

Arithmetic Tables

To use the tables select a number from the first column of the table, then select the number you wish to add, subtract, multiply or divide from the top row of the table. The answer will be where the column and row intersect. For example, to add 7 to 8, find 7 in the first column move right in the same row until you are under the 8 column. The sum is 15 as highlighted below. For addition and multiplication you can start with the top row and select a number from the first column and you will get the same answer. This will not work for subtraction and division because the order of the numbers determines the value (they are not commutative). For a complete overview for the properties of real numbers please refer to the last page of this document.

Addition Table

	1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12	13
2	3	4	5	6	7	8	9	10	11	12	13	14
3	4	5	6	7	8	9	10	11	12	13	14	15
4	5	6	7	8	9	10	11	12	13	14	15	16
5	6	7	8	9	10	11	12	13	14	15	16	17
6	7	8	9	10	11	12	13	14	15	16	17	18
7	8	9	10	11	12	13	14	15	16	17	18	19
8	9	10	11	12	13	14	15	16	17	18	19	20
9	10	11	12	13	14	15	16	17	18	19	20	21
10	11	12	13	14	15	16	17	18	19	20	21	22
11	12	13	14	15	16	17	18	19	20	21	22	23
12	13	14	15	16	17	18	19	20	21	22	23	24

Subtraction Table

	1	2	3	4	5	6	7	8	9	10	11	12
1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8
5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7
6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6
7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5
8	7	6	5	4	3	2	1	0	-1	-2	-3	-4
9	8	7	6	5	4	3	2	1	0	-1	-2	-3
10	9	8	7	6	5	4	3	2	1	0	-1	-2
11	10	9	8	7	6	5	4	3	2	1	0	-1
12	11	10	9	8	7	6	5	4	3	2	1	0

Multiplication Table

	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

Division Table

	1	2	3	4	5	6	7	8	9	10	11	12
1	1.000	0.500	0.333	0.250	0.200	0.167	0.143	0.125	0.111	0.100	0.091	0.083
2	2.000	1.000	0.667	0.500	0.400	0.333	0.286	0.250	0.222	0.200	0.182	0.167
3	3.000	1.500	1.000	0.750	0.600	0.500	0.429	0.375	0.333	0.300	0.273	0.250
4	4.000	2.000	1.333	1.000	0.800	0.667	0.571	0.500	0.444	0.400	0.364	0.333
5	5.000	2.500	1.667	1.250	1.000	0.833	0.714	0.625	0.556	0.500	0.455	0.417
6	6.000	3.000	2.000	1.500	1.200	1.000	0.857	0.750	0.667	0.600	0.545	0.500
7	7.000	3.500	2.333	1.750	1.400	1.167	1.000	0.875	0.778	0.700	0.636	0.583
8	8.000	4.000	2.667	2.000	1.600	1.333	1.143	1.000	0.889	0.800	0.727	0.667
9	9.000	4.500	3.000	2.250	1.800	1.500	1.286	1.125	1.000	0.900	0.818	0.750
10	10.000	5.000	3.333	2.500	2.000	1.667	1.429	1.250	1.111	1.000	0.909	0.833
11	11.000	5.500	3.667	2.750	2.200	1.833	1.571	1.375	1.222	1.100	1.000	0.917
12	12.000	6.000	4.000	3.000	2.400	2.000	1.714	1.500	1.333	1.200	1.091	1.000

Properties of Real Numbers

For any real numbers a , b , and c :

$$\begin{array}{ll} a + b = b + a & \text{Commutative properties of addition and} \\ ab = ba & \text{multiplication} \end{array}$$

$$\begin{array}{ll} a + (b + c) = (a + b) + c & \text{Associative properties of addition and} \\ a(bc) = (ab)c & \text{multiplication} \end{array}$$

$$\begin{array}{ll} a + 0 = 0 + a = a & \text{Additive identity property} \\ -a + a = a + (-a) = 0 & \text{Additive inverse property} \end{array}$$

$$a \cdot 1 = 1 \cdot a = a \quad \text{Multiplicative identity property}$$

$$a \cdot \frac{1}{a} = \frac{1}{a} \cdot a = 1, \quad a \neq 0 \quad \text{Multiplicative inverse property}$$

$$ab \pm ac = a(b \pm c) \quad \text{Distributive property}$$

Associative property (grouping) - A property of real numbers that states the sum or product of a set of numbers or variables has the same value, regardless of how the numbers or variables are grouped.

Commutative property (order) - A property of real numbers that states the sum or product of two terms is unaffected by the order in which the terms are added or multiplied. For example; the sum or product remains the same; independent of order; as in $a + b = b + a$. Subtraction and division are not commutative for the set of real numbers. For example:

$$6 - 3 = 3 \neq 3 - 6 = -3 \quad \text{and} \quad 6 \div 3 = 2 \neq 3 \div 6 = \frac{1}{2}$$

Distributive property (separation) - A property of real numbers that states the product of a number and the sum or difference of two numbers is the same as the sum or difference of their products.