

Multiplication Widget Proofs

Table method and column method across whole-number partitioning, decimal products, zero partials, and multi-digit factors.

Table / box method

2 by 2 whole numbers

×	30	6
20	600	120
5	150	30

3 by 2 whole numbers

×	400	20	5
30	12000	600	150
2	800	40	10

decimal products supplied

×	3	0.6
5	15	3
0.4	1.2	0.24

mixed place values

×	200	40	7
60	12000	2400	420
8	1600	320	56

larger grid

×	3000	400	20	5
70	210000	28000	1400	350
6	18000	2400	120	30

scale check

×	30	6
20	600	120
5	150	30

Column multiplication

two by two digits

$$\begin{array}{r}
 36 \\
 \times 25 \\
 \hline
 180 \quad 36 \times 5 \\
 + 720 \quad 36 \times 20 \\
 \hline
 900
 \end{array}$$

three by two digits

$$\begin{array}{r}
 425 \\
 \times 32 \\
 \hline
 850 \quad 425 \times 2 \\
 + 12750 \quad 425 \times 30 \\
 \hline
 13600
 \end{array}$$

zero in multiplier

$$\begin{array}{r}
 408 \\
 \times 205 \\
 \hline
 2040 \quad 408 \times 5 \\
 + 81600 \quad 408 \times 200 \\
 \hline
 83640
 \end{array}$$

three partial products

$$\begin{array}{r}
 247 \\
 \times 368 \\
 \hline
 1976 \quad 247 \times 8 \\
 + 14820 \quad 247 \times 60 \\
 + 74100 \quad 247 \times 300 \\
 \hline
 90896
 \end{array}$$

small scale

$$\begin{array}{r}
 36 \\
 \times 25 \\
 \hline
 180 \quad 36 \times 5 \\
 + 720 \quad 36 \times 20 \\
 \hline
 900
 \end{array}$$

large scale

$$\begin{array}{r}
 36 \\
 \times 25 \\
 \hline
 180 \quad 36 \times 5 \\
 + 720 \quad 36 \times 20 \\
 \hline
 900
 \end{array}$$