



1. What nationality was Archimedes?
2. Allegedly how old was Archimedes when he died? 55    65    75
3. Archimedes invented a method for determining the \_\_\_\_\_ of an object with an irregular shape.
4. What was the name of the King who asked Archimedes to calculate the density of his crown?
5. What happened to the water in Archimedes bath?
6. Is water incompressible?    True / False
7. When Archimedes put the crown into the water it displaced an amount of water \_\_\_\_\_ to its own \_\_\_\_\_.
8. What is the formula for calculating the density of the crown?
9. What was Archimedes wearing when he ran in the street to exclaim his new invention?
10. What did Archimedes shout, which translates into English as 'I have found it!'?

The most widely known anecdote about Archimedes tells of how he invented a method for determining the volume of an object with an irregular shape. According to Vitruvius, a new crown in the shape of a laurel wreath had been made for King Hiero II, and Archimedes was asked to determine whether it was of solid gold, or whether silver had been added by a dishonest goldsmith. Archimedes had to solve the problem without damaging the crown, so he could not melt it down into a regularly shaped body in order to calculate its density. While taking a bath, he noticed that the level of the water in the tub rose as he got in, and realized that this effect could be used to determine the volume of the crown. For practical purposes water is incompressible, so the submerged crown would displace an amount of water equal to its own volume. By dividing the weight of the crown by the volume of water displaced, the density of the crown could be obtained. This density would be lower than that of gold if cheaper and less dense metals had been added. Archimedes then took to the streets naked, so excited by his discovery that he had forgotten to dress, crying "Eureka!" (Greek: "εὕρηκα!", meaning "I have found it!")