

## CONTENTS

<b>PREFACE</b>	<b>ix</b>
<b>1. GENERALIZATIONS OF PYTHAGORAS THEOREM TO QUADRILATERALS</b>	<b>1</b>
1. Introduction	1
2. Identities of the type $a^2 + n^2 + b^2 = (b + 1)^2$	1
3. Identities of the type $a^2 + n^2 + b^2 = (b + 2)^2$	7
4. Identities of the type $a^2 + n^2 + b^2 = (b + 3)^2$	10
5. Identities of the type $a^2 + n^2 + b^2 = (b + 4)^2$	16
6. Identities of the type $a^2 + n^2 + b^2 = (b + 5)^2$	20
7. Identities of the type $a^2 + n^2 + b^2 = (b + 6)^2$	25
8. Identities of the type $a^2 + n^2 + b^2 = (b + 7)^2$	28
9. Identities of the type $a^2 + n^2 + b^2 = (b + 8)^2$	31
10. Identities of the type $a^2 + n^2 + b^2 = (b + 9)^2$	34
11. Identities of the type $a^2 + n^2 + b^2 = (b + 10)^2$	37
12. Identities of the type $a^2 + n^2 + b^2 = (b + 11)^2$	40
13. Identities of the type $a^2 + n^2 + b^2 = (b + 12)^2$	45
14. Identities of the type $a^2 + n^2 + b^2 = (b + 13)^2$	48
15. Identities of the type $a^2 + n^2 + b^2 = (b + 14)^2$	55
16. Identities of the type $a^2 + n^2 + b^2 = (b + 15)^2$	58
17. Identities of the type $a^2 + n^2 + b^2 = (b + 16)^2$	63
18. Identities of the type $a^2 + n^2 + b^2 = (b + 17)^2$	67
19. Identities of complex nature	76
<b>2. GENERALIZATIONS OF PYTHAGORAS THEOREM TO QUADRILATERALS – II</b>	<b>83</b>
1. Identities of the type $a^2 + n^2 + b^2 = (b + 18)^2$	83
2. Identities of the type $a^2 + n^2 + b^2 = (b + 19)^2$	87
3. Identities of the type $a^2 + n^2 + b^2 = (b + 20)^2$	93
4. Identities of the type $a^2 + n^2 + b^2 = (b + 21)^2$	94
5. General case: identities of the type $a^2 + n^2 + b^2 = (b + k)^2$	100
<b>3. GENERALIZATIONS OF PYTHAGORAS THEOREM TO PENTAGONS - I</b>	<b>103</b>
1. Some triples satisfying Pythagoras theorem	103
2. Identities of the type $a^2 + b^2 + c^2 + x^2 = (x + 1)^2$	105

3. Identities of the type $a^2 + b^2 + c^2 + x^2 = (x + 2)^2$	111
4. Identities of the type $a^2 + b^2 + c^2 + x^2 = (x + 3)^2$	120

**BIBLIOGRAPHY****127**