the inventors

Seki Kowa

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Reasons Seki Kowa is the Inventor

1. In 1674, Seki wrote *Hatsubi Sampo*

-he provided solutions for math problems that had been posed four years earlier

2. 1683: He developed a theory of determinants   -predated work by the 18th century German mathematician, Gottfried Leibniz.

3. He studied equations using both positive and negative numbers

4. Studied magic squares   -a **magic square** of order *n* is an arrangement of *n*2 numbers, such that the *n* numbers in all rows, all columns, and both diagonals sum to the same constant

Reasons for Seki Cont.

5. Credited with discovering Bernoulli numbers before Jacob Bernoulli
-the Bernoulli numbers are a sequence of rational numbers

6. He developed a method for determining the root of a numerical equation

7. He was able to derive $f(x)$ and discovered the discriminant
–discriminant: a function of the root of an equation ex in terms of the coefficients

Reasons (cont.)

8. Expanded on method of exhaustion
-"The method of exhaustion is a method of finding the area of a shape by inscribing inside it a sequence of polygons whose areas converge to the area of the containing shape."
9. In 1683, he considered integer solutions of $ax - by = 1$ where a, b are integers
10. He invented the circle principle which represents a crude form of integral calculus

Reasons Newton is not the Inventor

-Newton didn't publish his work until 1687.

-Newton was the most powerful intellectual of Europe
    -Because he was the president of the Royal Society of London, so it would be easy for him to influence people into thinking he was the true inventor.

-Newton was a very "thick-headed" man who didn't like giving credit to others.

-Newton's notation system is not used today.
    -Modern Calculus is most similar to the Leibniz system

Reasons Leibniz is not the Inventor

-Leibniz didn't publish his work until 1686.

-Leibniz saw Newton's work before he published his findings in 1686.

-Leibniz spent much of his life working on an elaborate notation system which suggests that he plagiarized Newton's work and was attempting to cover up his tracks.

-Leibniz had previously altered official documents.
    -Demonstrates a lack of consideration for the work of others.

-The Royal Society of London concluded that Leibniz plagiarized Newton's work.

Further Reasons Others Not Inventors

-Seki made his Calculus discoveries prior to Newton and Leibniz.

-He was a contemporary of theirs, but had no contact with the Western World. Thus, plagiarism on his part is out of the question.

-Seki devised his methods entirely on his own, while the truth regarding the other men is questionable.

-Calculus is an evolution, no one person in the Western World is the true inventor.

Timeline: Seki

1642: Seki born

1674: Seki published *Hatsubi-Sampo* with 'solutions' to 15 problems posed a few years earlier

1683: Work with "Magic Squares"

1683: Considered integer solutions of $ax - by = 1$ where a, b are integers.

1683: Seki came up with elimination theory based on resultants

1683: Developed idea of a determinant

1685: Solved the cubic equation $30 + 14x - 5x^2 - x^3 = 0$ using the same method as Horner a hundred years later.

1712: Discovered Bernoulli numbers

Timeline (cont.)

Leibniz:

1673: Invented version of Calculus

1684: Published findings

Newton:

1664: laid the foundations of the differential calculus,("method of fluxions")

1665: he began work with integral calculus.

1687: Published *Principia Mathematica*

1693: Published work with "fluxions."

Sources

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