

# A Latex document

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Further information on the preamble of the document and commands used throughout the document environment can be found in the handout [1].

## 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.

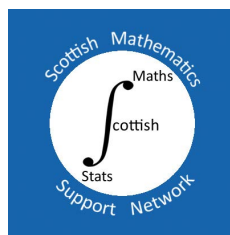


Figure 1: Creative Common Symbol

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:

$$\frac{dy}{dx} + 3y = e^x \quad (1)$$

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

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:

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

can be written using the 'pmatrix' environment [2]:

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

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

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

You can find information on packages on the CTAN website ([3]), and lots of questions have an answer on internet forums, such as [4].

## References

- [1] Morgiane Richard and Kate Durkacz, SMSN Workshop: Introduction to Latex, 1st edition, 2017
- [2] Wikibook, Latex, 2013
- [3] <http://www.ctan.org/>
- [4] <http://tex.stackexchange.com/>