

A Perfect Match for Longman Mathematics Series

Market Leader
in Secondary
Mathematics*

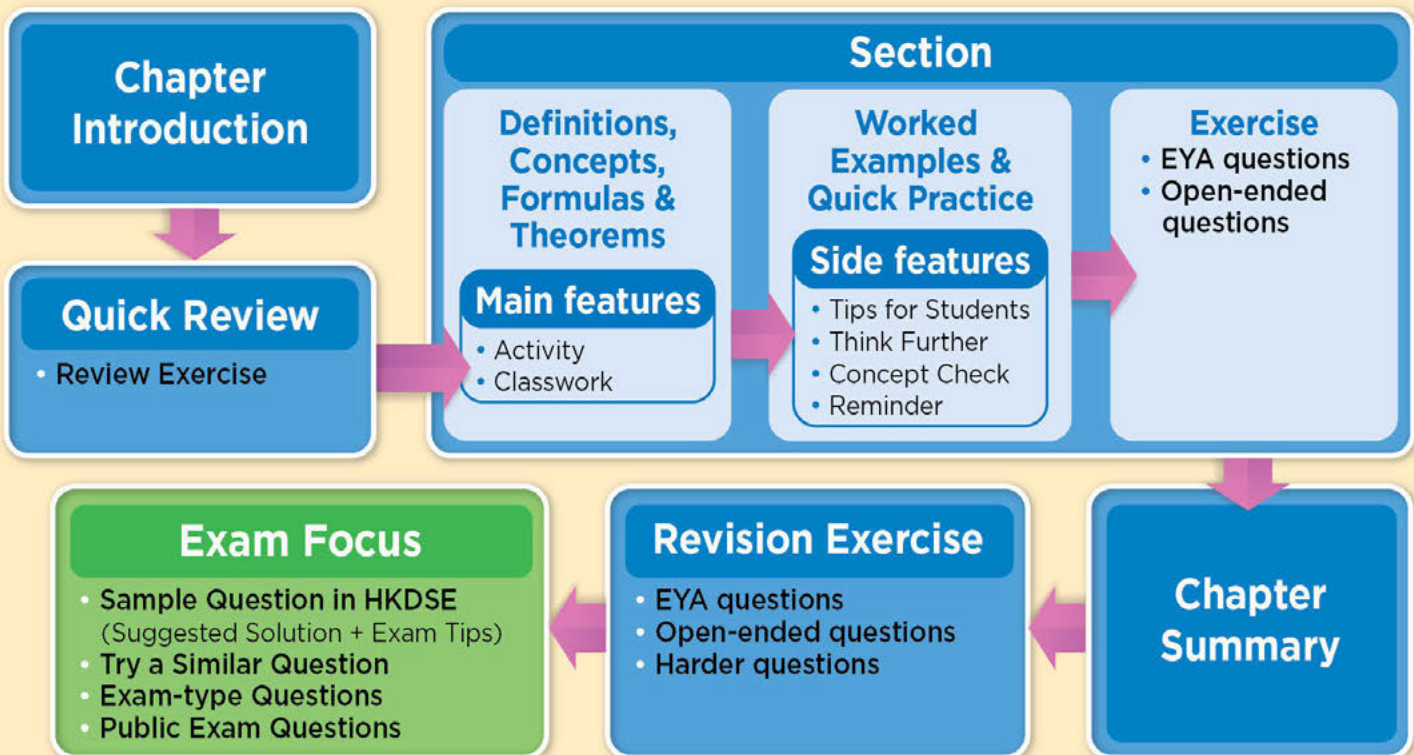
Compulsory Part Series

Extended Part Series

Perfect Match

* Most Popular in Junior and Senior (Compulsory) Mathematics
[Source: more than 400 Hong Kong secondary textbook lists in 2018-19]

