because it is the sum of the first male number and the first female number (2 + 3~. Figurate numbers are devided into triangular numbers, square numbers, pentoginal numbers et cetera. They corespond to patterns of dots in triangles, squares, pentagDns et cetera. Triangular numbers are obtained by ading 2 then 3 then 4 et cetera to the number 1 i. e. 1 + 2 = 3, 3 + 3 = 6, 6 + 4 = 10, 10 +5 = 15 et cetera. This corresponds to triangles of 2 on a side, 3 on a side, 4 on a side et cetera. Square numbers correspond to squares of 2 wide, 3 wide, 4 wide et cetera; which can be obtained by adding 3 then 6 then 7 et cetera to the number 1. The other are similar. Pythagorean triples are what Pythagoras is most famous for. They are integers which fulfill the condition $a^2 + b^2 = c^2$, and a, b, and c will be the lengths of the sides of a right triangle. Pythagoras developed a formula to figure out such numbers:

$$n^2 + (~(n2 \_ 1))2 = (~(n2 + 1))2$$

where n is an odd integer.

„One day Pythagoras discovered wha-7 was to him an incredeble fact: there were numbers which were neither integers nor fractions!"28 He was making an icosolese right triangle and fo~nd the hypotenuse to have a length of J2: which he found no integer nor fraction for. He, however, could not prove it was irrational. It was Hippasus, one of Pythagorases students, who proved «to be irrational. Later Theodorus proved ~ V5, Vb et cetera to be irra tiona 1.

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28 Leon Perry, <u>The Mathmen,</u> page 40