



1. The Gospel of John relates that this man at first refused to let Jesus wash his feet. With James and John, he witnessed the Transfiguration. The gospels tell of how this man began to sink after walking towards Jesus on the water. He was the brother of Andrew. The flag of the Vatican City depicts the “keys” of this man, as he became the first pope. Before the crowing of the rooster, this disciple denied Jesus three times. For 15 points, name this fisherman and disciple of Jesus.

ANSWER: Simon **Peter**

015-12-85-03101

BONUS: Name the French Dada artist whose avant-garde works include *The Bride Stripped Bare by Her Bachelors, Even* and *Nude Descending a Staircase, No. 2*.

ANSWER: Marcel **Duchamp**

014-12-85-0310-1

2. Gas metal arc welding typically uses this gas to shielding the welding from contaminants. The Bohr effect describes how the concentration of this substance in the blood limits hemoglobin's ability to bind to oxygen. Like water, it is produced in all complete combustion reactions of hydrocarbons. Dry ice is composed of the solid form of this compound. For 15 points, name this triatomic greenhouse gas produced in cellular respiration, which has chemical formula CO₂.

ANSWER: **carbon dioxide** [or **CO₂** until it is read]

190-12-85-03102

BONUS: What South American country lost over half of its population during the War of the Triple Alliance?

ANSWER: Republic of **Paraguay** [or Republica del **Paraguay**]

052-12-85-0310-1

3. Foehn winds were first observed in this mountain range, where the 5,000-year-old mummy "Otzi" was discovered. The Mer de Glace and the Aletsch are two glaciers in it. The Great St. Bernard Pass runs through this mountain range. Lake Constance lies at the foot of this mountain range. Its highest peak is Mont Blanc, and it contains the Matterhorn. For 15 points, name this European mountain range that passes through Switzerland and Northern Italy.

ANSWER: the **Alps**

080-12-85-03103

BONUS: What 1966 Supreme Court case required arresting officers to read rights to arrested individuals?

ANSWER: **Miranda** v. Arizona [or Arizona v. **Miranda**; prompt on **Arizona**]

030-12-85-0310-1

4. Images in this poem include a “bough of cherries some officious fool broke in the orchard” and a depiction of Neptune taming a sea-horse. Before describing his “gift of a nine-hundred-years-old name,” the speaker describes a woman who “had a heart...too soon made glad, too easily impressed” while showing off a painting by Fra Pandolf of his deceased wife. For 15 points, name this dramatic monologue spoken by the Duke of Ferrara and written by Robert Browning.

ANSWER: “**My Last Duchess**”

014-12-85-03104

BONUS: In what Richard Connell short story does General Zaroff hunt men on his private island?

ANSWER: "The **Most Dangerous Game**"

015-12-85-0310-1

5. This composer wrote a finale based on "Gaudeamus igitur" for a composition incorporating many such student drinking songs, written to commemorate his honorary doctorate from the University of Breslau. In response to the death of his mother, he wrote a choral composition that eschewed the traditional Latin text in favor of Luther's Bible. For 15 points, name this German Romantic composer of *Academic Festival Overture* and *A German Requiem*, who composed a famous lullaby

ANSWER: Johannes **Brahms**

014-12-85-03105

BONUS: Propagated by John B. Watson and B. F. Skinner, what school of psychology scientifically studied the effects of classical and operant conditioning on organisms?

ANSWER: **behaviorism** [or obvious equivalents]

014-12-85-0310-1

6. An annual lookalike contest for this author is held in Sloppy Joe's Bar in Key West. This author of "Indian Camp" wrote a novel in which Robert Cohn, Brett Ashley, and Jake Barnes experience the fiesta in Pamplona. He wrote of Robert Jordan's quest to blow up a bridge during the Spanish Civil War in another novel. For 15 points, *The Sun Also Rises* and *For Whom the Bell Tolls* were written by which man, who wrote about Santiago and a marlin in *The Old Man and the Sea*?

ANSWER: Ernest Miller **Hemingway**

015-12-85-03106

BONUS: Benzene is a very stable compound because it possesses what electron-delocalizing property described by Huckel's rule?

ANSWER: **aromaticity** [prompt on **resonance**]

132-12-85-0310-1

7. The 1969 version of this franchise was known as the "Miracle" ones. This team forced a game 7 in the 1986 World Series when Bill Buckner failed to handle a ground ball. The Marlins traded Mike Piazza to this team in 1998. This franchise's 2006 postseason run ended when Carlos Beltran struck out looking. It has featured players such as Johan Santana and David Wright. For 15 points, name this baseball franchise that plays its games in Citi Field.

ANSWER: New York **Mets** [or **Metropolitans**; prompt on **New York**]

186-12-85-03107

BONUS: The motion of what liquid layer composed of iron and nickel is responsible for generating the magnetic field of the Earth?

