

Partial Products & Box Method

There are other strategies you can use to solve multiplication problems. You can use the Box Method or the Partial Products.

Box Method

$$23 \times 42$$

$$20 + 3$$

40 + 2	$20 \times 40 =$ 800	$3 \times 40 =$ 120
	$20 \times 2 =$ 40	$3 \times 2 =$ 6

$$800 + 120 + 40 + 6$$

Step 1: Expand each of the factors you are multiplying.

Step 2: Set up the numbers above the boxes.

Step 3: Multiply the numbers in the rows and columns.

Step 4: Add all of the products found in each of the boxes to get the total.

Partial Products

$$23 \times 42$$

$$\begin{array}{r}
 42 \text{ think } (40 + 2) \\
 \times 23 \text{ think } (20 + 3) \\
 \hline
 6 \text{ (3} \times 2\text{)} \\
 120 \text{ (3} \times 40\text{)} \\
 40 \text{ (20} \times 2\text{)} \\
 + 800 \text{ (20} \times 40\text{)} \\
 \hline
 966
 \end{array}$$

Step 1: Multiply by the ones.

Step 2: Multiply by the tens.

Step 3: List all the partial products.

Step 4: Add all of the partial products together to get the total.