

## HCF

This method of finding a HCF is known as Euclid's algorithm, named after the Greek mathematician Euclid, who described it in Books VII and X of his Elements circa 300BC.

For two numbers choose the lowest one.

Take this away from the highest until the result is zero or less than the value of the lowest.

This is the same as the remainder in dividing the highest number by the lowest.

The process is repeated but now this time take the remainder away from the original lowest number.

Repeat this process until the remainder becomes zero. When zero is reached the smaller number is the HCF.

For 2635 & 1705

$$2635 - 1705 = 930$$

$$1705 - 930 = 775$$

$$930 - 775 = 155$$

$$775 - 155 = 620 - 155 = 465 - 155 = 310 = 155 - 155 = 0$$

So 155 is the HCF of the two original numbers 2635 & 1705

The highest common factor (HCF) is also known as the greatest common factor (GCF) or greatest common divisor (GCD). This last term is the most likely used term in computing.