

# Contents

<b>Preface</b>	<b>vii</b>
<b>1 Arithmetic and the beginnings of algebra</b>	<b>1</b>
1.1 In the beginning...	1
1.2 Classical Greece	12
1.3 The Greek written heritage	15
1.4 Numbers in Classical Greece	16
1.5 All is number	24
<b>2 Alexandria ad Aegyptum</b>	<b>27</b>
2.1 The capital of memory	27
2.2 Diophantos' Alexandria	32
2.3 Education and the culture of <i>paideia</i>	35
2.4 Heron of Alexandria: a Diophantine precursor?	37
<b>3 Diophantos and the <i>Arithmetika</i></b>	<b>43</b>
3.1 The manuscripts	43
3.2 Diophantos	46
3.3 The book <i>On Polygonal Numbers</i> and the lost books	49
3.4 Symbolism in the <i>Arithmetika</i>	52
3.5 The structure of a Diophantine problem	57
3.6 The <i>Arithmetika</i>	59
3.7 The algebra of the <i>Arithmetika</i>	78
3.8 Interpretations of algebra in the <i>Arithmetika</i>	88
3.9 Negative numbers?	97
3.10 Conclusion	101
<b>4 Sleeping beauty in the Dark Ages</b>	<b>103</b>
4.1 The sins of the Fathers...	103
4.2 From Alexandria to Baghdad	107
4.3 The Byzantine connection	113
4.4 Diophantos reinvented: Fibonacci	117

<b>5</b>	<b>New vistas</b>	<b>123</b>
5.1	Printed by ...	123
5.2	Wherefore art thou number?	125
5.3	From the <i>rule of coss</i> to algebra	128
<b>6</b>	<b>Humanism</b>	<b>133</b>
6.1	Trait d'union: Bessarion and the humanists	133
6.2	Diophantos goes north: Regiomontanus	135
<b>7</b>	<b>Renaissance or the rebirth of Diophantos</b>	<b>139</b>
7.1	Xylander: A sphinx to solve a riddle	139
7.2	Coincidence of traditions: Rafael Bombelli	142
7.3	The great art: Guillaume Gosselin	146
7.4	The marvel is no marvel: Simon Stevin	150
<b>8</b>	<b>Fair stood the wind for France</b>	<b>155</b>
8.1	Diophantos' triangles: François Viète and the <i>New Algebra</i>	155
8.2	Emulating the Ancients: Claude-Gaspar Bachet de Méziriac	161
8.3	This margin is too small...	166
<b>9</b>	<b>Coda: Hilbert's tenth problem</b>	<b>171</b>
<b>10</b>	<b>Stemma</b>	<b>173</b>
	<b>Bibliography</b>	<b>177</b>
	<b>Index</b>	<b>201</b>