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Box 15, Folder 22 - "Equations" (E.M.S.?)

Edwin Mortimer Standing

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① x^n and shape

$3 \times 8 = 8 \times 3.$

$6 \times 6 = \text{A Square.}$

The Squares -

Building a Square

25

Ⓐ x^n

Ⓑ \div

Ⓒ $\sqrt{\quad}$

$(a + b)^2 = a^2 + 2ab + b^2$

(on square paper)

Various Examples

~~5+3~~ $8^2 =$

(cut out)

$(5+3)^2 =$

$$(6+2)^2 =$$

$$(3+3)^2 =$$

So the formula, again

$$(a+b)^2 =$$

~~$(a-b)$~~ Second formula

~~$$(a-b)^2$$~~

$$(a+b)(a-b) = a^2 - b^2$$

Several examples.

To find the Sq. Root

① Give 9

" 36

" 81

" 100.

III

Give (sq. paper)

144

Short Way

Cut out 100.

10 and something

~~Go into~~

Build up squares $13^2 \cdot 14^2$ 19^2
 20^2

21, 23,

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$(t+u)^2 = t^2 + u^2 + 2(tu)$$

Ex) Root of 144

Bugni D System

$$15^2 = 225$$

$$\begin{array}{r} 15 \\ \times 15 \\ \hline 75 \\ 150 \\ \hline 225 \end{array}$$

$$18^2 =$$

$$\begin{array}{r} 18 \\ \times 18 \\ \hline 144 \\ 180 \\ \hline 324 \end{array}$$

$$\begin{array}{r} 23 \\ \times 23 \\ \hline 69 \\ 460 \\ \hline 529 \end{array}$$

$$\begin{array}{r} 34 \\ \times 34 \\ \hline 136 \\ 1020 \\ \hline 1156 \end{array}$$

$$\begin{array}{r} 44 \\ \times 44 \\ \hline 176 \\ 600 \\ \hline 1936 \end{array}$$

$$\begin{array}{r} 45 \\ \times 45 \\ \hline 225 \\ 1800 \\ \hline 2025 \end{array}$$

$$\underline{2025}$$

$$\sqrt{64}$$

$$\sqrt{100}$$

$$\sqrt{144}$$

$$\sqrt{225}$$

$$\sqrt{324}$$

$$\sqrt{400}$$

$$\sqrt{529}$$

$$\sqrt{1156}$$

$$\sqrt{2025}$$