

# Mathematics for HKDSE (Section A)

J. F. ZUO<sup>1</sup> and K. S. YIP<sup>2</sup>

<sup>1</sup>B.A. (HKU, 1<sup>st</sup> *Hons*)

<sup>2</sup>B.B.A. (CUHK)

September, 2025 (Ver 1.0)

## Contents

<b>0</b>	<b>Introduction</b>	<b>3</b>
<b>1</b>	<b>Change of Subject 變換主項</b>	<b>3</b>
1.1	Pramāṇa . . . . .	3
1.2	Practice Questions . . . . .	4
1.3	Answers . . . . .	4
<b>2</b>	<b>Law of Indices 指數定律</b>	<b>5</b>
2.1	Pramāṇa . . . . .	5
2.2	Practice Questions . . . . .	6
2.3	Answers . . . . .	7
<b>3</b>	<b>Factorization 因式分解</b>	<b>7</b>
3.1	Pramāṇa . . . . .	7
3.2	Practice Questions . . . . .	9
3.3	Answers . . . . .	11
<b>4</b>	<b>Percentage 百分率</b>	<b>11</b>
4.1	Pramāṇa . . . . .	11
4.2	Practice Questions . . . . .	12
4.3	Answers . . . . .	14

<b>5</b>	<b>Rate and Ratio 率與比</b>	<b>14</b>
5.1	Pramāṇa . . . . .	14
5.2	Practice Questions . . . . .	15
5.3	Answers . . . . .	15
<b>6</b>	<b>Approximation &amp; Error 近似與誤差</b>	<b>15</b>
6.1	Pramāṇa . . . . .	15
6.2	Practice Questions . . . . .	17
6.3	Answers . . . . .	18
<b>7</b>	<b>Statistics &amp; Probability 統計與概率</b>	<b>18</b>
7.1	Pramāṇa . . . . .	18
7.2	Practice Questions . . . . .	21
7.3	Answers . . . . .	31
<b>8</b>	<b>Inequality 解一元一次不等式</b>	<b>32</b>
8.1	Pramāṇa . . . . .	32
8.2	Practice Questions . . . . .	33
8.3	Answers . . . . .	35
<b>9</b>	<b>Polynomials 多項式</b>	<b>35</b>
9.1	Pramāṇa . . . . .	35
9.2	Practice Questions . . . . .	40
9.3	Answers . . . . .	42
<b>10</b>	<b>Variation 變分</b>	<b>43</b>
10.1	Pramāṇa . . . . .	43
10.2	Practice Questions . . . . .	45
10.3	Answers . . . . .	48
<b>11</b>	<b>Geometry 平面幾何</b>	<b>48</b>
11.1	Pramāṇa . . . . .	48
11.2	Practice Questions . . . . .	59
11.3	Answers . . . . .	67
<b>12</b>	<b>Mensuration 求積法</b>	<b>68</b>
12.1	Pramāṇa . . . . .	68
12.2	Practice Questions . . . . .	72
12.3	Answers . . . . .	77

<b>13 Coordinates &amp; Locus</b>	<b>座標幾何與軌跡</b>	<b>77</b>
13.1	Pramāṇa . . . . .	77
13.2	Practice Questions . . . . .	82
13.3	Answers . . . . .	86
<b>14 Acknowledgement</b>		<b>86</b>

## 0 Introduction

This handout is prepared for students taking the HKDSE Mathematics Compulsory Part covering all topics in Section A. Each topic includes three parts: Pramāṇa, Practice Questions<sup>1</sup>, and Answers. Pramāṇa provides the basics for the topic while Practice Questions allow students to apply what they’ve learned from Pramāṇa.

## 1 Change of Subject 變換主項

### 1.1 Pramāṇa

