Heron of alexandria facts

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Ctesibius was the son of a barber.The discovery of the elasticity of air is ...

Heron of Alexandria, or Hero of Alexandria, (flourished c. ad 62, Alexandria, Egypt), ...

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Hero of Alexandria (/'h??ro?/; Ancient Greek: ?ron[a] ? ?lexandreys, H?r?n h? Alexandre?s, also known as Heron of Alexandria /'h?r?n/; probably 1st or 2nd century AD) was a Greek mathematician and engineer who was active in Alexandria in Egypt during the Roman era. He has been described as the greatest experimentalist of antiquity and a representative of the Hellenistic scientific tradition.[1][2]

Hero published a well-recognized description of a steam-powered device called an aeolipile, also known as "Hero"s engine". Among his most famous inventions was a windwheel, constituting the earliest instance of wind harnessing on land.[3][4] In his work Mechanics, he described pantographs.[5] Some of his ideas were derived from the works of Ctesibius.

In mathematics, he wrote a commentary on Euclid"s Elements and a work on applied geometry known as the Metrica. He is mostly remembered for Heron"s formula; a way to calculate the area of a triangle using only the lengths of its sides.[6]

Much of Hero"s original writings and designs have been lost, but some of his works were preserved in manuscripts from the Byzantine Empire and, to a lesser extent, in Latin or Arabic translations.

A number of devices and inventions have been ascribed to Hero, including the following:

Hero described an iterative algorithm for computing square roots, now called Heron"s method, in his work Metrica, alongside other algorithms and approximations.[21] Today, however, his name is most closely associated with Heron"s formula for the area of a triangle in terms of its side lengths. Hero also reported on a method for calculating cube roots.[22] In solid geometry, the Heronian mean may be used in finding the volume of a frustum of a pyramid or cone.

Hero also described a shortest path algorithm, that is, given two points A and B on one side of a line, find a point C on the straight line that minimizes AC + BC. This led him to formulate the principle of the shortest path of light: If a ray of light propagates from point A to point B within the same medium, the path-length followed is the shortest possible. In the Middle Ages, Ibn al-Haytham expanded the principle to both reflection and refraction, and the principle was later stated in this form by Pierre de Fermat in 1662; the most modern

form is that the optical path is stationary.

The most comprehensive edition of Hero"s works was published in five volumes in Leipzig by the publishing house Teubner in 1903.

Works known to have been written by Hero include: