fermat's little theorem

$a^{p-1} \equiv 1 \pmod{p}$ If p is prime
a is an integer not divisible by p.

$7^{222} \pmod{11}$?

$7^{10} \equiv 1 \pmod{11}$

$(7^{10})^{22} \cdot 7^2 \equiv 49 \equiv 5 \pmod{11}$

$7^{10} \to 1$