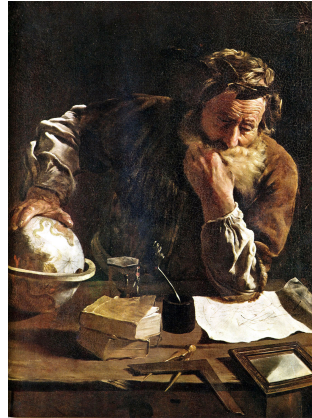


Archimedes

Born: 287 BC, Syracuse, Italy

Died: 209 BC, Syracuse, Italy

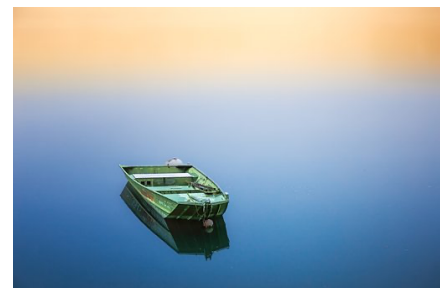


Overview

Archimedes was the **most famous** mathematician and inventor in Greece at one point. In addition to math, he was proficient in physics, engineering, and astronomy. His great advancements in math and engineering led to much progress in society, including in the fields of irrigation and ship and aircraft building. He was known as the “**Great Geometer**” due to his great contributions to math and engineering. Archimedes is undoubtedly one of the greatest early scientists, and possibly one of the greatest mathematicians of all time.

History of His Life

Archimedes was born in 287 BC in Syracuse, which at the time was a Greek colony in Sicily. He lived most of his life in Syracuse, but did spend some time in Egypt as well. Archimedes enjoyed a close friendship with **King Hiero II**, a relationship that would be partially responsible for Archimedes’ success. The King requested Archimedes to solve problems for him, which in turn led to some of Archimedes’ inventions. Archimedes also made weapons for the king during the war with Rome.

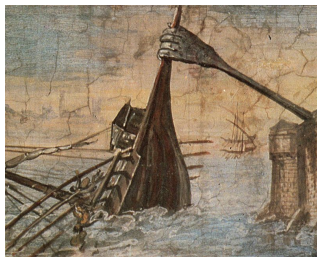


The buoyant force acting on the boat is equal to the weight of water displaced.

Ecobottle Sample



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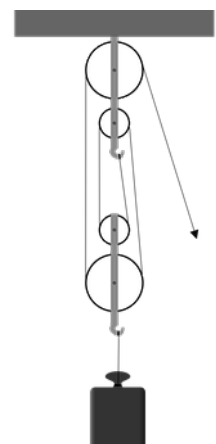
The Claw of Archimedes was used to destroy enemy ships.

The **Claw of Archimedes** was invented to overturn ships in battle. Archimedes designed the claw to look like a crane. It was extended into the sea, hooked onto the enemy vessel, and used to lift it. Soldiers on a hooked boat would fall out as their ship hung from the claw. This was one of Archimedes' contributions to the field of mechanics.

Archimedes also invented the **block and tackle pulley system**, which is still used today. In Archimedes' time, this system allowed sailors to lift object into their boats that would otherwise have been too heavy. In such a system, making heavy items easier to lift.

Archimedes also invented the **odometer**. It was a cart that would drop a ball after every mile to indicate distance traveled. He also made some improvements to the accuracy of **catapults**.

Archimedes is arguably one of the greatest mathematicians of all time. He calculated a remarkably accurate determination of **pi**, the ratio of a circle's circumference to its diameter. He also introduced the concept of



The block and tackle pulley system makes lifting heavy objects easier.

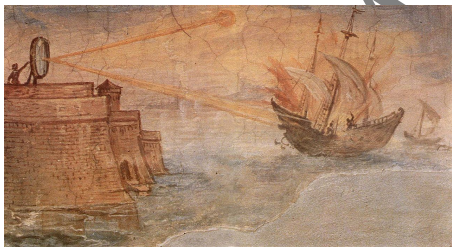
real numbers, whole numbers that are greater than 0. He discovered that if a straight line enclosed a parabola, the area of the enclosed space would be $\frac{4}{3}$ the area of the corresponding inscribed triangle. These are some of his great contributions to math and engineering.

Controversy

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Stories of Archimedes' death ray may be exaggerated.

Archimedes' Death Ray is also a controversial topic. The Archimedes Death Ray was possibly invented by Archimedes to set fire to Roman war ships, while he lived in **Syracuse**. Syracuse was previously a Greek colony, but today is a city in Sicily. It is said that Archimedes used glass to reflect the sun's rays onto Roman ships to set them aflame. The Massachusetts Institute of Technology (MIT) has even attempted to recreate the Death Ray, and found it to be a feasible weapon. Whether it was truly used or would be an efficient battle weapon remain a mystery.

His Death

Archimedes was killed by a Roman soldier after Syracuse fell to the Romans. Some say that the soldier was sent to kill Archimedes, but others say that the soldier did not know the man he killed was Archimedes.

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Reading Comprehension Questions

1. By what nickname is Archimedes known?
2. How
3. What
4. Which of Archimedes' inventions was designed to aid irrigation in Egypt?
5. What
6. What were some of Archimedes' contributions to mathematics?

Extension Question

7. Research the story of Archimedes and the golden crown. Based on the arguments for and against the legend, do you believe it? Explain fully.
8. Test
9. Design

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