

Contents

Preface *page ix*

PART I STYLE AND PRESENTATION

1	Solving Problems	3
2	Writing Mathematics	7
3	Giving a Presentation	13

PART II THE PROBLEMS

4	A First Look at the Problems	19
	Problem A: Circles and triangles	19
	Problem B: Towers of positive integers	20
	Problem C: Coloured discs	20
	Problem D: Throwing dice	21
	Problem E: Switching lights	22
	Problem F: Triominoes	23
	Problem G: Weighing chemicals	23
	Problem H: Average lengths	24
	Problem I: Diophantine triples	25
	Problem J: Midpoints	26
	Problem K: A five between zeros	26

PART III SOLUTIONS AND MORE PROBLEMS

5	Problem A: Solution	29
6	Problem B: Solution	33

Contents

7	Problem C: Solution	37
8	Problem D: Solution	41
9	Problem E: Solution	45
10	Problem F: Solution	51
11	Problem G: Solution	55
12	Problem H: Solution	59
13	Problem I: Solution	61
14	Problem J: Solution	63
15	Problem K: Solution	67

PART IV DISCUSSION AND GENERALISATIONS

16	Problem A: Discussion and Generalisations	71
17	Problem B: Discussion and Generalisations	75
18	Problem C: Discussion and Generalisations	79
19	Problem D: Discussion and Generalisations	83
20	Problem E: Discussion and Generalisations	87
21	Problem F: Discussion and Generalisations	93
22	Problem G: Discussion and Generalisations	95
23	Problem H: Discussion and Generalisations	97
24	Problem I: Discussion and Generalisations	99
25	Problem J: Discussion and Generalisations	103
26	Problem K: Discussion and Generalisations	107

	<i>Index</i>	109
--	--------------	-----