My First LaTeX Attempt

Trey Wilkinson

December 1, 2020

Contents

Part I

Test

Chapter 1

Second chapter

YouTube

1.1 Typesetting

Proof.

$$\hat{x} = y \tag{1.1}$$
$$\widehat{x} = z \tag{1.2}$$
$$\therefore \quad y = z. \tag{1.3}$$

□

1.1.1 Some math stuff

$$\tau\epsilon\chi \qquad \text{(Math person)}$$

$$e = m \cdot c^2$$

Math person Using \smash{equation} ignores that equations height for line-height.

$$\frac{d}{dx} f(x) = f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h} \tag{1.4}$$

$$x^2 \geq 0 \qquad \forall \text{(for all)} \ \ x \in \mathbb{R} \tag{1.5}$$

The command \text{text} can be used to add normal text within equations.

Pi expression	Value
π	3.1416
π^π	36.46
$(\pi^\pi)^\pi$	80662.7

Table 1.1: Caption for π

$$\binom{n}{k} \qquad x\bar{y}z \qquad x\vec{y}z \qquad \overrightarrow{xyz} \tag{1.6}$$

$$0.\overline{3} \overset{\leftrightarrow}{\Leftrightarrow} 1/3 \tag{1.7}$$

$$\underbrace{\cdots\cdots\vdots\overbrace{\cdot\cdot\cdot}^{dots}}_{\texttt{underneat}} \tag{1.8}$$

$$\left(\left(\left[\int_{\substack{0<i<n\\ i\subseteq n}}^{n}\right]\right)\right)$$

$$\int \iint \iiint \iiiint \idotsint \int_{\mathbb{C}^n}$$

$$\{\{\{\{\{\{$$

$$\|\|\|\|\|\|$$

$$\Downarrow\Downarrow\Downarrow\Downarrow\Downarrow$$

iv

$$\begin{aligned} a &= b + c + d && \texttt{Some notes} && (1.9)\\ &= a + b + c && \texttt{Some more notes} && (1.10)\\ &\quad + d + e && && (1.11) \end{aligned}$$

$$\mathbf{x} = \begin{bmatrix} x_0 & x_1 & \cdots \\ x_2 & x_3 & \cdots \\ \vdots & \vdots & \ddots \end{bmatrix}^{1}_{3} \qquad {}^{2}_{4}\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

1.2 Specialties

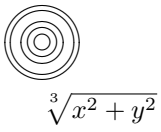
```
Hi [1] has said
  Hi[2] has said
  Hi [2] has said
```

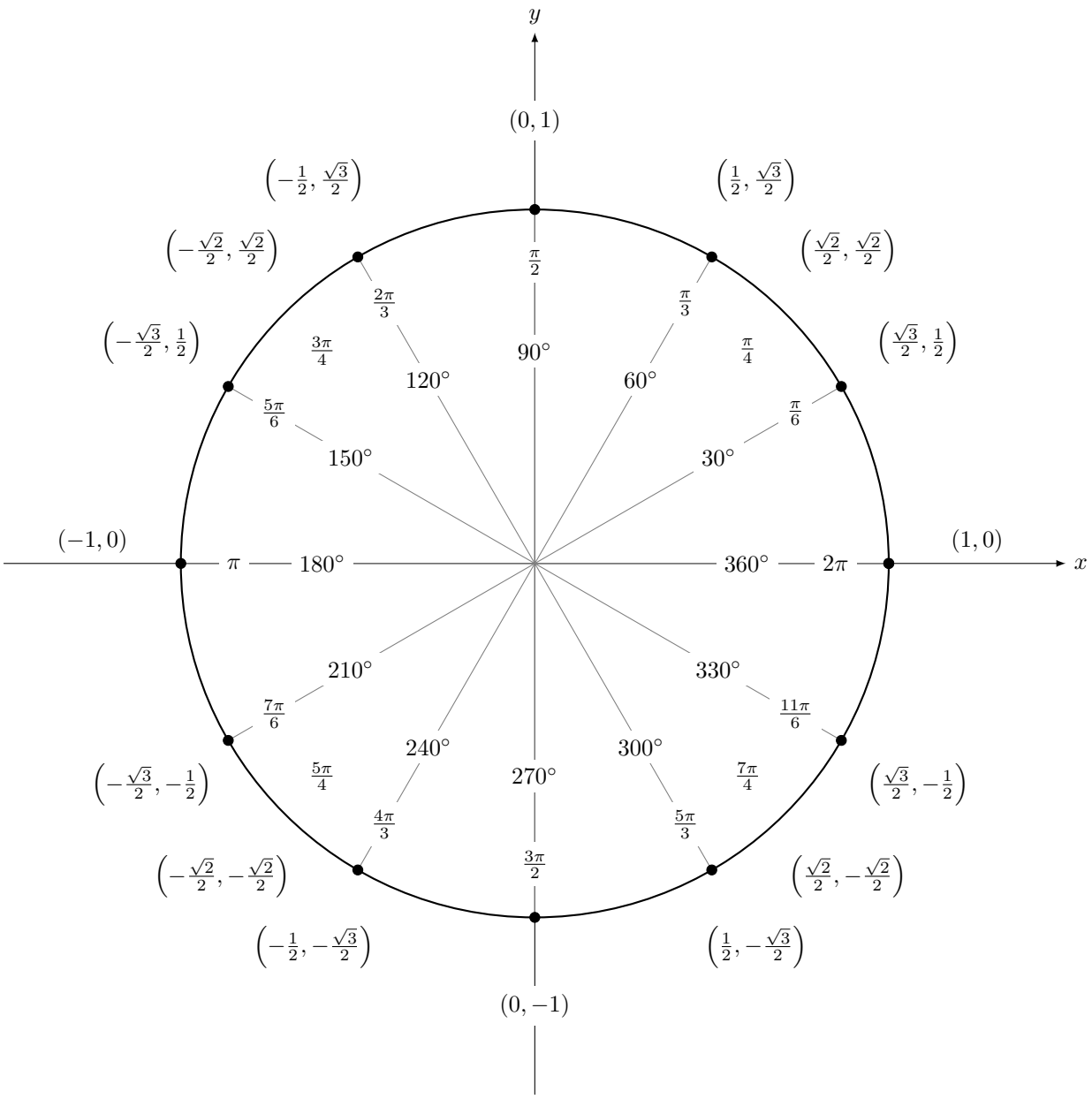
Bibliography

[1] Albert Einstein

[2] Trey Wilkinson

1.3 Producing Mathematical Graphics





1.4 Customising LaTeX

Chapter 2

Last chapter

Part II

Math

Chapter 3

Logic

Chapter 4

Algebra

4.1 Algebra: 0

$I \to II \to III \to V \to VI \to VIII \to IX$
(Pass through IV and VII on first pass)

4.1.1 I. Preliminaries: Set theory and categories

4.1.2 II. Groups, first encounter

4.1.3 III. Rings and modules

4.1.4 VII. Fields

4.1.5 IX. Homological Algebra

Chapter 5

Analysis

5.1 Real Analysis

5.2 Complex Analysis

5.3 Functional Analysis

5.4 Tensor Analysis