

# Contents

<b>Chapter 1</b>	<b>More about Coordinates .....</b>	<b>2</b>
1.1	Areas of figures in a coordinate plane	2
1.2	Distance and gradient	8
1.3	Mid-point of a line segment	14
1.4	Parallel and perpendicular lines	16
1.5	Combined problems in a coordinate plane	24
1.6	Equations of straight lines	30
<b>Chapter 2</b>	<b>Laws of Indices .....</b>	<b>39</b>
2.1	Basic index operations	39
2.2	Negative exponents	43
2.3	Indices and roots	46
<b>Chapter 3</b>	<b>Polynomials.....</b>	<b>51</b>
3.1	Addition and subtraction of polynomials	52
3.2	Multiplication of polynomials	55
3.3	Definition of algebraic fractions	57
3.4	Multiplication and division of algebraic fractions	62
<b>Chapter 4</b>	<b>Change of Subject.....</b>	<b>68</b>
4.1	Revision of equations	68
4.2	Formulas and substituting values into formulas	71
4.3	Change of subject	73

<b>Chapter 5</b>	<b>Factorization of Polynomials.....</b>	<b>79</b>
5.1	Factorization by finding common factors	79
5.2	Factorization of quadratics using the difference of two squares and perfect squares	82
5.3	Factorization of quadratics using the cross method	85
<b>Chapter 6</b>	<b>Surds and Rationalization .....</b>	<b>90</b>
6.1	Definition of surds	90
6.2	Operations on surds	91
6.3	Rationalization	96
<b>Chapter 7</b>	<b>Angle Properties .....</b>	<b>101</b>
7.1	Angle properties with intersecting lines	101
7.2	Angle properties with parallel lines	109
<b>Chapter 8</b>	<b>Angles in Polygons.....</b>	<b>118</b>
8.1	Interior angles in polygons	118
8.2	Exterior angles in polygons	125
<b>Chapter 9</b>	<b>Congruent Triangles .....</b>	<b>131</b>
9.1	Identifying congruent triangles	131
9.2	How to show two triangles are congruent	135

<b>Chapter 10</b>	<b>Similar Triangles .....</b>	<b>142</b>
10.1	Identifying similar triangles	142
10.2	How to show two triangles are similar	145
<b>Chapter 11</b>	<b>Properties of Quadrilaterals .....</b>	<b>153</b>
11.1	Properties of parallelograms	153
11.2	Properties of rectangles and rhombuses	160
11.3	Properties of squares and kites	165
<b>Chapter 12</b>	<b>Graphical Presentation of Statistics .....</b>	<b>170</b>
<b>Chapter 13</b>	<b>Sets and Venn Diagrams .....</b>	<b>184</b>
13.1	Sets	184
13.2	Venn diagrams	193
<b>Answers .....</b>		<b>201</b>
<b>Index .....</b>		<b>234</b>