

I. Learning Targets, Learning Objectives and Notes on Teaching

A. Learning Targets

Key Stage 3 (S1 - S3)	Key Stage 4 (S4 - S5)
<p>To develop students an ever-improving capability to</p> <ul style="list-style-type: none"> • extend the concepts of numbers to rational and irrational numbers; • develop various strategies in using numbers to formulate and solve problems, and to examine results; • develop and refine strategies for estimating; • extend the use of algebraic symbols in communicating mathematical ideas; • explore and describe patterns of sequences of numbers using algebraic symbols; • interpret simple algebraic relations from numerical, symbolic and graphical perspectives; • manipulate algebraic expressions and relations; and apply these knowledge and skills to formulate and solve simple practical problems and to examine results; and • apply the knowledge and skills of the Number and Algebra Dimension to formulate and solve a variety of practical problems in various Learning Dimensions. 	<p>To develop students an ever-improving capability to</p> <ul style="list-style-type: none"> • understand the real number system; • investigate and describe relationships between quantities using algebraic symbols and relations; • generalize and describe patterns of sequences of numbers using algebraic symbols; and apply the results to solve problems; • interpret more complex algebraic relations from numerical, symbolic and graphical perspectives; • manipulate more complex algebraic expressions and relations, and apply these knowledge and skills to formulate and solve a variety of practical problems and justify the validity of results; and • apply the knowledge and skills in the Number and Algebra Dimension to generalize, describe and communicate mathematical ideas and solve further problems in various Learning Dimensions.