



1. This man depicted his patron speaking and moving in his portrait bust of Scipione Borghese. He redecorated the Sant'Angelo Bridge and built the Scala Regia and baldachin as the architect for St. Peter's Cathedral. In one of his sculptures, an obelisk towers over the Danube, Ganges, Rio de la Plata, and Nile. He also sculpted a nun being pierced by a spear held by an angel. For 15 points, name this Italian sculptor of the *Fountain of the Four Rivers* and the *The Ecstasy of Saint Theresa*.

ANSWER: Gian Lorenzo **Bernini**

030-13-104-15101

BONUS: What American author wrote ghost stories like *The Turn of the Screw* in addition to *The Ambassadors*?

ANSWER: Henry **James**

014-13-104-1510-11

2. In this location, a character declares that one "who overcomes / by force hath overcome but half his foe" in an inspiring speech. The description of this place includes a catalog of gods like Astoreth, Thammuz, and Osiris. In this location, which is illuminated by "darkness visible," Mammon digs "ribs of gold" out of the ground to build the city of Pandemonium. For 15 points, name this location from *Paradise Lost* where Satan declares he would rather reign than serve in Heaven.

ANSWER: **Hell** [do not accept or prompt on Pandemonium]

080-13-104-15102

BONUS: What industrial process, named for a German chemist and important in World War I, was the first efficient way of producing ammonia?

ANSWER: **Haber** process [or **Haber-Bosch** process]

014-13-104-1510-11

3. Mr. Beresford tries to escape a man following him home in this author's posthumously published story "Paranoia." Eleanor commits suicide by driving into a tree after leaving Dr. Montague's psychology experiment in a novel by this author. In one of her short stories, a woman screams "It isn't fair" shortly before the rest of her town surrounds her to stone her to death. For 15 points, name this author of *The Haunting of Hill House* and "The Lottery."

ANSWER: Shirley **Jackson**

121-13-104-15103

BONUS: What innermost of the sun's three layers is located just below the chromosphere and is covered by granules?

ANSWER: **photosphere**

190-13-104-1510-11

4. This author created a character whose friend Paul Reisling shoots his wife, Zilla. In that novel by this man, the title character briefly hangs out with socialist Seneca Doane. Many of his works are set in the fictional state Winnemac, including one about a vacuous "booster" who lives in the town of Zenith. This author wrote a novel in which Carol Kennicott has trouble adjusting to the small town of Gopher Prairie. For 15 points, name this author of *Babbitt* and *Main Street*.

ANSWER: Sinclair **Lewis** [or Harry Sinclair **Lewis**]

052-13-104-15104

BONUS: According to Sigmund Freud, what section of the psyche is driven by the pleasure principle and satisfies libido?

ANSWER: **id**

190-13-104-1510-11

5. In this city, Fred Shuttlesworth organized a series of confrontational demonstrations called "Project C." "Bull" Connor, this city's chief of police, became notorious for using water jets against protesters. Denise McNair, died in this city when four KKK members dynamited its 16th Street Baptist Church. An essay written in this city distinguishes between extremists for "hate" and "love." For 15 points, name this city in Alabama where Martin Luther King wrote an influential letter from jail.

ANSWER: **Birmingham**, Alabama

080-13-104-15105

BONUS: What animal's name was used as an acronym in the 1990s for four or five European economies with very large sovereign debts?

ANSWER: **pig** [or **PIGS**; or **PIIGS**]

190-13-104-1510-11

6. This figure argued that the three main tasks in one's life are sexual, associational, and occupational. This author of *What Life Should Mean to You* was a founder of the Society of Free Psychoanalysis. A 1917 book by this man examined attempts to compensate for physical disabilities. This author of *The Neurotic Constitution* developed the concept of individual psychology. For 15 points, name this psychologist known for his research into the sense of inferiority.

ANSWER: Alfred **Adler**

030-13-104-15106

BONUS: What female American poet wrote "Renascence" and included the popular epigram "First Fig" in her collection *A Few Figs from Thistles*?

ANSWER: Edna St. Vincent **Millay**

014-13-104-1510-11

7. This character dies of starvation in a graveyard while clutching the dead body of his love interest. He is named for the Sunday after Easter after being abandoned by his birth parents. This character is captured and imprisoned by the soldier Phoebus after he is caught obeying the commands of his adopted father Archdeacon Frollo. His love for the gypsy Esmeralda is unrequited due to his hideous appearance. For 15 points, name this bell ringing title character of *The Hunchback of Notre Dame*.

ANSWER: **Quasimodo**

015-13-104-15107

BONUS: Name the brother of Moses who made a golden calf while Moses was receiving the Ten Commandments.