ANSWER: **outer core** [prompt on **core**; do not accept "inner core"]

066-12-85-0310-1

8. This law cannot be applied to diodes since the relationship between its variables is nonlinear. The analogous quantity impedance is substituted into this law for AC components. An equivalent statement of this law is J equals sigma times E , or current density is equal to conductivity times electric field. This law is often used in conjunction with Kirchoff's (KEER-choff's) rules to find the potential drop across a resistive element. For 15 points, name this law that states voltage equals current times resistance.

ANSWER: **Ohm's** law

048-12-85-03108

BONUS: This is a 20-second calculation question. What are the roots of the polynomial $x^2 - 10x + 16$?

ANSWER: $x = \underline{8}$ and $x = \underline{2}$

174-12-85-0310-1

9. In this work, one character gives a writer a medallion with a line from one of his novels reading, "If you ever need my life, come and take it." That character unexpectedly returns to Sorin's estate in the last act and describes her failed career as an actress. At the end of this play, a bingo-like game is interrupted by the news that Irina Arkadina's son has killed himself. For 15 points, name this play by Anton Chekhov in which Konstantin Treplev shoots the title bird.

ANSWER: *The Seagull* [or *Chayka*]

014-12-85-03109

BONUS: This is a 20-second calculation question. What is the area of a triangle with vertices at the points (2,3), (8,3), and (2,11).

ANSWER: 24 square units

174-12-85-0310-1

10. The protagonist of this work unexpectedly slaps his companion on the back and jovially announces that they will have rivets. Later, he encounters a motley-dressed Russian who speaks in awe of the resident of a compound surrounded by human heads impaled on stakes. The protagonist of this work journeys up the Congo River in a steamboat to retrieve the ivory trader Kurtz, who whispers, "The horror! The horror!" before dying. For 15 points, name this novella mostly narrated by Marlow and written by Joseph Conrad.

ANSWER: *Heart of Darkness*

014-12-85-03110

BONUS: Hector Berlioz composed what programmatic symphony with movements such as "March to the Scaffold" and "Dream of a Witches' Sabbath"?

ANSWER: *Symphonie Fantastique*

014-12-85-0310-1

11. Some scholars have claimed this speech was plagiarized from Archibald Carey's 1952 Republican National Convention speech, as both quote the song "My Country, 'Tis of Thee." It ends with the declaration "Free at last! Free at last! Thank God Almighty, we are free at last." This speech's author hoped his four children would "not be judged by the color of their skin but by the content of their character." For 15 points, name this speech delivered at the Lincoln Memorial by Martin Luther King, Jr.

ANSWER: "I Have a Dream" speech

015-12-85-03111

In 2012, boycotts were organized of what fast-food chain, whose President, Dan Cathy, condemned gay marriage?

ANSWER: Chick-fil-A

191-12-85-0310-1

12. In the aftermath of this war, the losing side wrote the Khartoum Resolution. Prior to the start of this war, one side blockaded the port city of Elat by closing the Gulf of Aqaba. After a preemptive strike against one side's grounded air force, the winning side in this war seized the Golan Heights, West Bank, and Sinai Peninsula, and took sole control of Jerusalem. For 15 points, name this 1967 war between Israel and Arab states named for its brief duration.

ANSWER: Six-Day War [or June War; or Third Arab-Israeli War]

014-12-85-03112

BONUS: This is a 20-second calculation question. What is the sine of 210 degrees?

ANSWER: **negative one half** [or **-0.5**]

174-12-85-0310-1

13. Extremis and Bleeding Edge were two versions of this character's primary asset. After *Secret Invasion*, this Illuminati member lost SHIELD's directorship to Norman Osborn. This hero led pro-registration forces in the *Civil War*, in which he fought his Avengers teammate Captain America. In a recent film, he survived "in a cave, with a box of scraps" after being captured by terrorists in Afghanistan on the orders of Obadiah Stane. For 15 points, name this hero with a hi-tech suit of armor.

ANSWER: **Iron Man** [or Anthony Edward "Tony" **Stark**; prompt on **Tony**]

153-12-85-03113

BONUS: This is a 30-second calculation question. Given the data set 4, 12, 8, 9, 6, 6, 3, 10, what is the positive difference between the median and mode of the following data set?

ANSWER: **1**

174-12-85-0310-1

14. This god hung from a tree for nine days to learn the secret of the runes. He rides an eight-legged horse named Sleipnir (SLYP-near) and is given news about the world by the ravens Huginn and Muninn. This husband of Frigga sacrificed one of his eyes to gain wisdom. He will be slain by the wolf Fenrir at Ragnarok. He wields a spear named Gungnir and sits on a massive throne in Asgard. For 15 points, name this leader of the Aesir and chief god of the Norse pantheon.

