

# my first L<sup>A</sup>T<sub>E</sub>X file

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## 1 Introduction

This is the sample intro.

This is the 2nd line.

This is the 3rd line.

## 2 Math

### 2.1 Math Mode

A rectangular with side lenth  $(x + 1)$  and  $(x + 3)$

Take the equation  $ax^2 + bx + c = 0$  as an example.  
 Take the equation

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

as an example.

## 2.2 Common Math Notation

superscripts:

$$2x^34$$

$$2x^{34}$$

$$2x^{3x+4}$$

$$2x^{3x^4+5}$$

subscripts:

$$x_1$$

$$x_{12}$$

$$x_{12}$$

greek letters:

$$\pi$$

$$A = \pi r^2$$

trig functions:

$$\sin x$$

$$\tan x$$

$$y = \sin x$$

log functions:

$$\log x$$

$$\ln x$$

$$\log_5 x$$

square roots:

$$\sqrt{x}$$

$$\sqrt[3]{x}$$

$$\sqrt[4]{x + \sqrt[3]{y}}$$

fractions:

About  $2/3$  of the glass is full.

About  $\frac{2}{3}$  of the glass is full.

About  $\frac{2}{3}$  of the glass is full.

$$\frac{x}{x^2+x+1}$$

$$\frac{1}{1+\frac{1}{x}}$$

### 2.3 Equations

$$\alpha = \beta \tag{1}$$

## 3 Brackets, Tables and Arrays

brackets:

$$(x+1)$$

$$[x+1]$$

$$\{x+1\}$$

$$\$12.55$$

$$3(\frac{2}{3})$$

$$3\left(\frac{2}{3}\right)$$

$$3\left[\frac{2}{3}\right]$$

$$3\left\{\frac{2}{3}\right\}$$

Abosolute value:

$$|x|$$

$$\left|\frac{x}{y}\right|$$

$$\left|\frac{x}{y}\right|$$

$$\{x^2\}$$

$$\left\{x^2\right.$$

$$\left.\frac{dy}{dx}\right|_{x=1}$$

Tables:

$x$	1	2	3	4	5
$f(x)$	10	11	12	13	14

Table borders:

$x$	1	2	3	4	5
$f(x)$	10	11	12	13	14

Array:

$$5x^2-9=x+3 \tag{2}$$

$$5x^2-12=x \tag{3}$$

$$x^2=3 \tag{4}$$

$$x\approx\pm1.732 \tag{5}$$

$$5x^2-9\;=\;x+3 \tag{6}$$

$$5x^2-12\;=\;x \tag{7}$$

$$x^2\;=\;3 \tag{8}$$

$$x\;\approx\;\pm1.732 \tag{9}$$

## 4 List

1. pencil
2. ruler
3. eraser
4. calculator
5. notebook
  - (a) assessments
    - i. tests
    - ii. quizzes
  - (b) homework
  - (c) notes

6. paper

- pencil
- ruler
- eraser
- calculator
- notebook
  - assessments
    - \* tests
    - \* quizzes
  - homework
  - notes
- paper

Commutative  $a + b = b + a$

Associative  $(a + b) + c = a + (b + c)$

Distributive  $a(b + c) = ab + ac$

## 5 Text Formatting

### 5.1 Fonts

This will produce *italicized* text.

This will produce **bold-faced** text.

This will produce SMALL CAPS text.

This will produce teletype font.

Please visit `stevenwang.ddns.net`

Please accept my apology .

Please accept my apology .

Please accept my apology .

Please accept my apology .

## 5.2 Justification

This is centered.

This is left-justified.

This is left-justified.