

Properties of Numbers

Even Numbers

Whole numbers that divide by 2.

eg. 2 24 6458 82378

Even numbers end in 2 4 6 8 or 0

Odd Numbers

Whole numbers that don't divide by 2.

eg. 3 55 2373 67453

Odd numbers end in 1 3 5 7 or 9

- 0 is an exception, neither even nor odd. In fact it isn't really a number at all.

Factors

The factors of a number are whole numbers that divide exactly into the number, including 1 and the number.

eg. Factors of 16 are 1 2 4 8 and 16.

Factors of 81 are 1 3 9 27 and 81

- When listing factors, think in pairs of numbers that when multiplied together give the required product listed in order.

Multiples

Multiples of a number are the results of multiplying that number by a positive whole number, starting with 1.

eg. Multiples of 4 are 4 8 12 16 etc.

- Multiples of 4 between 20 and 30 would be 24 and 28.

Prime Numbers

A prime number is a whole number with exactly two factors, itself and 1.

They are 2 3 5 7 11 13 17 19 etc.

- There is only one even prime - 2.
- There are 25 primes between 1 and 100.
- It is best to know them by heart. Ask for a list of them if unsure.

Square Numbers

Square numbers are the result of multiplying a whole number by itself, starting with 1.

eg. 1 4 9 16 25 36 49 64 81 etc.

Cube Numbers

Cube numbers are the result of multiplying a whole number by itself, then itself again, starting with 1.

eg. 1 8 27 64 125 216

- 1 and 64 are both square and cube.

Prime Factors

Factors of a number that are prime, the building blocks of any number.

eg. $60 = 2 \times 2 \times 3 \times 5$

$70 = 2 \times 5 \times 7$

Start by dividing by 2 as many times as you can, then 3 then 5 etc. until the last result is prime.

Highest Common Factors

The highest whole number that will divide into two given numbers

eg $\text{HCF}(12, 16) = 4$

$\text{HCF}(20, 40) = 20$

$\text{HCF}(5, 7) = 1$

Lowest Common Multiples

The lowest number that two given numbers will divide into.

eg $\text{LCM}(4, 6) = 12$

$\text{LCM}(4, 10) = 20$

$\text{LCM}(10, 20) = 20$

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eg HCF (12,16) = 4

HCF (20,40) = 20

HCF (5,7) = 1

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The lowest number that two given numbers will divide into.

eg LCM (4,6) = 12

LCM (4,10) = 20

LCM (10,20) = 20

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