

random methods shit

Index laws

$$a^m \times a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

$$(a^m)^n = a^{mn}$$

$$(ab)^m = a^m b^m$$

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

Fractional indices

$${}^n\sqrt{x} = x^{1/n}$$

Logarithms

$$\log_b(x) = n \quad \text{where } b^n = x$$

Using logs to solve index eq's

Used for equations without common base exponent

Or change base:

$$\log_b c = \frac{\log_a c}{\log_a b}$$

If $a < 1$, $\log_b a < 0$ (flip inequality operator)