

**COMPUTATION RULES  
AND LOGARITHMS,  
WITH TABLES OF OTHER  
USEFUL FUNCTIONS**

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Computation Rules and Logarithms, with Tables of Other Useful Functions by Silas W. Holman

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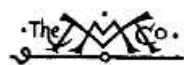
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**SILAS W. HOLMAN**

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## COMPUTATION RULES AND LOGARITHMS



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AND

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WITH TABLES OF OTHER USEFUL FUNCTIONS

BY

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## PREFACE.

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It would probably be within safe limits to assert that one-half of the time expended in computations is wasted through the use of an excessive number of places of figures, and through failure to employ logarithms. This waste might be almost wholly avoided by following a few simple computation rules and practising slightly with logarithm tables.

The loss from the use of superfluous figures will be appreciated when it is considered that in direct or logarithmic multiplication and division with four, five, and six places of figures the work is respectively in the ratio of 1 : 2 : 3, or perhaps more nearly 2 : 3 : 4. Thus contrary to the fallacious excuse so commonly given that it is just about as easy to use six- or seven-place tables as smaller ones, the work is doubled or trebled by the use of six places instead of four. Even the employment of six- or seven-place tables, and dropping superfluous places when four or five are desired, causes much loss of time.

The proper employment of logarithms for work of four or more places effects a saving of one-quarter and upward of the time required for direct multiplication or division, with a lessening of fatigue and a gain of accuracy.

The following pages contain simple rules to enable one to answer for himself the question, how many places of figures ought I to use in this computation? — also, an explanation of the use of the notation by powers of ten; certain instructions, more or less novel in form, as to the use of the logarithm and other tables; and a collection of useful tables. This collection is designed to contain all the mathematical tables ordinarily required, and nothing more, in practical work in all branches of the engineering professions, and by students of physics, chemistry, and engineering, for work of any grade not exceeding about one-twentieth of one per cent in accuracy. For