ANSWER: **Odin**

015-12-85-03114

BONUS: The fundamental theorem of calculus links the concept of the derivative with what other concept from calculus?

ANSWER: **integral** [accept word forms]

052-12-85-0310-1

15. Santiago Ramon y Cajal stated that these entities communicate by contact, as opposed to continuity, which opposed the reticular theory of Camillo Golgi. Projections from these entities begin at a location known as a hillock, and they are supported by neighboring glial cells. The aforementioned projections from these entities which come in contact with the synapse are known as axons, and other projections from these entities are known as dendrites. For 15 points, identify these basic cells of the nervous system.

ANSWER: **neurons** [accept **nerve cells**]

189-12-85-03115

BONUS: The heir apparent to the throne of the United Kingdom is known as the "Prince of" what constituent country?

ANSWER: **Wales**

019-12-85-0310-1

16. One of these compounds is abbreviated IPA. Consumption of the simplest of these compounds can result in blindness after it is metabolized to formaldehyde and then formic acid. They can come in primary, secondary and tertiary types and are characterized by a hydroxyl group attached to a hydrocarbon. An anaerobic fermentation done by yeast produces one of these compounds. For 15 points, identify this group of compounds whose simplest examples are methanol and ethanol.

ANSWER: **alcohols**

066-12-85-03116

BONUS: What 1977 Steven Spielberg movie includes Francois Truffaut as a UFO scientist and also features Richard Dreyfuss' character Roy Neary making a mashed potato sculpture of Devils Tower?

ANSWER: Close Encounters of the Third Kind

030-12-85-0310-1

17. Although not a rectangle, this polygon names a rule of numerical integration that is usually less efficient than Simpson's rule. Lateral faces of a pyramidal frustum are of this shape. James Garfield used the area formula for this figure to prove the Pythagorean theorem. An isosceles one of these figures has congruent diagonals. The area of one of these polygons is half the product of its height and the sum of its bases. For 15 points, name these quadrilaterals that have one pair of parallel sides.

ANSWER: trapezoids

131-12-85-03117

BONUS: What NFL team that plays at EverBank Field was purchased by Shad Khan in 2011?

ANSWER: Jacksonville Jaguars [or Jacksonville Jaguars]

015-12-85-0310-1

18. One character in this work disguises himself as a gypsy to tell the fortunes of his guests, in which persona he deters Blanche Ingram from marrying him. The protagonist of this work saves her employer from a fire that later revelations explain was set by his mad wife, Bertha Mason, who he keeps locked in the attic of Thornfield Manor. At the end of this novel, the title orphan marries her former employer, Mr. Rochester. For 15 points, name this novel by Charlotte Bronte.

ANSWER: Jane Eyre

014-12-85-03118

?BONUS: The Portuguese word "ter" and the imperfect forms of "haber" in Spanish are auxiliary verbs that signal what verb tense, which indicates an action already complete in reference to some past time?

ANSWER: pluperfect tense

019-12-85-0310-1

19. A form of therapy originating in this school of thought was developed by Fritz Perls. The founder of this school of thought investigated how a series of stationary images create the illusion of movement in an effect called the phi phenomenon. This school of thought holds that the mind follows the organizational principle of *prägnanz*, and its founding members included Wolfgang Köhler and Max Wertheimer (VERT-hie-mer). For 15 points, name this school of psychology named for the German word for "figure."

ANSWER: Gestalt psychology

014-12-85-03119

In Spring 2012, what man, successor to Jacques Chirac, was defeated by Francois Hollande in his bid for a second term as President of France?

ANSWER: Nicolas Paul Stéphane Sárközy de Nagy-Bocsa

191-12-85-0310-1

20. This modern-day country engaged in an independence war against Spain called the Eighty Years' War. It was led by a line of stadtholders from the House of Orange, which was founded by William the Silent. The South African Boers were descended from settlers from this country, which also colonized Suriname and Indonesia. Anne Frank hid for two years in a house in this country. For 15 points, name this country that has used dikes to protect its cities of Rotterdam and Amsterdam.

ANSWER: Kingdom of the Netherlands [or Koninkrijk der Nederlanden]

015-12-85-03120

BONUS: Name the country in which the efforts of Giuseppe Garibaldi and Count Cavour resulted in unification during the Risorgimento.

ANSWER: **Italy** [or **Italian Republic**; or Repubblica **Italiana**]

023-12-85-0310-1

21. One phenomenon predicted by this theory can only arise from quadrupole sources and is how energy is emitted from the Hulse-Taylor binary pulsar. This theory successfully accounted for the advance of the perihelion (pear-ee-HILL-yen) of Mercury. It also correctly explained the bending of light around massive objects, called gravitational lensing. For 15 points, name this theory which states massive bodies curve space, developed by Einstein after a similarly-named "special" counterpart.

