

Mathematics - Number

Grid method for multiplication

Split the numbers you are multiplying into units, tens, hundreds ... and multiply each part separately. E.g 243×17

x	200	40	3
10	2000	400	30
7	1400	280	21

Then add together all the products.
 $2000+1400+400+280+30+21 = 4131$

Directed Numbers

Adding a negative number is the same as subtracting the positive.

Subtracting a negative is the same as adding the positive.

Types of Number

Odd Numbers: 1, 3, 5, 7, 9, 11, ...

Even Numbers: 2, 4, 6, 8, 10, ...

Square Numbers: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225

Cubed Numbers: 1, 8, 27, 64, 125, 216, 343, 512, 729, 1000

Multiples of a number are numbers that belong to its multiplication table. E.g. the multiples of 4 are 4, 8, 12, ...

Factors of a number are numbers that divide exactly into a number. **FACTORS FIT!!!**

E.g. the factors of 20 are 1, 2, 4, 5, 10, 20.

Prime numbers are numbers that have TWO factors only. E.g. 2, 3, 5, 7, 11, 13, 17, 19, ...

Percentages / Decimals / Fractions

50%	0.5	1/2
25%	0.25	1/4
75%	0.75	3/4
10%	0.1	1/10
20%	0.2	2/10 = 1/5
30%	0.3	3/10
60%	0.6	6/10 = 3/5
12.5%	0.125	1/8
33⅓%	0.3	1/3

etc

	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

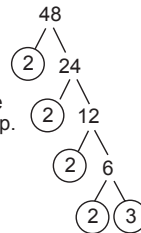
Multiplying and dividing negative numbers

When multiplying and dividing negative numbers **DEAL WITH THE DIGITS THEN SLIDE IN THE SIGNS.**

x/+	+	-
+	+	-
-	-	+

Prime factors

Prime Factors of a number are its factors that are prime. Use a Prime Factor Tree!



Circle the Prime number and stop.

$$= 2 \times 2 \times 2 \times 2 \times 3$$

$$= 2^4 \times 3$$

Time

To find the difference between two times

1. Draw a time line
2. Count in minutes to the next hour
3. Count in hours until you can't count a whole hour
4. Count in minutes to the given time.

E.g. How long is a journey starting at 11:30 and ending at 14:15?

$$11.30 \gggg 12.00 \gggg 14.00 \gggg 14.15$$

$$30mins \quad 2hrs \quad 15mins$$

$$= 2 \text{ hours and } 45 \text{ minutes}$$