## Expanding

## What's expanding?

Expanding means multiplying out brackets. It's the algebraic equivalent of multiplying two numbers together:

$$
\begin{aligned}
5 \times 6 & =30 \\
3(y+2) & =3 y+6
\end{aligned}
$$

## How do l expand?

No, you don't have to eat four dozen eggs every morning - just follow these procedures.

Some people like to use the mnemonic FOIL to remember how to do this.

1. First
2. Inside
3. Outside
4. Last

All it really involves is multiplying each term in the first bracket by each term in the second bracket, then adding together the results of all this multiplication.

$$
\begin{aligned}
& \text { (1) } x \times x=x^{2} \\
& (x+3)(x+4)=(1)+(2)+(3)+4 \\
& \\
& =x^{2}+4 x+3 x+12 \\
& \\
& =x^{2}+7 x+12
\end{aligned}
$$

