

TABLE OF CONTENTS

Preface.....	7
Notation.....	8
1. ELEMENTARY GEOMETRY	9
1.1. Plane geometry	9
1.2. Space geometry.....	19
1.3. Geometric constructions	22
2. AXONOMETRIC PROJECTION.....	30
2.1. Parallel projection.....	30
2.2. Axonometric projection.....	32
2.3. Practical problems	36
2.4. Applications in engineering.....	48
2.5. Exercises	53
3. ORTHOGRAPHIC PROJECTIONS.....	57
3.1. Orthogonal projection.....	57
3.2. Monge's projections.....	59
3.3. Practical problems	64
3.4. Applications in engineering.....	79
3.5. Exercises	83
4. COMMON ELEMENTS.....	85
4.1. Intersection of two lines.....	85
4.2. Intersection of line and plane.....	91
4.3. Intersection of two planes.....	102
4.4. Applications in engineering.....	108
4.5. Exercises	110
5. SURFACES OF REVOLUTION	113
5.1. Principles	113
5.2. Location of point belonging to surface of revolution	116
5.3. Practical problems	122
5.4. Applications in engineering.....	137
5.5. Exercises	139

6. SECTIONS OF SURFACES OF REVOLUTION	143
6.1. Cylindrical sections	143
6.2. Conic sections	145
6.3. Sphere section	149
6.4. Conics constructions	149
6.5. Practical problems	153
6.6. Applications in engineering	162
6.7. Exercises	164
7. DEVELOPMENTS	167
7.1. Introduction	167
7.2. Parallel line method	167
7.3. Radial line method	173
7.4. Practical problems	184
7.5. Applications in engineering	188
7.6. Exercises	189
8. INTERPENETRATION	192
8.1. Cutting plane method	192
8.2. Practical problems	196
8.3. Applications in engineering	211
8.4. Exercises	216
Acknowledgments	219
Bibliography	220