

## Egyptian multiplication

Let's take the example of  $12 \times 23$ .

To start the multiplication, make two columns. The first column will always start with 1. The second column starts with one of the numbers we are multiplying. We need to decide which of the two numbers we want to double. I chose 23.

Write 1 and the number you are doubling.	1	23
Double both numbers.	2	46
Double both numbers again.	4	92
Keep doubling.	8	184
Keep doubling... (but check to see if you can add up some of these numbers in the first column to make the <b>other</b> number you are multiplying. In my case, I'm trying to make 12 with numbers in the first column).	16	368

Wait, I went too far. 16 is more than 12. I didn't need to double that last time.

How can I make 12 with numbers in the first column?

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$$4 + 8 = 12$$

So, I also add the corresponding numbers in the 2nd column:

$$92 + 184 = 276$$

4	92
8	184
12	276

So,  $12 \times 23 = 276$

We could also do the multiplication differently and decide to double 12 instead of 23.

1	12
2	24
4	48
8	96
16	192

If we doubled 12 instead of 23, we would need to make 23 with numbers on the left side.  
Which of these numbers (1, 2, 4, 8, 16) add to make 23?

Then add the corresponding doubles of 12 to get the final product of 12 and 23.