Fábián T. Nikolett RDDZXA

1a
$a+b=0 \Leftrightarrow a^2+b^2=-2ab$

$3-3=0 \quad 9+9=+2\cdot 9$

$\Rightarrow$ Igaz

1b
$a+b=1 \Leftrightarrow a^2+b^2=1-2ab$

$4-3=1 \quad 16+9=1+2\cdot 4\cdot 3$

$25=25$

$\hookrightarrow a+b=1 \Rightarrow a^2+b^2=1-2ab$ Igaz

$a^2+b^2=1-2ab \Rightarrow (a+b)^2=1 \Rightarrow a+b=\pm 1$ hamis

$\Rightarrow$ Hamis

1c
$x=-1 \Leftrightarrow x^2+x=0$

$x=-1 \Rightarrow x^2+x=0$

$1-1=0$

igaz

$x^2+x=0 \Rightarrow x(x+1) \Rightarrow x=0$ vagy $x=-1$ hamis

$\Rightarrow$ Hamis

Fábián T. Nikolett RDDZXA

$f(x) = |1-|x||$ $x \in [-3;2)$

3a
$\forall x \in D_f : f(x) \geq 0$ Igaz, modulusz miatt

3b
$\forall x \in D_f : f(x) \leq 2$ Igaz, $f(-3) = 2$

3c
$\exists! \alpha \in D_f$
$\forall x \in D_f$ $: f(\alpha) \leq f(x)$

$1 - |x| = 0$
$|x| = 1$ Hamis, $\exists$
$x = \pm 1$

3d
$\exists \alpha \in D_f$
$\forall x \in D_f$ $: f(\alpha) \leq f(x)$ Igaz