

Global warming outline assignment



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Fermat's most important work was done in the development of modern number theory which was one of his favorite areas in math. He is best remembered for his number theory, in particular for Fermat's Last Theorem. This theorem states that: $x^n + y^n = z^n$ has no non-zero integer solutions for x , y and z when n is greater than 2. Fermat almost certainly wrote the marginal note around 1630, when he first studied Diophantus's Arithmetic. It may well be that Fermat realized that his prove was wrong, however, since all his other theorems were stated and restated in halogen problems that Fermat sent to other mathematicians.

Although the special cases of $n = 3$ and $n = 4$ were issued as challenges the general theorem was never mentioned again by Fermat. In fact in all the mathematical work left by Fermat there is only one proof. Fermat proves that the area of a right triangle cannot be a square. Meaning that a rational triangle cannot be a rational square. In symbols, there do not exist integers x , y , z with $x^2 + y^2 = z^2$ such that $x^2/2$ is a square. From this it is easy to deduce the $n = 4$ case of Fermat's theorem.

The proof of Fermat's Last Theorem marks the end of a mathematical era. Since all of the tools which were brought to bear on the problem still had to be invented in the time of Fermat. Judging by the tenacity with which the problem was worked for so long, Fermat's alleged proof seems likely to have been illusory. This conclusion is further supported by the fact that Fermat searched for proofs for the cases $n = 3$ and $n = 4$, which would have been superfluous had he actually been in possession of a general proof.