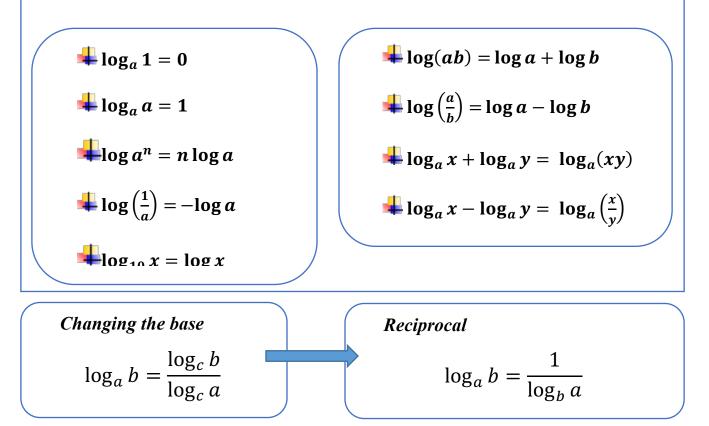
LOGARITHMS



Laws of logarithms:

In mathematics, the logarithm is the inverse operation to exponentiation, just as division is the inverse of multiplication.

 $a^x = b \Leftrightarrow \log_a b = x$



Some important hints:

- You can solve an equation such as $a^x = b$, by first taking logarithms (to base 10) of each side.
- Remember that you can write a^{2x} as $(a^x)^2$ [in general $a^{mx} = (a^x)^m$] this will enable you to turn equations into quadratics where applicable.
- Make sure there is no coefficient when you have addition/subtraction, take them as powers
 [n log a = log aⁿ] before attempting the following rules;

 $\log_a x + \log_a y = \log_a(xy)$ $\log_a x - \log_a y = \log_a\left(\frac{x}{y}\right)$ Example: $2\log_5(x) - \log_5(x+2) = 1$ $\log_5(x^2) - \log_5(x+2) = 1$ $\log_5\left(\frac{x^2}{x+2}\right) = 1$