

Section 1: Simultaneous equations

Crucial points

1. **Be careful with signs when using the elimination method**
It's very easy to make mistakes!
2. **Think about which method to use**
If one equation gives, say, y in terms of x , it is usually easier to use the substitution method rather than the elimination method. When one equation is quadratic, you must always use substitution.
3. **Always check your solution**
Just substitute your solution into both of the original equations to make sure that it fits.
4. **Remember that for non-linear simultaneous equations there may be more than one solution**
When you solve simultaneous equations where one is linear and one is quadratic, you should normally end up with **two** solutions unless:
 - there is a repeated root
(in which case the graph of the linear function is a tangent to the graph of the quadratic)
 - or
 - there are no solutions
(in which case the graph of the linear function does not cross or touch the graph of the quadratic).