International School of Monterrey

Reading Comprehension

___th Grade

Trimester ___

Name _____ Date _____ List # ____-____

Archimedes

Archimedes was a Greek mathematician and inventor who was born in 287 BC in Syracuse, a Greek city--state in Italy. He spent most of his life in Syracuse and collaborated with multiple fellow mathematicians, including Conon of Samos and Eratosthenes of Cyrene, to make new discoveries.

Archimedes made several renowned contributions to science and math. He created two spheres—one was a star globe, and the other was a mechanical representation of the movements of the sun, moon, and planets. His Archimedes screw pump, a device used to raise water for irrigation pumps using a rotating helix screw, is still used in developing countries today.

Two of Archimedes' acclaimed mathematical accomplishments include the discoveries of formulas for calculating the surface area and volume of a sphere. Archimedes determined that the surface area of a sphere with radius *r* can be calculated as four times the area of its biggest circle, also known as $SA = 4\pi r^2$. He also deduced that the volume of any sphere is 2/3 that of a cylinder in which it is inscribed, resulting in the formula for volume of a sphere: $V = 4/3\ \pi r^3$. This discovery was important enough to # Archimedes that he left instructions for his tomb to show a drawing of a sphere inscribed inside a cylinder upon his death.

One famous story about Archimedes involves his quest to calculate the proportion of gold and silver contained in an ornate wreath as per the orders of King Hieron II. According to legend, Archimedes discovered suddenly that he could observe the relative densities of gold and silver by weighing the wreath in water;; as he was in his bathtub when he came upon this realization, he supposedly ran through Syracuse naked shouting "Eureka!" This tale is likely untrue, but it is an amusing way of remembering another of Archimedes' accomplishments.

Archimedes died in either 212 or 211 BC in Syracuse, but his inventions and equations remain full of life—as does the striking image of him sprinting through Syracuse, bursting with excitement about his latest discovery.

DIRECTIONS: Read the passage. In the blank space write the letter of the correct option. (7 pts.)

_____1. Which of the following might be used in African farmland today?

A. Star Globe.
B. Mathematical representation of the sun, moon, and planets.
C. The gold and silver wreath.
D. The Archimedes screw pump.

LIVEWORKSHEETS

_____**2. According to Archimedes…**

A. the volume of any cylinder is 2/3 the size of its biggest circle.
B. the surface area of a cylinder is four times the size of the sphere it is inscribed in.
C. the volume of any sphere is 2/3 that of the cylinder in which it is inscribed.
D. the surface area of a sphere with radius r is twice the area of its largest circle.

_____**3. Which of the following DID NOT happen in Syracuse?**

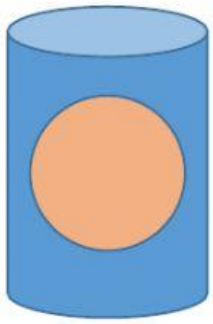
A. The birth of Archimedes.
B. The death of Archimedes.
C. The "Eureka! Run" through the streets.
D. All of the above happened in Syracuse.

_____**4. What question is NOT answered in the passage?**

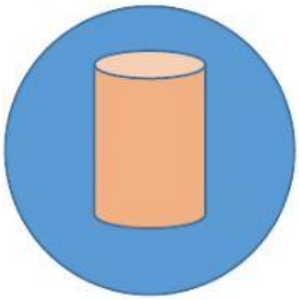
A. Where did Archimedes spend most of his life?
B. What other mathematicians did Archimedes work with?
C. What places other than Syracuse did Archimedes live in?
D. What equation did Archimedes use to calculate the volume of a sphere?

_____**5. Which of the following would represent the tombstone of Archimedes?**

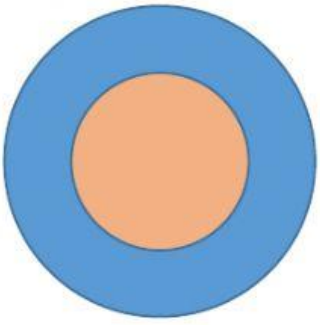
A. `



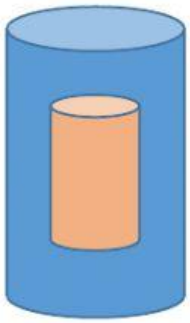
B.



C.



D.



LIVEWORKSHEETS

_____**6. An epiphany is defined as a moment in which something suddenly becomes clear. According to the passage, which of the following serves as the best example of an epiphany in the life of Archimedes?**

A. When he decided what would appear on his tombstone.

B. When he invented the Archimedes screw pump.

C. When he discovered he could find the relative densities of gold and silver while submerged in water.

D. When he collaborated with other great mathematicians such as Eratosthenes.

_____**7. What word could replace "acclaimed" in the following sentence?**

Two of Archimedes' acclaimed mathematical accomplishments involve the surface area and volume of a sphere.

A. praised

B. forgotten

C. intelligent

D. confusing

LIVEWORKSHEETS