

Prime numbers, are of course, numbers that can only be divided by themselves and 1 (and are greater than 1). They were first discovered by the famous Greek [mathematician Euclid](#) over two thousand years ago. Since that time, amateurs and experts alike have sought to discover ever increasingly larger prime numbers, though mostly for sport, as prime numbers have very few practical purposes (in recent years they have been used in cryptography). The process is difficult as there is no formula for finding them. Thus, blunt force has typically been the only way—choosing a number at random and then attempting to divide it by every number that is smaller than it is (tossing out obvious ones of course). For this reason, it wasn't until people began building computers that really large prime numbers were discovered.

Mersenne Prime numbers are named after French monk Marin Mersenne, who was the first to detail the formula for the class of special prime numbers, over 350 years ago. This latest discovery is just the 48th ever discovered.

The GIMPS project has been exceptionally good at finding large prime numbers—it's been responsible for the discovery of the largest 14 over its seventeen year history. It's made up of 360,000 machines that together are able to calculate at peak times up to 150 trillion calculations per second. Cooper, clearly an avid member, has been credited with the discovery of two other large [prime numbers](#) found by the group. For his efforts this time, he will receive \$3000. Much bigger prizes (from the Electronic Frontier Foundation) are in store for anyone that discovers a prime with a hundred million or a billion digits (\$150,000 and \$250,000 respectively).

To make sure the number found by Cooper was indeed a prime, several other independent volunteer researchers verified it by testing it on their own computers.

More information: www.mersenne.org/various/57885161.htm

© 2013 Phys.org

Citation: University professor discovers largest prime number to date (2013, February 6)
retrieved 19 April 2024 from

<https://phys.org/news/2013-02-university-professor-largest-prime-date.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--