

TABLE OF CONTENTS

CHAPTER I

LOGARITHMIC LAWS AND

THEIR APPLICATION TO THE SLIDE RULE.

Paragraph		Page
1.	Logarithms	1
2.	Definitions of Some Terms Frequently Used	2
3.	Certain Advantages in the Use of 10 as a Base for a System of Logarithms	3
4.	The Four Fundamental Rules of Logarithms	4
5.	The Slide Rule as a Table of Logarithms	6
6.	The Construction of the Slide Rule	6
7.	The Placing of the Decimal Point in Problems Worked with a Slide Rule	8
8.	The Percentage of Accuracy to be Expected in a Slide Rule Computation	8
9.	Care of the Slide Rule	9

CHAPTER II

MULTIPLICATION AND DIVISION

10.	The C and D Scales in Multiplication	11
11.	A Special Rule for Placing the Decimal Point in Multiplication when Using the C and D Scales	12
12.	An Alternative Method for Using the C and D Scales in Multiplication	13
13.	The Multiplication of Three or More Factors Using C and D	13
14.	Finding Products in which There is a Single Multiplier and Several Multipliers Using C and D	13
15.	The Use of the A and B Scales in Multiplication	13
16.	The C and D scales in Division	15
17.	A Special Rule for Placing the Decimal Point in Division when Using the C and D Scales	16

Paragraph		Page
18.	An Alternative Method for Using the C and D Scales in Division	16
19.	Finding Reciprocals with the C and D Scales--a Special Case of Division, Dividend 1	16
20.	The Use of C and D in Finding Quotients when a Single Divisor and Several Dividends are Given	16
21.	The A and B Scales in Division	17
22.	Combined Multiplication and Division Using C and D or A and B	19
23.	The Folded Scales CF and DF in Multiplication and Division	20

CHAPTER III

SQUARES, SQUARE ROOTS; CUBES, CUBE ROOTS

24.	Finding the Squares of Numbers	23
25.	Rule for Placing the Decimal Point in Finding the Squares of Numbers	23
26.	Finding the Square Roots of Numbers	23
27.	Rule for Placing the Decimal Point in Finding Square Roots	24
28.	Combined Multiplication and Division in which Squares and Square Roots Appear	25
29.	Finding the Cubes of Numbers Using the D, A, and B Scales	27
30.	Rule for Placing the Decimal Point when the D, A, and B Scales are Used in Finding Cubes	28
31.	Finding Cube Roots Using D, A, and B	29
32.	Placing the Decimal Point in Finding Cube Roots with D, A, and B	30
33.	Finding the Cubes of Numbers Using the K Scale	31
34.	Rule for Placing the Decimal Point in Finding Cubes with the K Scale	31
35.	Finding Cube Roots Using the K Scale	31
36.	Special Problems Involving the Use of the K Scales	32

CHAPTER IV

THE INVERSE SCALES

37.	The Inverse Scales	35
38.	The Use of the D and the C Inverted Scales in Multi- plication	35
39.	The Use of the D and the C Inverted Scales in Division	36
40.	Finding the Quotients of a Single Dividend and Several Divisors with D and C Inverted	37

Paragraph		Page
41.	The Use of A and B Inverted Scales in Multiplication and Division	37
42.	The Use of the D, B Inverted, and A Scales in Finding Cubes and Cube Roots	37
43.	Multiplication and Division Using the D and the CI Scales	40
44.	The Multiplication of Three or More Numbers Using the D, C, and CI Scales	40
45.	The Solution of Problems of the Form $\frac{a}{b \times c}$ and $\frac{a \times b}{c \times d}$ Using D, C, and CI Scales	41
46.	Finding the Quotients of a Single Dividend and Several Divisors Using D and CI	41
47.	Special Problems Involving the Use of CI	41
48.	Multiplication and Division Using the DF and CIF Scales	42

