

$$5^{30} \pmod{31}$$

$$5^{30} \equiv 1 \pmod{31}$$

$$5^{300} = (5^{30})^{10}$$

$$1^{10} = 1 \pmod{31}$$

$$5^{300} \equiv 1 \pmod{31}$$

Brandon Carson

$$31 - 1 = 30$$

$$5, 31$$

$$5^{30} = 1$$

$$(1)^{10}$$

$$1 = 1$$