

Archimedes of Syracuse and Ludolph Van Ceulen

PI by use of polygons

Archimedes 2300 years ago used a polygon with 96 sides to arrive at the approximation $22/7$ for pi. About 1900 years later Ludolph Van Ceulen used a polygon with 13835058055282163712 sides to arrive at the approximation of 35 digits. This value of PI is engraved on his tombstone to honor his contribution to mathematics.

Each group consisted of three lines with a total of 5 numbers, three on the first line and one on each of the next two lines. The first number is between 1 through 128 which is a power of two and more than twice the 62 value used by Ludolph Van Ceulen in his calculation of pi to 35 digits which was calculated over a 30 year period.

The third number is 3 times 2 raised to the first number. The third number is the number of digits pi it has reached. The fourth number, second line is the calculated value of pi. The fifth number, third line is the difference between pi and the calculated which also gives the number of correct digits that has been calculated.

Looking at the fifth group which is the value used by Archimedes which uses 96 sided polygon and gives 3.141 which happens to be better than the 22/7 normally listed, he worked with fractions and not decimal numbers as we do today. The sixty second group is what was used by Ludolph Van Ceulen which is good for 37 digits.

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10 3072 6
3.14159210599927155054477664061011735312749725496628467258453234473983691060393033
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