**Definition**: When $a$ and $b$ are integers and $a$ is nonzero, $a$ **divides** $b$ means there is an integer $c$ such that $b = ac$ . Symbolically, $F(\ (a, b)\ ) =$ and is a predicate over the domain _____ Other (synonymous) ways to say that $F(\ (a, b)\ )$ is true:

$a$ is a **factor** of $b$ $a$ is a **divisor** of $b$ $b$ is a **multiple** of $a$ $a|b$

When $a$ is a positive integer and $b$ is any integer, $a|b$ exactly when $b$ **mod** $a = 0$ When $a$ is a positive integer and $b$ is any integer, $a|b$ exactly $b = a \cdot (b$ **div** $a)$