

POWER OF ZERO - POWER OF POWER

Power of zero

if $a \neq 0$ $a^0 = a^{n-n} = a^n \div a^n = 1$ so $a^0 = 1$

example: $(3^4)^0 = 1$

Power of power

$$(a^n)^m = a^{n \times m}$$

example: $(2^4)^2 = (2 \times 2 \times 2 \times 2) \times (2 \times 2 \times 2 \times 2) = 2^{4 \times 2} = 2^8$