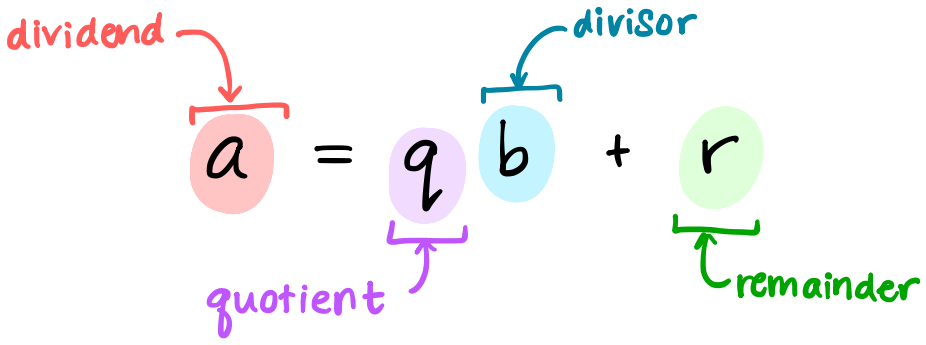
Division Theorem: $a, b \in \mathbb{Z}$, $b \neq 0$

exactly one (1) way to write:

$$a = qb + r \quad \text{such that}$$

$q \in \mathbb{Z}$ $\quad r \in \mathbb{Z}$ and $0 \leq r < |b|$



$$52 = 17 \cdot 3 + 1$$

"52 leaves remainder 1 when divided by 3"

---

* You might have forgotten all this terminology from grade-school — that's okay. Just be sure to run through enough examples so that you know each definition <u>really well.</u>

(really well = it should be second nature. You should not need to pause and think about which one is which)