ANSWER: **Aaron**

023-13-104-1510-11

8. This religion includes a form of suffering known as dukkha. Right aspiration, right knowledge, and right speech are parts of this religion's Eightfold Path. A teacher of this religion gave a sermon that explained the Four Noble Truths after he achieved enlightenment while sitting under the Bodhi tree. This religion includes Mahayana and Theravada branches. For 15 points, name this religion that includes a Zen school and is based on the teachings of a man originally named Siddhartha Gautama.

ANSWER: **Buddhism**

023-13-104-15108

BONUS: This is a 20-second calculation question. The mean of 5 numbers is 80. When a sixth number is added to the set, the mean becomes 83. What is the sixth number?

ANSWER: **98**

003-13-104-1510-11

9. An attempt to move this country's seat of government from a frontier city provoked the Archives War. Mirabeau Lamar was a president of this country, where James Fannin was slain in the Goliad Massacre. It won independence in an 18-minute battle that resulted in the capture of Santa Anna. This country won its independence with the climactic Battle of San Jacinto. For 15 points, name this independent republic led by Stephen Austin and Sam Houston became the Lone Star State after annexation.

ANSWER: Republic of **Texas**

080-13-104-15109

BONUS: What leader of the Christian Democratic Union won her third general election to remain Chancellor of Germany in 2013?

ANSWER: Angela **Merkel**

015-13-104-1510-11

10. This team was coached from 2005 to 2010 by Mike Brown, whom this team rehired during the 2013 offseason. This team selected UNLV forward Anthony Bennett in 2013 after its representative Nick Gilbert won the Draft Lottery for the second time in three years. In the 2013 offseason, this team signed Andrew Bynum. A star player for this team left it in 2010 to take his "talents to South Beach." For 15 points, name this team that was left by LeBron James and is currently led by Kyrie Irving.

ANSWER: **Cleveland** Cavaliers [or Cleveland **Cavaliers**; or **Cavs**]

023-13-104-15110

BONUS: In what dialogue does Socrates use the allegory of the cave and describe an ideal society ruled by philosopher-kings?

ANSWER: *The* **Republic**

121-13-104-1510-11

11. These structures cannot be assembled in the cells of the nephron in people with polycystic kidney disease, and they line the Fallopian tubes. A group of Protozoans characterized by the presence of these structures includes the *Paramecium* genus. A 9 plus 0 arrangement of microtubules, as opposed to a 9 plus 2 arrangement, differentiates the non-motile, or primary, and motile forms of this structure. For 15 points, identify these hair-like projections from a cell that are structurally identical to flagella.

ANSWER: **cilia** [or **cilium**]

066-13-104-15111

BONUS: What German scientist names two circuit laws, one of which says that the sum of currents into and out of a node is zero?

ANSWER: Gustav **Kirchhoff**

185-13-104-1510-11

12. During Reconstruction, the Readjuster movement formed in opposition to this state's aristocracy. The term "massive resistance" denoted this state's fight against desegregation, which was spearheaded by its controlling Byrd machine. This state was the location of both the Seven Days' Battles and the Peninsular Campaign, the latter of which was a huge failure for George McClellan. For 15 points, name this state whose capital became the Confederate capital during the Civil War.

ANSWER: **Virginia**

080-13-104-15112

BONUS: This is a 20-second calculation question. What is the units digit of 7 to the 24000th power?

ANSWER: **1**

003-13-104-1510-11

13. The protagonist of this novel is abandoned by her children, Howard and Buglar. Paul D is horrified at this book's main character when she talks about "trying to put her babies where they would be safe." Its protagonist, Sethe, lives at 124 Bluestone Road, Cincinnati, and killed the title character after fleeing from the Sweet Home plantation. For 15 points, name this Toni Morrison novel whose title character returns as a ghost after being killed by her mother to save her from slavery.

ANSWER: **Beloved**

052-13-104-15113

BONUS: This is a 20-second calculation question. If a fair coin is flipped 500 times, what is the expected number of heads that will appear?

ANSWER: **250**

003-13-104-1510-11

14. This present-day country was the site of the Danish Christiansborg Castle, the Dutch Fort Crevecoeur, and the English Fort James. Its capital was named for the black ants characteristic of its plains, and is linked to its cities of Kumasi and Tema. This country was known in colonial times as the Gold Coast before it became independent under Kwame Nkrumah. For 15 points, name this country on the Gulf of Guinea found between Burkina Faso, Togo, and Côte d'Ivoire.

ANSWER: Republic of **Ghana**

019-13-104-15114

BONUS: In one of E. E. Cummings's most popular poems, what character "lived in a pretty how town"?

ANSWER: **anyone**

014-13-104-1510-11

15. An alanine for valine point mutation in a copper/zinc superoxide dismutase called SOD1 has been implicated in causing this disease. The only FDA-approved drug to treat this condition is Riluzole. About a quarter of cases of this disease are classified as bulbar onset, while the rest involve limb onset, usually presenting as numbness in arms and legs. Both upper and lower motor neurons are destroyed in this disease. For 15 points, name this degenerative motor disorder also known as amyotrophic lateral sclerosis, though it's usually named for a baseball player.

