

EXPONENT SUMMARIES

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1. Break down into primenumbers eg. $72 = \text{SHIFT FACT}$ on calculator will give you $2^2 \times 3^2$
2. Remember or know that 3^{-1} you can write as $\frac{1}{3}$
3. If you have an exponent outside a bracket, I treat it as my "MAD" guy and therefore "mal" in Afrikaans, so MULTIPLY IN

My maths story : the outsider (exponent outside a bracket) is the mad bully in school, so multiply

$$\text{Eg } (2^{-3} x^{-7})^{-4} = 2^{12} x^{28}$$

$$\text{Eg } \left(\frac{3^{-2}}{5^{-3}}\right)^{-4} = \frac{3}{5} = 3^8 \cdot 5^{12}$$

4. ODD AND EVEN EXPONENTS AND A – SIGN INSIDE THE BRACKET

$$\text{Eg } (-3x^3)^5 \quad \text{ODD EXPONENT} \quad \text{STAYS NEGATIVE} \quad (-)(-)(-)(-)(-) = -$$
$$= -3^5 x^{15}$$

$$\text{Eg } (-3x^3)^4 \quad \text{EVEN EXPONENT} \quad \text{BECOMES POSITIVE} \quad (-)(-)(-)(-) = +$$
$$= +3^4 x^{12}$$

5. TYPE 1

If only multiplication and division sums, then write everything on ONE LINE.

$$\text{Eg } \frac{3^{n-2} \cdot 3^{n+5}}{3^{n-4}} = 3^{n-2+n+5-n+4} = 3^{n+7}$$