$A \neq \phi$ ; $R \subseteq A \times A$ RELAÇÃO DE EQUIVALÊNCIA, $x \in A$

$$\bar{x} = \{ y \in A \mid (x, y) \in R \}$$

$$\{ y \in A \mid x R y \}$$

$$\bar{x} \cap \bar{y} \neq \phi \Rightarrow \bar{x} = \bar{y}$$

$A = \{1, \ldots, 5\}$ ; $R \subseteq A \times A$ REL. EQUI.

$$\bar{2} = \{1, 2, 3\} \quad (1, 5) \qquad \bar{3} = \{3, 5\} \quad (1, 2)$$

$$\bar{2} \cap \bar{3} \neq \phi \Rightarrow \bar{2} = \bar{3}$$

$$\bar{2} \cap \bar{3} = \phi \quad \text{ou} \quad \bar{2} \cap \bar{3} \neq \phi$$

$\subseteq A \times A$

$R = \{(1,1), (2,2), (3,3), (4,4), (5,5), (1,3), (3,1)\}$

i) PARA TODO $x \in A$, $(x, x) \in R$.

ii) SE $(x, y) \in R$, ENTÃO $(y, x) \in R$.

iii) SE $(x, y) \in R$ E $(y, z) \in R$ ENTÃO $(x, z) \in R$.

$\bar{1} = \{ x \in A \mid (x,1) \in R \} = \{-1, 3\}$

$\bar{2} = \{ y \in A \mid (y,2) \in R \} = \{2\}$ $\quad \bar{1} \cap \bar{3} \neq \phi$

$\bar{3} = \{ z \in A \mid (z,3) \in R \} = \{1, 3\}$ $\quad \bar{2} \cap \bar{3} = \phi$

$\bar{4} = \{ t \in A \mid (t,4) \in R \} = \{4\}$ $\quad \bar{2} \cap \bar{4} = \phi$

$\bar{5} = \{ \lambda \in A \mid (\lambda,5) \in R \} = \{5\}$

$$A/R = \{\bar{1}, \bar{2}, \bar{4}, \bar{5}\}$$
$$= \{\bar{3}, \bar{2}, \bar{4}, \bar{5}\}$$

$$S = \{(x,y) \in \mathbb{Z} \times \mathbb{Z} \mid x - y = 2k,\ k \in \mathbb{Z}\}$$

$p$

$m \mid k$

$\bar{0} = \{0, \pm 2, \pm 4, \dots\}$

$\bar{1} = \{\pm 1, \pm 3, \pm 5, \dots\}$

$\Rightarrow \mathbb{Z}/S = \{\bar{0}, \bar{1}\} \Leftarrow \mathbb{F}_p$

$\bar{0} \to A = \mathbb{Z}$ $\quad \bar{1} \to A = \mathbb{Z}$

SEMANA 4

EXEN. 6 : $A = \mathbb{R} \times \mathbb{R}$ , $R \subseteq A \times A$

$R = (\mathbb{R} \times \mathbb{R}) \times (\mathbb{R} \times \mathbb{R})$

$A = B$