

14. Exponents!

Exponents are written like this:

$$\begin{array}{c} \text{base} \nearrow 4^2 \longleftarrow \text{exponent} \end{array}$$

performing the operation of exponentiation means we are going to repeatedly multiply the base a number of times equal to the exponent.

For instance in the above example it means multiply the base (4) by itself exponent (2) times. So $4^2 = 4 \times 4$. 4^3 would be $4 \times 4 \times 4$

$4^5 = 4 * 4 * 4 * 4 * 4 = 256$	↑ Multiply by 4	$2^5 = 2 * 2 * 2 * 2 * 2 = 32$	↑ Multiply by 2
$4^4 = 4 * 4 * 4 * 4 = 128$		$2^4 = 2 * 2 * 2 * 2 = 16$	
$4^3 = 4 * 4 * 4 = 64$		$2^3 = 2 * 2 * 2 = 8$	
$4^2 = 4 * 4 = 16$	↓ Divide by 4	$2^2 = 2 * 2 = 4$	↓ Divide by 2
$4^1 = 4 = 4$		$2^1 = 2 = 2$	
$4^0 = 4 = ?$		$2^0 = = ?$	