**3A Linear Simultaneous Equations**

1. Solve the following Simultaneous Equations by Elimination

1. Solve the following Simultaneous Equations by Substitution

**3B Non-Linear Simultaneous Equations**

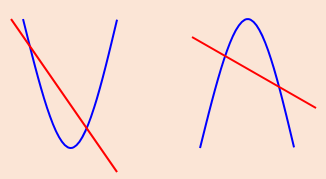
1. Solve the following Simultaneous Equations

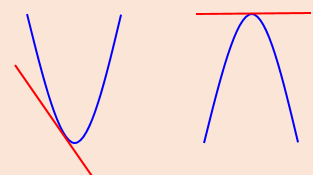
**3C Simultaneous Equations Graphically (With the Discriminant)**

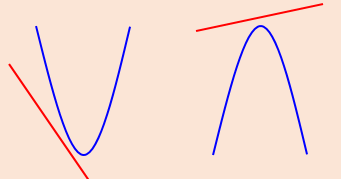
1. Draw the graphs of the following equations and use it to write down their solution:

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Notes on the discriminant:







1. The line with equation meets the curve with equation

at exactly one point. Given that is a positive constant:

1. Find the value of
2. For this value of , find the coordinates of the point of intersection

**3D Linear Inequalities**

1. Find the set of values of x for which:
3. Find the set of values of x for which:
4. and
5. and
6. and

**3E Quadratic Inequalities**

1. Find the values of k for which the equation:

has two real roots.

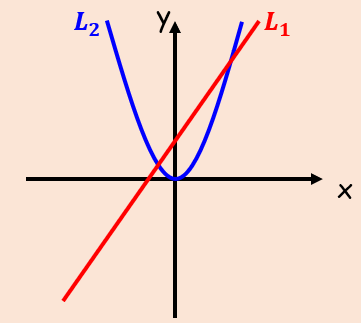
1. Find the set of values for which:

**3F Interpreting Graphical Non-Linear Inequalities**

1. has equation

has equation

The diagram below shows a sketch of and on the same axes.



1. Find the coordinates of the points of intersection
2. Hence write down the solution to the inequality

**3G Shading Inequality Regions**

1. On graph paper, show the region that satisfies the following inequalities:
2. On graph paper, show the region that satisfies the following inequalities: