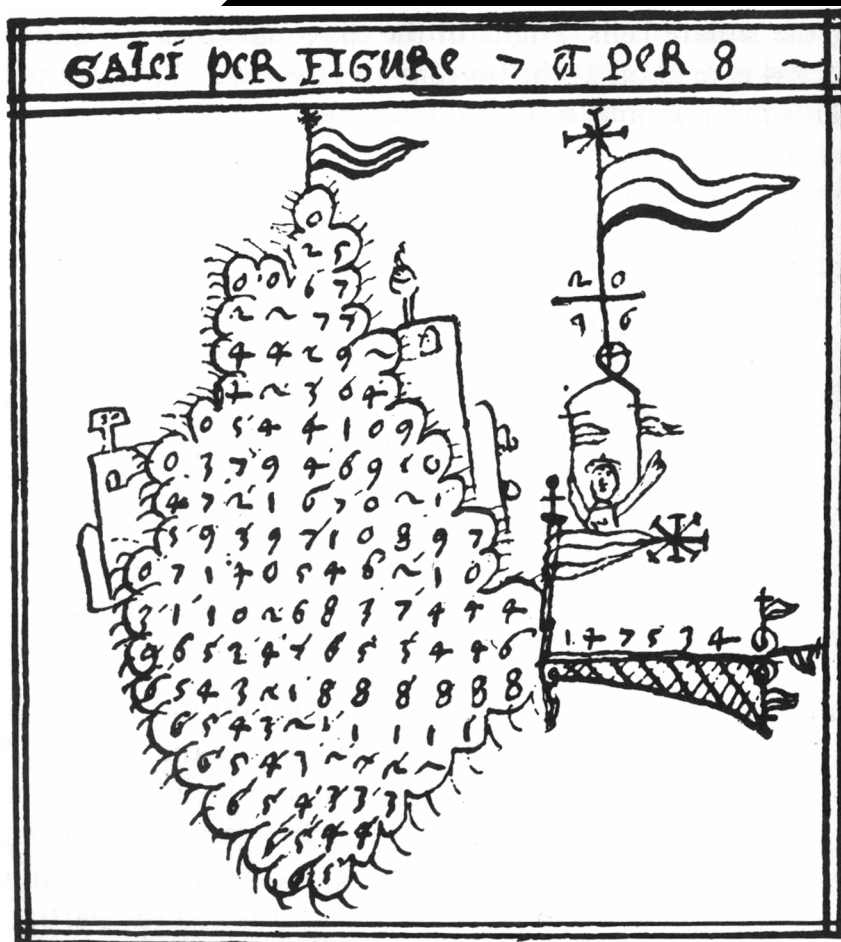


# Galley Division



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# History of the Galley Method

- The Galley method, also known as the batello or the scratch, method, was the most widely used method of division in use prior to 1600.
- The names galea and batello refer to a boat which the outline of the work was thought to resemble.

# History of Galley Division

- An earlier version of this method was used as early as 825 ad by al-Khowârizmî
- The Galley method is thought to be Hindu in origin.
- Most effective when used on a sand abacus.

# Why it is neat

- It is faster than our “long division”
- Pretty pictures result
- It was the preferred method of division for 17 centuries longer than long division’s 4 centuries

# How it works

Modern example of  
65284/594 in long  
division:

$$\begin{array}{r} 109 \\ 594 \overline{) 65284} \\ \underline{594} \phantom{00} \\ 5884 \\ \underline{5346} \\ 538 \end{array}$$

# The Galley Method

Here is the same example of 65284/594 using the galley method:

(a)

$$\begin{array}{r|l} 65284 & 1 \\ 594 & \end{array}$$

(b)

$$\begin{array}{r|l} 1 & \\ \cancel{6}5284 & 1 \\ \cancel{5}94 & \end{array}$$

(c)

$$\begin{array}{r|l} \cancel{1}6 & \\ \cancel{6}\cancel{5}284 & 1 \\ \cancel{5}94 & \end{array}$$

(d)

$$\begin{array}{r|l} 5 & \\ \cancel{1}68 & \\ \cancel{6}\cancel{5}284 & 1 \\ \cancel{5}9\cancel{4} & \end{array}$$

(e)

$$\begin{array}{r|l} 5 & \\ \cancel{1}68 & \\ \cancel{6}\cancel{5}284 & 1 \\ \cancel{5}9\cancel{4}4 & \\ 59 & \end{array}$$

(f)

$$\begin{array}{r|l} 5 & \\ \cancel{1}68 & \\ \cancel{6}\cancel{5}284 & 10 \\ \cancel{5}9\cancel{4}\cancel{4}4 & \\ \cancel{5}99 & \\ 5 & \end{array}$$

# The Galley Method

The completed problem:

$$\begin{array}{r} \cancel{1}5 \\ \cancel{5}\cancel{3}3 \\ \cancel{1}\cancel{6}\cancel{8}\cancel{7}8 \\ \cancel{6}\cancel{5}\cancel{2}\cancel{8}\cancel{4} \\ \cancel{5}\cancel{9}\cancel{4}\cancel{4}\cancel{4} \\ \phantom{\cancel{5}}\cancel{5}99 \\ \phantom{\cancel{5}}\phantom{\cancel{5}}5 \end{array} \Bigg| 109$$

# Why we no longer use it

it was the favorite method of division with arithmeticians through the eighteenth century and it is thought that it fell out of use due to the lack of cancelled types in printing.

It is still taught in the Moorish schools of North Africa and other parts of the middle east.