Methods of Approximating the Roots of P(x) = 0

- **Finding the roots of an equation**

  $$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- **Halving the interval**

  - Find the value (</> 0) of each numeral given to show there is a root in the interval
  - Halve the interval and find the value of the numeral (</> 0) to show that the root lies within this closer interval

- **Newton's Method**

  - $x_{n+1} = x_n - \frac{P(x_n)}{P'(x_n)}$
  - In some cases Newtons Method will not work when the second approximation is not nearer the root than the first approximation