2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97 101 103 107 109 113 127 131 137 139 149 151 157 163 167 173 179 181 191 193 197 199

More Fun with Prime Numbers

Week 2

Homework

Tetsushi Ito

Department of Mathematics Kyoto University





: 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97 101 103 107 109 113 127 131 137 139 149 151 157 163 167 173 179 181 191 193 197 19

Problem 1

Who first wrote the proof of Fermat's Theorem on Sums of Two Squares?

(a) Archimedes of Syracuse
(b) Leonhard Euler
(c) Joseph-Louis Lagrange
(d) Don Bernard Zagier

> Fermat usually did not write a proof of the results he discovered. 2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97 101 103 107 109 113 127 131 137 139 149 151 157 163 167 173 179 181 191 193 197 19

Problem 1

Answer (b) Leonhard Euler

- > Euler proved it in 1740's.
- Lagrange also gave another proof in 1770's.
- Zagier gave a `one-sentence proof' in 1990.
- Many proofs of Fermat's Thm on Sums of Two Squares are known today.

Leonhard Euler (1707-1783)