

# A Latex document

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## 1 Text in bold

**Hello world!**

## 2 Text in Italic

*Hello world!*

## 3 Text in color

Hello world!

- Formatting text with Latex;
- Trying a few commands

Figure 1 was borrowed from MathCentre and Table 1 was created after the SMSN website.

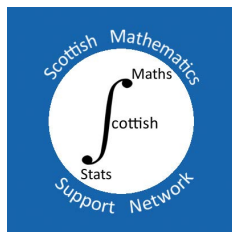


Figure 1: Creative Common Symbol

Table 1: Members of the SMSN committee

| Surname   | Name     | Role             |
|-----------|----------|------------------|
| Macdonald | Callum   | Chair            |
| Durkacz   | Kate     | Treasurer        |
| Ahmed     | Shazia   | Secretary        |
| Davidson  | Peter    | Committee Member |
| Richard   | Morgiane | Committee Member |

## 4 Writing Mathematics

The equation:

$$ax^2 + bx + c = 0$$

has 2 solutions  $x_1 = \frac{-b + \sqrt{b^2 - 4 \cdot a \cdot c}}{2a}$  and  $x_2 = \frac{-b - \sqrt{b^2 - 4 \cdot a \cdot c}}{2a}$ .

The following equations:

$$\frac{dy}{dx} + 3y = e^x \tag{1}$$

$$\frac{d^2y}{dx^2} + 5\frac{dy}{dx} + 2y = (x - 1)^2 \tag{2}$$

are ordinary differential equations. Equation 1 is an ODE of the first order and Equation 2 is an ODE of the second order.

The matrix of following system of equations:

$$\begin{cases} x - 3y + 4z &= 5 \\ 2x + y + z &= 3 \\ 4x + 3y + 5z &= 1 \end{cases}$$

is:

$$\begin{pmatrix} 1 & -3 & 4 \\ 2 & 1 & 1 \\ 4 & 3 & 5 \end{pmatrix}$$

The identity matrix, in any dimension, has the form:

$$\begin{pmatrix} 1 & 0 & \dots & 0 \\ 0 & 1 & \dots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & \dots & \dots & 1 \end{pmatrix}$$