

The lattice method for multiplication

This is another way of multiplying.

- Write the digits along the top and right sides of a grid, splitting each cell in the grid diagonally. Decimal points go on a grid line.
- Multiply each pair of digits, splitting the answer between left and right sides of the cell (if the answer < 10 , put a 0 in the left side).
- Now add up along each diagonal
- Put a decimal point where the two decimal point grid lines intersect, then follow this down along a diagonal line to find the decimal point position in the answer.
- Add up the digits between the diagonals, starting at bottom right and carrying as appropriate.
- Read off the answer. Check: the final number of decimal digits equals the total number of decimal digits before multiplication.

Example

"Multiply 234×329 "

	2	3	4	.	
	0	0	1		3
	6	9	2		2
7	0	0	0		9
(1)	4	6	8		.
6	1	2	3		
(1)	8	7	6		
(1)	9	8	6		
(1)					

Here $7+3+8=18$, write 8, carry (1) to the left.

$8+2+6+2 + \text{carried } 1 = 19$, write 9, carry (1) to left.

$1+4+9+1+ \text{carried } 1 = 16$, write 6, carry 1 to left

$6+ \text{carried } 1 = 7$.

The answer is 76986.

Example

"Multiply 2.34×3.29 " Note the lines showing the decimal point position.
 The answer is 7.6986

	2	3	4	
	0	0	1	3
	6	9	2	.
	0	0	0	2
	4	6	8	2
(1) 7	1	2	3	
6	8	7	6	9
(1)	9	8	6	
(1)				

Check, 2.34×3.29 has 4 decimal digits, 7.6986 also has 4 decimal digits, yes!.