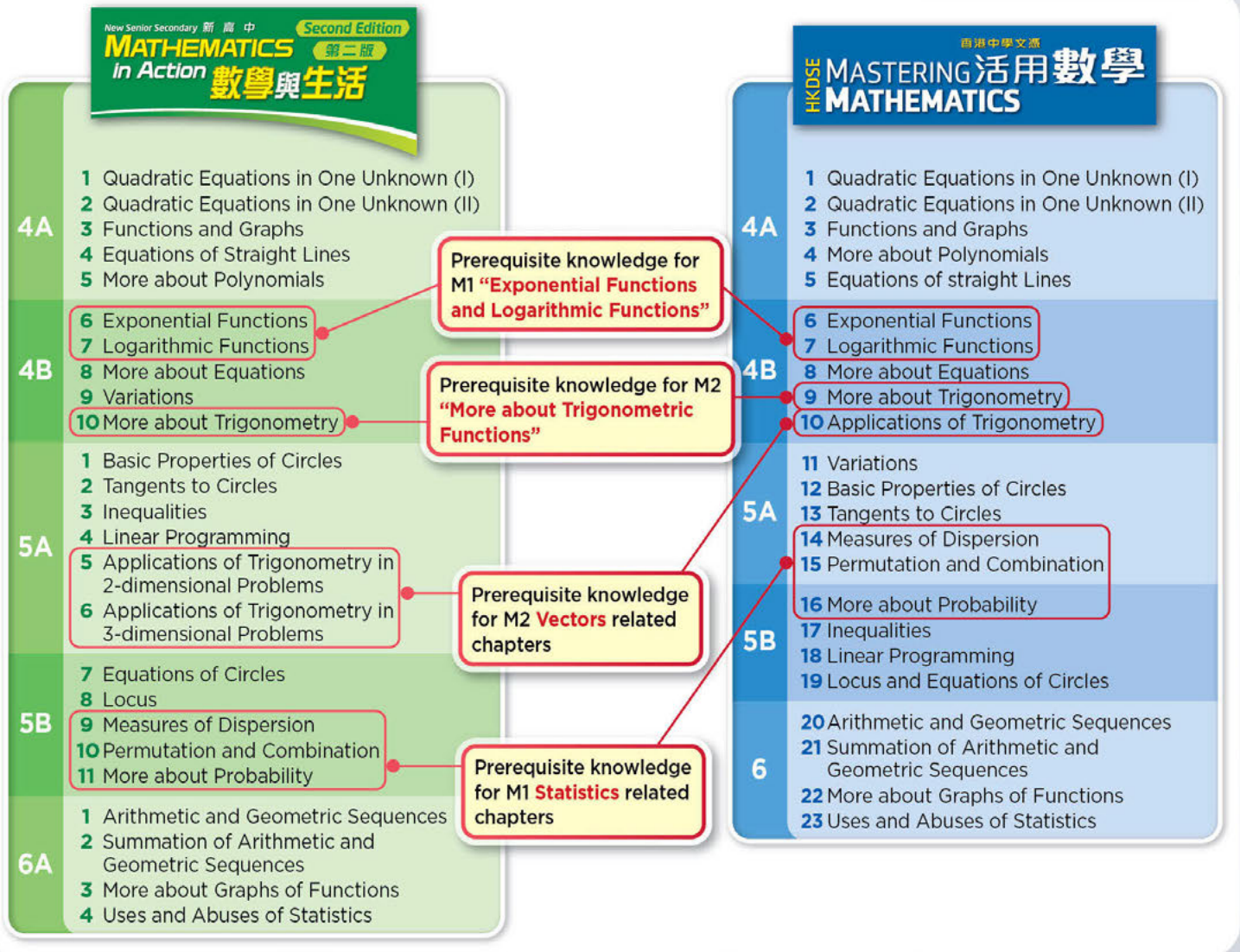
Coherent Structure of Compulsory Part Series and Extended Part Series



Smooth Bridging from Compulsory Part Series to Extended Part Series

Chapter arrangement of *NSS Mathematics in Action* (2nd edition) and *Mastering Mathematics* series are well designed to match with the teaching sequences of M1 and M2.

All M1, M2 related chapters are arranged in S4 and S5 of Compulsory Part.



Coherence in Concept Presentation

The concept building of some important topics is coherent to that of Compulsory Part Series.

M1 Combination

Extended Part Series

Compulsory Part Series

Activity 10.2
Exploring the number of combinations of n distinct objects taken r at a time without repetition.

A shop sells 4 different coloured cups.

1. John wants to buy 2 of the 4 coloured cups.

(a) The number of permutations of 4 coloured cups taken 2 at a time is $P_4^2 = \dots$

M2 Definitions of Trigonometric Functions

Compulsory Part Series

Extended Part Series

A Definitions of Trigonometric Functions

We have learnt three trigonometric functions (sine, cosine and tangent) before. In fact, there are three other basic trigonometric functions, namely cosecant, secant and cotangent. The abbreviations of cosecant, secant and cotangent are 'cosec', 'sec' and 'cot' respectively.

Let $P(x, y)$ be a point on the terminal side of an angle θ and r be the length of OP , where O is the origin. The six trigonometric functions of θ are defined as:

$\sin \theta = \frac{y}{r}$, $\cos \theta = \frac{x}{r}$, $\tan \theta = \frac{y}{x}$, where $r = \sqrt{x^2 + y^2} > 0$

$\csc \theta = \frac{1}{\sin \theta}$, $\sec \theta = \frac{1}{\cos \theta}$, $\cot \theta = \frac{1}{\tan \theta}$

where $r = \sqrt{x^2 + y^2} > 0$

Using graphics to illustrate the concepts of combination

Using initial side and terminal side to build the concept of trigonometric ratios of any angle