

## 1. American Literature

Which 1962 novel is narrated by a man six feet, seven inches tall who pretends to be deaf and dumb? Much of his narrative is about Randle McMurphy who, like many of the characters, has been diagnosed as a psychopath. McMurphy rebels against Nurse Ratched in this Ken Kesey novel.

ANSWER: One Flew Over The Cuckoo's Nest

## 2. Chemistry (30 Seconds)

What is the partial pressure of water vapor if there is one atmosphere of total pressure coming from eighteen grams of water vapor and eighteen grams of hydrogen gas?

ANSWER: 1/10 (atmospheres) (or (0).1 (atmospheres))

## 3. World History

In the first day of this nineteenth century battle, the allies were lucky to explode an ammunition wagon with a cannonball, and on the third and final day they killed troops trying to retreat across the Elster River. In which battle did Sweden, Russia, Austria, and Prussia join against a common enemy? This 1813 fight went poorly for Napoleon.

ANSWER: (Battle of) Leipzig (or Battle of Nations)

## 4. Technology

(Note to moderator: The number at the end is 9 billion, 192 million, 631 thousand, 770.) The first one, built in 1949, used ammonia. Currently, simple ones often use rubidium, while the best use cesium 133. Cesium 133 is used because of its consistency, which can be controlled at exactly 9,192,631,770 Hertz.

ANSWER: Atomic Clock(s) (prompt on clock)

## 5. Language Arts

Poems in this form are often broken into four-line stanzas. The first and third lines do not rhyme and are eight syllables each, while the second and fourth lines do rhyme and are six syllables each. Dating back to the Middle Ages, they were often sung. In modern popular culture, this word usually refers to a sentimental song with a slow tempo, especially when it is performed by a hard rock group.

ANSWER: Ballad(s)

## 6. Algebra (10 Seconds)

What do you call functions whose inverses are also functions? These functions pass the horizontal line test because there is no output value that is used more than once.

ANSWER: One-to-one (accept Injective, prompt Bijective, do not accept Surjective)

## 7. Astronomy/Earth Science/Geography

What is the common name for humus, but not the kind of humus you would eat? Technically not considered a fertilizer, it is used to condition soil. Name this natural soil treatment that attracts microbes.

ANSWER: Compost

## 8. Music

Which instrument was greatly influenced by Theobald Boehm in the nineteenth century? We know that it has

existed in different forms for a long time thanks to an Egyptian drawing from five thousand years ago. Name this instrument which gained popularity in the early eighteenth century thanks in part to sonatas by Handel. It has replaced the recorder in orchestras and has existed since the fourth century BC in its transverse form.

ANSWER: Flute

#### 9. Religion/Mythology

Which god's eyes were the sun and the moon? Some stories claimed that he turned into the pharaoh Menes, and some claimed that he killed his brother Seth. Name this Egyptian god associated with falcons and light.

ANSWER: Horus

#### 10. Biology

Your body has a few million of these tubes, and each one contains a capsule, a loop, and some tubules. What are these objects that filter blood, allowing the creation of urine by the kidneys?

ANSWER: Nephron(s)

#### 11. Calculus/Combinatorics (30 Seconds)

Ignore units and give your answer in terms of pi. What is the volume of the object generated by rotating the graph of  $y=x^2$  around the x-axis between  $x=0$  and  $x=2$ ?

ANSWER:  $32\pi/5$  (or  $6.4\pi$  or  $(32/5)\pi$  or equivalent)

#### 12. Nonfiction

Who sometimes cowrote works with Anna Schwartz or his wife Rose? His earlier books include A Theory of the Consumption Function and A Program for Monetary Stability. His ideas included the Money Supply Growth Rule, which established him as a monetarist, and the Natural Rate of Unemployment, which established him as anti-Keynes. Name this 1976 Nobel Prize winner who is now 92 years old.

ANSWER: (Milton) Friedman

#### 13. Pop Culture

Videos include King George and the Ducky, Josh and the Big Wall, Dave and the Giant Pickle, and Very Silly Songs. Name this animated series hosted by Bob the Tomato and Larry the Cucumber. Their movie was titled Jonah.

ANSWER: Veggie Tales

#### 14. Physics (30 Seconds)

A ten kilogram object has an initial velocity of twenty-five meters per second. What will its final velocity be if there is a force in the direction opposite of the motion of five Newtons that lasts for ten seconds?

ANSWER: 20 Meters Per Second

#### 15. British Literature

Which Shakespeare character's first words are: "Of honourable reckoning are you both; And pity 'tis you lived at odds so long. But now, my lord, what say you to my suit?" By suit, he is asking to marry the lord's thirteen-year-old daughter. The father eventually agrees, but the daughter does not. Name this other suitor of

Juliet.

ANSWER: (Count or County) Paris

#### 16. American History

Whose real name was either Mary Hays McCauly or Mary Ludwig Hays? She became famous on June 28<sup>th</sup>, 1778 at the Battle of Monmouth. While delivering water to troops, she noticed that her husband was wounded and took his place at a cannon, and she was later recognized by George Washington for her heroism in battle.

ANSWER: ('Sergeant' Molly) Pitcher

#### 17. Art/Architecture

The man portrayed in the lower right corner of this painting in a sleeveless shirt and backwards chair is a famous artist, while the woman sitting across from him at the table wearing fancy clothes is a seamstress who would later marry the painting's creator. She is holding up her dog. Name this 1881 masterpiece by Pierre-Auguste Renoir.

ANSWER: (The) Luncheon of the Boating Party (or En déjeuner à Bougival)

#### 18. Geometry/Trigonometry (10 Seconds)

The inverse of this function is the natural log of the quantity  $x$  plus the square root of the quantity  $x^2+1$ . Its graph near the origin is similar to the graph of the cubic function, but it grows much faster as  $x$  gets large. Name this function whose equation is one-half of the quantity  $e^x - e^{-x}$ .

ANSWER: Hyperbolic Sine (do not accept Sine, prompt on Sinch or S-I-N-H, do not accept Hyperbolic Cosine)

#### 19. Current Events

Who was an executive at ABC when shows such as Happy Days and Welcome Back Kotter made it the most popular network? He then moved to Paramount and helped make it the most popular movie studio. He got his biggest job in 1994 when Jeffrey Katzenberg was passed over for his current position. He is now in trouble because of a sweetheart deal he gave his friend Michael Ovitz. Name this man often criticized by Roy Disney.

ANSWER: (Michael) Eisner

#### 20. World Literature

The father struck while the iron was cold, put the cart before the horse, and bit off more than he could chew. The son went to Paris and befriended Panurge. Works written about them in the middle of the sixteenth century added over five hundred words to the French language. Name this pair described by François Rabelais.

ANSWER: Gargantua and Pantagruel (or La Vie de Gargantua et de Pantagruel)

#### Tiebreaker #1

As a teenager, which psychologist wrote published works about animal behavior? As an adult, he would use the term equilibration to describe how new experiences are assimilated into a child's understanding of the world. Name this Swiss psychologist known for developing the Sensory Motor, Preoperational, Concrete

Operational, and Formal Operational stages in child development.

ANSWER: (Jean) Piaget

Tiebreaker #2

Which complex includes the Freer Gallery of Art, Hirshhorn Museum and Sculpture Garden, and National Collection of Fine Arts? Formed in 1846, it is named after an Englishman who left money in his will to increase human knowledge in the United States. Name this Washington, DC institution which also includes the Air and Space Museum.

ANSWER: Smithsonian (accept longer answers)

Tiebreaker #3 (No Time Limit)

Unscramble the following letters to get the last name of a President: OOERVH

ANSWER: (Herbert) Hoover