

22 SQUARES WITHIN SQUARES

Pick any 2 by 2 square, such as this one, from the multiplication table.

$$15 \times 24 = 360 \quad 20 \times 18 = 360$$

The products of the numbers on opposite corners are the same.

15	18
20	24

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

What if you chose another square?

Prove that this is always true.

Hint: Use factors.

Try 3 by 3 squares or even bigger ones.

Try rectangles instead of squares

Use algebra to help
prove or disprove this.



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5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
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