Indices.

Questions often need you to process indices. There are only a few questions on indices alone. There are therefore only two examples in this section.

Rules $\quad x^a \times x^b = x^{a+b} \qquad$ — 1

$\qquad x^a / x^b = x^{a-b} \qquad$ — 2

$\qquad (x^a)^b = x^{ab} \qquad$ — 3

Note specifically $\left(x^2\right)^{(3y+2)} = x^{6y+4}\underline{\underline{\underline{}}}$

Also if $x^{(p+q+r)} = x^{(a+b+c)}$

$\qquad$ Then $p+q+r = a+b+c$ ie you can equate the indices of a <u>single</u> variable across an = sign.

An important note: When you have a question on indices involving $3, 9, 27, 81$ (for example) the put everything into power of 3., $3, 3^2, 3^3, 3^4$ etc Similarly for any other number where those involved are all powers of the same number.