

Next fill in column 12 by putting together columns 1 and 2.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2										12
2	2	4										24
3	3	6										36
4	4	8										48
5	5	10										51 0
6	6	12										
7	7	14										
8	8	16										
9	9	18										
10	10	20										
11	11	22										
12	12	24										

OOPS! It isn't 510. It's 50 plus 10 or add the 5 and the 1 to get 6.

6 and 12 = 72
7 and 14 = 84

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2										12
2	2	4										24
3	3	6										36
4	4	8										48
5	5	10										60
6	6	12										72
7	7	14										84
8	8	16										96
9	9	18										10 8
10	10	20										12 0
11	11	22										13 2
12	12	24										14 4

Then do columns 5, 10, and 11

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2			5					10	11	12
2	2	4			10					20	22	24
3	3	6			15					30	33	36
4	4	8			20					40	44	48
5	5	10			25					50	55	60
6	6	12			30					60	66	72
7	7	14			35					70	77	84

8	8	16			40					80	88	96
9	9	18			45					90	99	108
10	10	20			50					100	110	120
11	11	22			55					110	121	132
12	12	24			60					120	132	144

Fill in the 4 column by doubling the 2 column.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2		4	5					10	11	12
2	2	4		8	10					20	22	24
3	3	6		12	15					30	33	36
4	4	8		16	20					40	44	48
5	5	10		20	25					50	55	60
6	6	12		24	30					60	66	72
7	7	14		28	35					70	77	84
8	8	16		32	40					80	88	96
9	9	18		36	45					90	99	108
10	10	20		40	50					100	110	120
11	11	22		44	55					110	121	132
12	12	24		48	60					120	132	144

Fill in the 8 column by doubling the 4 column.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2		4	5			8		10	11	12
2	2	4		8	10			16		20	22	24
3	3	6		12	15			24		30	33	36
4	4	8		16	20			32		40	44	48
5	5	10		20	25			40		50	55	60
6	6	12		24	30			48		60	66	72
7	7	14		28	35			56		70	77	84
8	8	16		32	40			64		80	88	96
9	9	18		36	45			72		90	99	108
10	10	20		40	50			80		100	110	120
11	11	22		44	55			88		110	121	132

$$8 \times 12 = 96$$

Double the 4 column

Double 48

8 and 16 that's 96.

12	12	24		48	60			96		12	13	14
										0	2	4

Next comes the 3 column. Add column 1 to column 2.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5			8		10	11	12
2	2	4	6	8	10			16		20	22	24
3	3	6	9	12	15			24		30	33	36
4	4	8	12	16	20			32		40	44	48
5	5	10	15	20	25			40		50	55	60
6	6	12	18	24	30			48		60	66	72
7	7	14	21	28	35			56		70	77	84
8	8	16	24	32	40			64		80	88	96
9	9	18	27	36	45			72		90	99	108
10	10	20	30	40	50			80		100	110	120
11	11	22	33	44	55			88		110	121	132
12	12	24	36	48	60			96		120	132	144

Why did that work? It was just the distributive property.

$$(1 + 2) = 3$$

$$2(1 + 2) = 6$$

$$3(1 + 2) = 9$$

For the 6 column, add columns 2 and 4.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6		8		10	11	12
2	2	4	6	8	10	12		16		20	22	24
3	3	6	9	12	15	18		24		30	33	36
4	4	8	12	16	20	24		32		40	44	48
5	5	10	15	20	25	30		40		50	55	60
6	6	12	18	24	30	36		48		60	66	72
7	7	14	21	28	35	42		56		70	77	84
8	8	16	24	32	40	48		64		80	88	96
9	9	18	27	36	45	54		72		90	99	108
10	10	20	30	40	50	60		80		100	110	120
11	11	22	33	44	55	66		88		110	121	132
12	12	24	36	48	60	72		96		120	132	144

For the 7 column, pick the numbers which are easiest to add from these choices:
1 and 6, 2 and 5, or 3 and 4.

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8		10	11	12
2	2	4	6	8	10	12	14	16		20	22	24
3	3	6	9	12	15	18	21	24		30	33	36
4	4	8	12	16	20	24	28	32		40	44	48
5	5	10	15	20	25	30	35	40		50	55	60
6	6	12	18	24	30	36	42	48		60	66	72
7	7	14	21	28	35	42	49	56		70	77	84
8	8	16	24	32	40	48	56	64		80	88	96
9	9	18	27	36	45	54	63	72		90	99	108
10	10	20	30	40	50	60	70	80		100	110	120
11	11	22	33	44	55	66	77	88		110	121	132
12	12	24	36	48	60	72	84	96		120	132	144

There are several tricks for 9. You can multiply by 10 and subtract 9. Use the figure trick. Add two columns which add to 9 or.....number 0 to 9 going down then to it again going up. That gets you to 9 times 10.

09
 18
 27
 36
 45
 54
 63
 72
 81
 90

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144