CHAPTER V

PROPORTION

49.	Direct Proportion Solved by Means of the Slide Rule	45
50.	Inverse Proportion Solved by Means of the Slide Rule	47
51.	Inverse Proportion Using the CI or CIF Scales	48

CHAPTER VI

THE SINE AND THE TANGENT SCALES

52.	The Sine Scale	51
53.	Finding the Sines of Angles Between $34.3'$ and 90°	52
54.	The Placing of the Decimal Point when the Sine Scale is Used	52
55.	Sines of Angles less than $34.3'$	52
56.	Finding the Sine of any Number of Seconds	53
57.	Finding the Sine of any Number of Minutes	53
58.	The Placing of the Decimal Point in the Sines of Small Angles	53
59.	Finding the Sines of Angles Greater than 90°	54
60.	Finding the Cosines of Angles Between 2.5° and $89^\circ 25.7'$	54
61.	Finding the Cosines of Angles Less than 2.5° and Between $89^\circ 25.7'$ and 90°	54
62.	Finding the Cosines of Angles Greater than 90°	55
63.	The Tangent Scale	55
64.	Finding the Tangents of Angles Between $5^\circ 44'$ and 45°	55
65.	Finding the Tangents of Angles Between 45° and 90°	56

Paragraph		Page
66.	The Placing of the Decimal Point when Using the Tangent Scale	56
67.	Finding the Tangents of Angles Smaller than $5^{\circ}44'$	56
68.	Finding the Tangents of Angles Greater than $84^{\circ}16'$ and less than 90°	57
69.	Finding the Tangents of Angles Greater than 90°	57

CHAPTER VII

THE SOLUTION OF TRIANGLES

70.	The Use of the Slide Rule in the Solution of Triangles	59
71.	Finding an Acute Angle of a Right Triangle when Two Sides are Known	59
72.	Finding any Side of a Right Triangle when One Other Side and an Adjacent Angle are Known	60
73.	The Solution of Oblique Triangles	61
74.	The Use of the Sine Formula in the Solution of Oblique Triangles	62
75.	The Use of the Sine Formula in the Special Case of Right Triangles	64
76.	The Use of the Sine Formula when Three Sides of a Triangle are Given	65
77.	Placing the Decimal Point when the Sine Formula is Used	65
78.	The Use of the Cosine Formula in Solving Oblique Triangles	65
79.	The Use of the Tangent Formula in Solving Oblique Triangles	66

CHAPTER VIII

THE "L" AND THE "LL" SCALES

80.	The L Scale	70
81.	The Use of the L Scale in Finding Logarithms to the Base 10	70
82.	Finding Antilogarithms with the Mannheim and with the Duplex Rules	71
83.	The Use of the L Scale in the Solution of Exponential Equations	71
84.	The Log Log Scales	74
85.	The LL_3 Scale	74
86.	The LL_2 Scale	74
87.	The LL_1 Scale	75
88.	The LL_0 Scale	75
89.	The Use of the LL Scales in the Solution of Exponential Equations	76

Paragraph	Page
90. The Use of LL_3 , LL_2 , and LL_1 in the Solution of the General Exponential Equation $a^P = c$	78
91. Finding the Logarithms to the Base e of Numbers on LL_3 , LL_2 , and LL_1	79
92. Finding Antilogarithms on LL_3 , LL_2 , and LL_1 of Logarithms to the Base e	79
93. Finding Logarithms to the Base 10 of Numbers on LL_3 , LL_2 , and LL_1	79
94. Finding Antilogarithms on LL_3 , LL_2 , and LL_1 of Logarithms to the Base 10	79
95. The Finding of Squares, Square Roots, Cubes, and Cube Roots Using the LL Scales	79
96. The Use of LL_0 in the Solution of the General Exponential Equation $a^P = c$	80
97. Finding Cologarithms to the Base e of Numbers on LL_0	81
98. Finding Cologarithms to the Base 10 of Numbers on LL_0	82
99. A Test of the Slide Rule as a Time Saver	83