

Let $a \in \mathbb{Z}, n \in \mathbb{N}$. Then:

- 1 There is a unique value of r in the set $\{0, 1, 2, \dots, n-1\}$ such that $a \equiv r \pmod{n}$.
- 2 $n|a \iff a \equiv 0 \pmod{n}$
- 3 n does not divide a if $a \equiv r \pmod{n}$ for any $r \in \{1, 2, 3, \dots, n-1\}$.