Let $E = \mathbb{Z}, nRp \iff p - n = 2k, k \in \mathbb{Z}$. Proove that R is an equivalence relation.
$p - n = 2k, k \in \mathbb{Z}$
$\Rightarrow n - p = 2j \mid j = -k, j \in \mathbb{Z}$
$\Rightarrow nRp \iff pRn$

$p - n = 2k$ and $p - l = 2j, (j, k) \in \mathbb{Z}$
$\Rightarrow l - n = 2(j - k), (j - k) \in \mathbb{Z}$
$\Rightarrow pRn$ and $pRl \Rightarrow nRl$

$n - n = 0, 2 \| 0$
$\Rightarrow nRn$