How lattice multiplication works.

46 x 57 =

First you have to draw the figure like below.   The easiest way is to start with a square
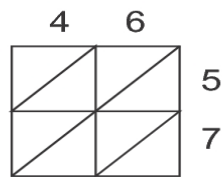
Then divide the square into half.

Then divide the square once more into fourths
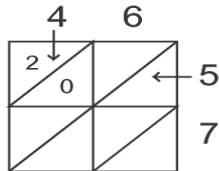
Then add the diagonals

Do not reverse the diagonals

Then you write the numbers above and to the right of the latice.

4   6
5
7

Then you fill in the square like you were filling in a muliplication chart. With the lower part of the diagonal as the ones and the upper part of the diagonal for that square as the tens.

4   6
2
0
5
7

4 x 5 = 20   So you fill in the chart as shown.

The whole chart filled in would look like this.

4   6
2   3
0   0
5
2   4
8   2
7