## Chapter 3: Equations and Inequalities

Ways to solve simultaneous equations:

-Elimination.

-Substitution.

-Multiplying or diving by numbers:

- When you multiply or divide an inequality by a negative number you need to switch inequality sign to its opposite.

Steps to solve a quadratic inequality:

-Long method:

- Solve the corresponding quadratic equation (find the critical values).
- Sketch the graph of the quadratic function.
- Use the sketch to find the required set of values.

-Short method:

- Solve the corresponding quadratic equation (find the critical values).
- If $ax^2+bx+c<0$ and 'a' is positive then use the values between the two lines.
- If $ax^2+bx+c<0$ and 'a' is negative then use the values after and before each line.
- If $ax^2+bx+c>0$ and 'a' is negative then use the values between the two lines.
- If $ax^2+bx+c>0$ and 'a' is positive then use the values after and before each line.