Factorising Algebraic Expressions

We have expanded $2(3x-4)$

to give $6x-8$

Factorising is the opposite of this process

$$6x-8 = 2(3x-4)$$

Examples

1) $$14x - 12y + 4z$$
$$= 2(7x - 6y + 2z)$$

2) $$8x - 4y$$
$$= 4(2x - y)$$

$2(4x-2y)$ would not be fully factorised

3) $$x^2 - 5x$$
$$= x(x - 5)$$

4) $$y^2 + y$$
$$= y(y + 1)$$

5) $x^3y + xy^2$

$xy(x^2 + y)$

6) $6x^2p^3r^4 - 4x^3p^3r^3 + 8x^2p^4r^2$

$2x^2p^3r^2(3r^2 - 2xr + 4p)$