# Simultaneous Equations

$$5x + 3y = 27$$
$$3x - 2y = 1$$

We have to make the $x$ or the $y$ the same

If we times the top equation by 2 and the bottom one by 3 the y will be the same

$$10x + 6y = 54$$
$$9x - 6y = 3$$

The signs are different so we add the equations to eliminate $y$

$$19x = 57$$
$$x = 3$$

Substituting x for 3 in the top equation gives:

$$5(3) + 3y = 27$$
$$15 + 3y = 27$$
$$3y = 12$$
$$y = 4$$