ANSWER: **general relativity** [or **GR**; prompt on **relativity**, do not accept "special relativity"]

048-12-85-03121

BONUS: What British philosopher and proponent of utilitarianism wrote the tract *On Liberty*?

ANSWER: John Stuart **Mill**

014-12-85-0310-1

22. Rudolf Mossbauer discovered a form of this phenomenon which occurs when nuclei absorb gamma rays and hardly recoil. In astronomy, this phenomenon occurs when two bodies' orbital periods are in a small whole-number ratio. In chemistry, this phenomenon is depicted in Lewis diagrams with double-headed arrows. NMR depends on nuclei demonstrating it in a magnetic field. It is often blamed on the collapse of the Tacoma Narrows Bridge. For 15 points, name this phenomenon in which mechanical oscillation increases at certain frequencies.

ANSWER: **resonance**

190-12-85-03122

BONUS: Name the author who created Brigid O'Shaugnessy, a woman who deals with Sam Spade, a detective who appears in this man's *The Maltese Falcon*.

ANSWER: Dashiell **Hammett** [or Samuel Dashiell **Hammett**]

192-12-85-0310-1

23. A temple to this ruler in Ankara contained the *Res Gestae*, this man's account of his own achievements. Invoking his "moral reforms" that outlawed adultery, this emperor banished his promiscuous daughter, Julia. This ruler screamed, "Quintilius Varus, give me back my legions!" after hearing of the Battle of the Teutoburg Forest. This man's general, Agrippa, defeated Mark Antony at the Battle of Actium. For 15 points, name this adopted son of Julius Caesar and first Roman emperor.

ANSWER: **Augustus** Caesar [or Gaius Julius Caesar **Octavianus**; or Gaius **Octavius**; prompt on **Caesar**; do not accept or prompt on "Julius Caesar" or "Gaius Julius Caesar"]

080-12-85-03123

BONUS: What brother of St. Peter is the patron saint of Russia and Scotland, whose cross adorns the Scottish flag?

ANSWER: St. **Andrew**

030-12-85-0310-1

24. A legend above this painting explains its meaning in Latin with the words "Causarum Cognitio (cog-NIT-ee-oh)." This painting sits in the Apostolic Palace, facing the same artist's *La Disputa* in the Stanza della Segnatura. The leftmost person in it is Zeno of Citium, and Diogenes lounges alone in blue on the steps in its center. For 15 points, identify this painting in which over twenty ancient philosophers congregate, for which contemporary painters were used as models by its creator, Raphael.

ANSWER: *The **School of Athens***

019-12-85-03124

BONUS: This is a 20-second calculation question. In terms of pi, what is the volume of a right circular cone whose height is 10 and whose base has a radius of 3?

ANSWER: **30 pi**

192-12-85-0310-1

25. This novelist released a detective story about Doc Sportello titled *Inherent Vice* in 2009. In one of his novels, a muted horn is used as a symbol for the postal service Trystero. That novel features Oedipa Maas uncovering a conspiracy and attending the title auction. Another of his novels begins, "A screaming comes across the sky," and concerns the relationship between Tyrone Slothrop and V-2 rockets. For 15 points, name this reclusive author of *The Crying of Lot 49* and *Gravity's Rainbow*.

ANSWER: Thomas **Pynchon**

015-12-85-03125

BONUS: Name this American painter who created a portrait of Paul Revere holding one of his silver wares, as well as *Watson and the Shark*.

ANSWER: John Singleton **Copley**

020-12-85-0310-1



26. *Fletcher v. Peck* forbid this state from canceling contracts after the Yazoo land fraud. The Cornerstone Speech was delivered by this state's governor Alexander Stephens. Samuel Worcester was arrested in this state, leading to a Supreme Court case that failed to stop the removal of the Cherokee from this state on the Trail of Tears. This state was founded as a prison colony for debtors by James Oglethorpe. For 15 points, name this Southern state home to Newt Gingrich and Jimmy Carter.

ANSWER: Georgia

104-12-85-03126

BONUS: This is a calculation question. What are the roots of the polynomial $x^2 + 12x + 36 = 0$?

ANSWER: $x = \underline{-6}$ [or -6 and -6]

080-12-85-0310-1

27. Eighteen years before this event, a letter to Grand Duchess Christina of Tuscany laid out one side's position on Joshua 10:13. Legend has it that the subject of this event muttered "and yet it does move" at its end. It targeted a man who was warned by Cardinal Bellarmine and was accused of mocking Urban VIII. The accused recanted at this 1633 event, agreeing to live under house arrest. For 15 points, name this event in which the Roman Inquisition tried an Italian for his work in astronomy.

ANSWER: heresy trial of Galileo Galilei

104-12-85-03127