

Prime Numbers

Prime Numbers

A Prime Number can be divided evenly **only** by 1 & itself.
And it must be a whole number greater than 1.

The first few prime numbers are 2, 3, 5, 7, 11, 13, 17 etc.....

Prime Numbers

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1) Write out the numbers from 1 to 100 in ten rows of 10.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2) Cross off number 1, because all primes are greater than 1.

3) Number 2 is a prime, so we can keep it, but we need to cross off the multiples of 2 (i.e. even numbers).

4) Number 3 is also a prime, so again we keep it and cross off the multiples of 3.

5) The next number left is 5 (because four has been crossed off), so we keep it and cross off the multiples of this number.

6) The final number left in the first row is number 7, so cross off its multiples.

7) You have finished. All of the "surviving" numbers (coloured in white below) on your grid are prime numbers.

Prime Numbers

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

A prime number
can only be divided
evenly by
one and itself.

The following are NOT Prime Numbers



1×0
 2×0
 3×0
etc.

Zero
has one an infinite
number of factors.



1×1

One only
has one factor...
1

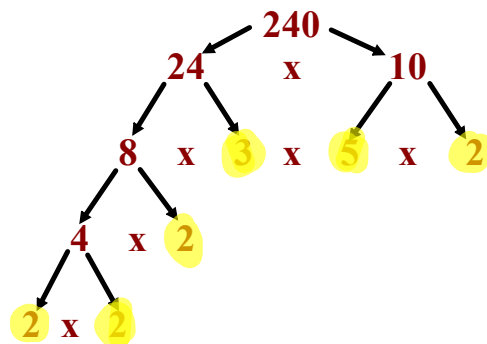


Determining the Prime Factors of a Whole Number



Write the prime factorization of 240

**Draw a Factor
Tree !!**

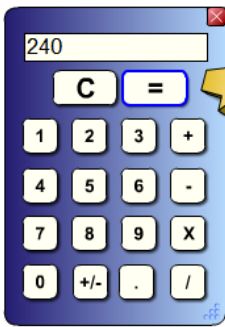


The Prime Factorization of 240 is:
 $2 \times 2 \times 2 \times 3 \times 5 \times 2$ or $2^4 \times 3 \times 5$

The Prime Factors of 240 are:
2, 3, & 5

Determining the Prime Factors of a Whole Number

Write the prime factorization of 240.



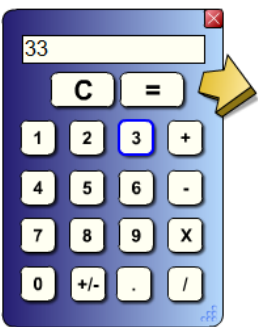
$$240 \rightarrow 2 \times 2 \times 2 \times 2 \times 3 \times 5$$
$$2^4 \times 3 \times 5$$

The Prime Factorization of 240 is:
 $2 \times 2 \times 2 \times 3 \times 5 \times 2$ or $2^4 \times 3 \times 5$

The Prime Factors of 240 are:
2, 3, & 5

Write the prime factorization of 3300.

$$3300 \longrightarrow 2 \times 2 \times 3 \times 5 \times 5 \times 11$$



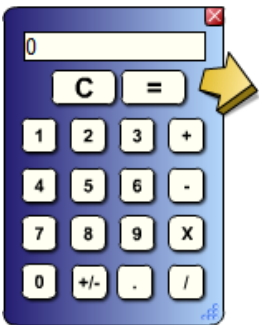
$$2^2 \times 3 \times 5^2 \times 11$$

The prime factors of 3300 are 2, 3, 5, and 11.

The prime factorization of 3300 is: $2 \cdot 2 \cdot 3 \cdot 5 \cdot 5 \cdot 11$,
or $2^2 \cdot 3 \cdot 5^2 \cdot 11$

Write the prime factorization of 12600.

$$12600 \longrightarrow 2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 5 \times 7$$



$$2^3 \times 3^2 \times 5^2 \times 7$$

The prime factors of 3300 are 2, 3, 5, and 11.

The prime factorization of 3300 is: $2 \cdot 2 \cdot 3 \cdot 5 \cdot 5 \cdot 11$,
or $2^2 \cdot 3 \cdot 5^2 \cdot 11$