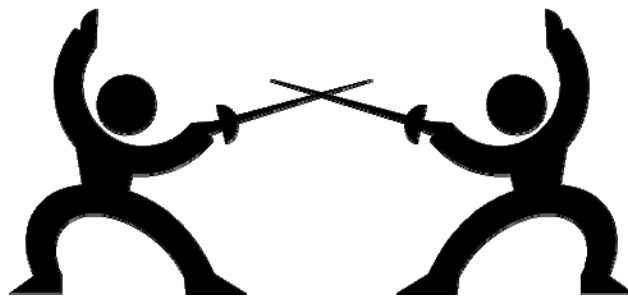


Name _____

The Calculus Feud

The last years of the 1600s were great times for amazing advances in understanding about mathematics and physics. Two of the famous mathematicians of the time period were Sir Isaac Newton of England and Gottfried Leibniz of Germany. Even today Isaac Newton is still considered to be one of the greatest scientists of all time. Most students already know about Isaac Newton and the theory of gravity, including the story about the apple falling onto his head. At the same time as Newton was doing his research in England, Gottfried Leibniz was working on his own research into motion and mathematics in Germany and France. Both men were about the same age.

Newton was a genius who studied many topics at the same time, including motion like Leibniz. Both men were puzzled about how to describe motion using mathematics. Both men wanted to come up with a way to calculate how an object moves over time. A good example of why these calculations are important to us today is predicting the path of a rocket as it blasts from earth into space.



Name _____

Newton and Leibniz each defined the branch of mathematics called calculus. Calculus is the next step in mathematics after students study geometry and algebra. Calculus was an important tool in helping scientists make advances in physics and chemistry. Without calculus there wouldn't be space travel, electronic devices or even cell phones.

Historians now give credit to both Newton and Leibniz for their roles in developing calculus but at the end of the 1600s there was a bitter feud between the men about who should receive the credit as the inventor of calculus. At the heart of the problem was the fact that Newton did not like criticism so he did not publicly write about his findings in calculus. He showed his results privately to a few mathematicians around 1669. Leibniz publicly published his results in 1684. Finally, around 1700 Newton accused Leibniz of plagiarism (copying) his ideas.

The feud ended up involving mathematicians and scientists all around England and continental Europe, siding with "their guy." The impact of the feud lasted for 50 years and prevented scientists from communicating with each other because some used Newton's version of calculus and others used Leibniz's calculus.



Name _____

Name: _____ Date: _____

Multiple Choice Questions

Circle the correct answer.

1. Isaac Newton studied
 - a. Rockets
 - b. Gravity
 - c. Both a. and b. above
 - d. None of the above

2. Gottfried Leibniz was born in
 - a. Germany
 - b. England
 - c. France
 - d. None of the above

3. Newton and Leibniz were interested in describing
 - a. Plants
 - b. Area of triangles
 - c. Algebra
 - d. Motion

4. What was the feud between Newton and Leibniz about?
 - a. Algebra
 - b. Arithmetic
 - c. Geometry
 - d. Calculus

5. Why didn't Newton publicly publish his findings?
 - a. He did not have enough money
 - b. He became ill
 - c. He was afraid of criticism
 - d. All of the above

6. How long did the feud between Newton and Leibniz affect the advance of mathematics and science in Europe?
 - a. 5 years
 - b. 10 years
 - c. 25 years
 - d. 50 years



Name _____

Name: _____ Date: _____

Short Answer Questions

1. Retell the story about Newton and the apple falling on his head. Look up the story if you can't remember.
2. We simply say that Leibniz was born in Germany in the 1600s. Do some research and find out when Germany first became a country. What would be a more accurate way of describing where Leibniz was born?
3. Modern thrill rides like roller coasters would not be possible without using calculus to design them. Why do you think this statement is true?
4. What is a feud? If you don't know the answer, look it up.
5. With a team of your classmates, do some research and prepare a PowerPoint presentation about a famous feud in history.
6. Newton did not publish many of his results because he did not want to face any criticism from others. Have a class discussion on the importance of self-esteem and self-confidence.
7. Isaac Newton was named Lucasian Professor of Mathematics at Cambridge University when he worked there. Stephen Hawking is the current Lucasian Professor of Mathematics. Do some research and write a short biography of Stephen Hawking.



Name _____

Answer Key

Multiple Choice

1. b.
2. a.
3. d.
4. d.
5. c.
6. d.

Short Answer

1. Individual response
2. Germany became a country in 1871. A more accurate way of describing Leibniz's birthplace is to say he was born in an area that is now part of Germany.
3. Calculus is used to describe motion so it applies to the design of roller coasters.
4. A feud is a bitter long quarrel between a group of people.
5. Individual response
6. Individual response
7. Individual response

