2.11   1) $352^{14546} \equiv 2^{14546} \equiv (2^2)^{7273} \equiv 4^{7273} \equiv (-1)^{7273} \equiv -1 \equiv 4 \mod 5$

2) $8^{237} \equiv (-1)^{237} \equiv -1 \equiv 8 \mod 9$

3) $7^{888} \equiv (7^2)^{444} \equiv 49^{444} \equiv 4^{444} \equiv (4^2)^{222} \equiv 16^{222} \equiv 1^{222} \equiv 1 \mod 15$

4) $13^{1545} \equiv 2^{1545} \equiv (2^5)^{309} \equiv 32^{309} \equiv (-1)^{309} \equiv -1 \equiv 10 \mod 11$