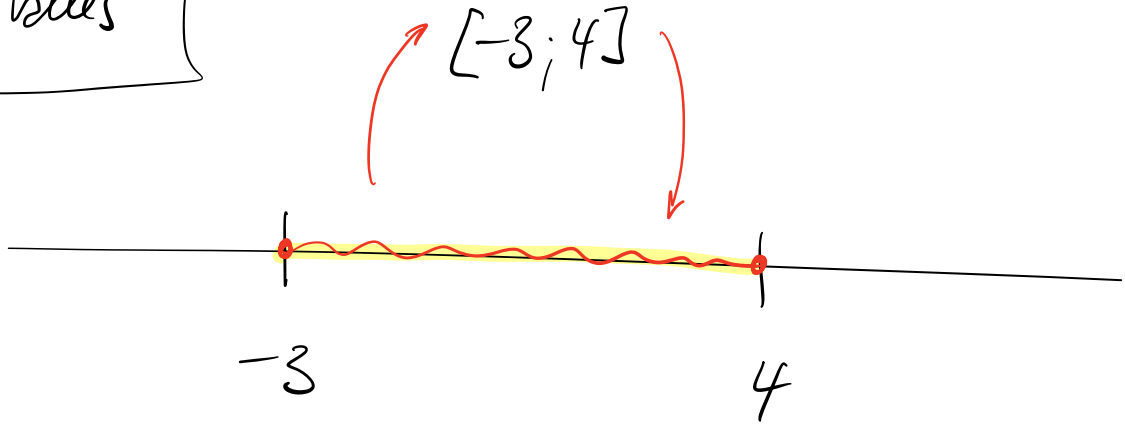
dénombrables

$\mathbb{Q}$ fractions

$\mathbb{Z}$ entiers relatifs $\{0; \pm 1 / \pm 2; \dots\}$

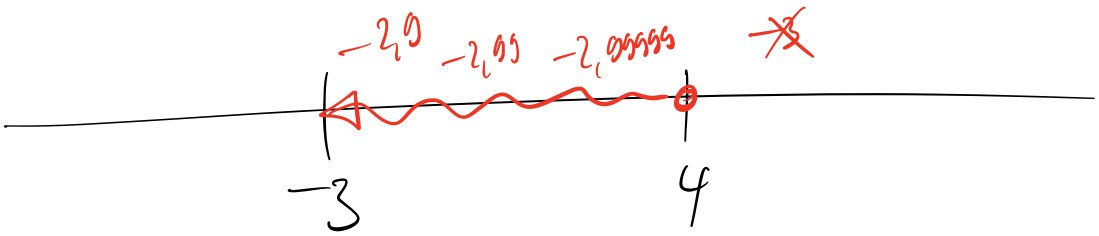
$\mathbb{N}$ entiers $\mathbb{N} = \{0; 1; \dots\}$

Intervalles



$$[-3;4] = \{x \in \mathbb{R} \mid -3 \leq x \leq 4\}$$

$$]-3;4] = \{x \in \mathbb{R} \mid -3 < x \leq 4\}$$



$[a;b] = \{x \in \mathbb{R} / a \leq x \leq b\}$ 3.2.7

$]a;b] = \{x \in \mathbb{R} / a < x \leq b\}$ 3.2.9

$[a;b[= \{x \in \mathbb{R} / a \leq x < b\}$

$]a;b[= \{x \in \mathbb{R} / a < x < b\}$

$\{x \in \mathbb{R} / x < -\sqrt{2}\} =]-\infty; -\sqrt{2}[$

$]-\infty; a] = \{x \in \mathbb{R} \mid x \leq a\}$

$]-\infty; a[= \{x \in \mathbb{R} \mid x < a\}$

$[a; +\infty[= \{x \in \mathbb{R} \mid x \geq a\}$

$]a; +\infty[= \{x \in \mathbb{R} \mid x > a\}$

$[a; a] = \{a\}$ $\quad]a; a[= \emptyset$