Formula You Need To Remember!

You need to remember and be able to use these formula for you C1 exam - they won't be given to you!

Numbers and Algebra

- Solutions to quadratic equations of the form $ax^2 + bx + c = 0$:

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

Geometry

- Equation of the straight line through point (x_1, y_1), with gradient m:

$$(y - y_1) = m(x - x_1)$$

- Midpoint between the points (x_1, y_1) and (x_2, y_2):

$$(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

- Distance between the points (x_1, y_1) and (x_2, y_2):

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

- Equation of the straight line through the points (x_1, y_1) and (x_2, y_2):

$$\frac{y - y_1}{y_2 - y_1} = \frac{x - x_1}{x_2 - x_1}$$

Calculus

- Derivative of x^n:

$$\frac{d}{dx}(x^n) = nx^{n-1}$$

- Integral of x^n, $(n \neq -1)$:

$$\int (x^n) \, dx = \frac{x^{n+1}}{n+1} + c$$