

SINGLE

$$8x + 20 = 4(2x + 5)$$

Highest common factor

check by expanding

$$12x^2 + 30x = 6x(2x + 5)$$

DIFFERENCE OF 2 SQUARES

$$x^2 - 49 = (x + 7)(x - 7)$$

squared / square
subtract number
An expression that looks like this has a specific rule

$$y^2 - 36 = (y + 6)(y - 6)$$

$$4x^2 - 25 = (2x + 5)(2x - 5)$$

$$a^2 - b^2 = (a + b)(a - b)$$

FACTORISING

IS the opposite of expanding. you must put an expression into brackets by dividing by the highest common factor.

DOUBLE DIFFICULT

$$2x^2 + 9x + 4$$

Number in front of x^2 tells you to factorise using this method

$$2 \times 4 = 8$$

$$2x^2 + 1x + 8x + 4$$

$$x(2x + 1) + 4(2x + 1)$$

$$= (x + 4)(2x + 1)$$

add 5 to 9 to get the same bracket

the bracket is the same

left over from removing the same bracket

DOUBLE SIMPLE

$$x^2 + 11x + 24$$

Expressions in 3 parts, x^2 , x and a number are factorised into 2 brackets.

$$(x + 3)(x + 8)$$

To find these numbers

you must think of 2 numbers that

add to make the number in front of x

Multiply to make the number = $(x + 8)(x - 3)$

$$x^2 + 11x + 24 = (x + 3)(x + 8)$$

$$x^2 - 5x + 6$$

$$= (x - 3)(x - 2)$$

$$x^2 + 5x - 24$$

$$= (x + 8)(x - 3)$$