PROPERTIES OF MODULO:

* $(a+b) \% m = ((a \% m) + (b \% m)) \% m$

* $(a-b) \% m = ((a \% m) - (b \% m)) \% m$

* $(a * b) \% m = ((a \% m) * (b \% m)) \% m$

* $(a/b) \% m = ((a \% m) * (b^{-1} \% m)) \% m$

* $b^{-1} \% m \rightarrow$ Multiplicative Modulo Inverse (MMI)

Example: $(6 * y) \% 7 = 1$

y = MMI for 6 & $y = 6$

$(6 * 6) \% 7 = 36 \% 7 = 1$

NOTE: $b^{-1} \% m$ means that b & m are co-primes.

* $(a \% m) \% m = a \% m$

* $(m^x \% m) = 0 \quad \forall x \in \mathbb{Z}^{+}$.

Extra :

If p is a prime number which is not a divisor of b, then $ab^{p-1} \% p = a \% p$ → FERMAT'S LITTLE THEOREM