ANSWER: **Lou Gehrig's disease** [or **amyotrophic lateral sclerosis** or **ALS** before it is read; or **motor neuron disease** or **MND**]

190-13-104-15115

BONUS: What Naiad was turned into a laurel tree while being pursued by Apollo?

ANSWER: **Daphne**

014-13-104-1510-11

16. Prior to the actions of this play, one character informs the antagonist that he possesses a box of incriminating letters. That antagonist tries to seduce the married Elmire before her son leaps out from under a table. The antagonist is promised the hand of Mariane, even though she is engaged to Valere. A messenger of the king appears at the conclusion of this work and prevents Orgon from losing his property after being duped by a clever vagrant. For 15 points, name this comedy by Moliere about a religious hypocrite.

ANSWER: **Tartuffe**, or *the Imposter*

230-13-104-15116

BONUS: This is a 30-second calculation question. The long edges of an 6 x 10 inch piece of notebook paper are taped together to form a tube. What is the volume of air enclosed by the tube? Express your answer in terms of pi.

ANSWER: **90 over pi** cubic inches

003-13-104-1510-11

17. This process may not occur to a solution if surface tension is sufficiently high in the “superheating” effect. Dichloromethane and hexane are commonly used as organic laboratory solvents because of how easily they undergo this process in a rotovap. This process is used to remove impurities from a compound in a distillation. For 15 points, name this phase transition which happens to water at one hundred degrees Celsius as it turns into steam.

ANSWER: **boiling** [or **evaporation**, or **vaporization**, do not accept “freezing”]

239-13-104-15117

BONUS: Wan and the light spirit Raava were revealed to have defeated the dark spirit Vaatu in what popular Nickelodeon series?

ANSWER: *The **Legend of Korra***

226-13-104-1510-11

18. Cistromes can be identified by a technique called CHIP, which is the immunoprecipitation of this material. At the secondary level of organization of this substance, it forms a 30-nanometer fiber. When it's that compact, this material is often prefixed with the word “hetero”. This substance also exists in the form of nucleosomes, where it resembles beads-on-a-string. This substance is formed when strongly positively-charged proteins called histones allow DNA to wrap around them. For 15 points, name this substance which makes up chromosomes, consisting of DNA and protein.

ANSWER: **chromatin** [prompt on **chromosomes** or **DNA** or **histones**]

190-13-104-15118

BONUS: This is a calculation question. What is the reference angle, in degrees, of an angle measuring 7 pi over 6 radians?

ANSWER: **pi over 6** radians [or **30 degrees**]

003-13-104-1510-11

19. The ecliptic alignment of the anisotropy (an-ICE-uh-trop-ee) in this entity could violate the Copernican principle. This entity is linearly polarized due to Thomson scattering. The gravitational redshift of photons from this entity is described by the Sachs-Wolfe effect. Its origins lie in the recombination epoch, when photons decoupled from matter. It has been mapped by WMAP and COBE and was discovered by Robert Wilson and Arno Penzias at Bell Labs. For 15 points, name this radiation with a temperature of 2.7 degrees Kelvin that permeates the universe and is a residual of the Big Bang.

ANSWER: **CMBR** [or **cosmic microwave background** radiation; or **relic** radiation]

127-13-104-15119

BONUS: What British physicist came up with a namesake law of cooling and realized gravitational force varied with the inverse-square of distance?

ANSWER: Isaac **Newton**

233-13-104-1510-11

20. During this war, the Committee on Public Information hired "four-minute men" to propagandize. During this war, American soldiers distinguished themselves at Saint-Mihiel, which was followed by the Meuse-Argonne Offensive. American involvement in this war was provoked by the promise of lost land to Mexico in the Zimmerman Telegram, as well as the sinking of the *Lusitania* by a German U-Boat. For 15 points, name this enormous war that the United States entered during Woodrow Wilson's term.

ANSWER: **World War I** [or the **Great War**]

080-13-104-15120

BONUS: What mountain in Argentina is the highest peak in the Andes?

ANSWER: **Aconcagua**

052-13-104-1510-11

21. This is the number of atoms bonded to carbon in carbenium ions. Pyruvate contains this many carbons, since glycolysis splits one glucose into two pyruvate molecules. The polyatomic ion phosphate has an overall charge of negative this number. This number is the lowest possible principal quantum number for electrons in a d-orbital. The nitrogen family normally have oxidation states of this number, which is why ammonia contains this many hydrogens bound to nitrogen. For 15 points, give the atomic number of lithium.

ANSWER: **three** [or negative **three**]

239-13-104-15121

BONUS: With what power of the distance from a charge does electrostatic force vary, according to Coulomb's Law?

ANSWER: **-2** [do not accept "2"]

190-13-104-1510-11

22. This man put in an extended cadenza for the soloist in the first movement of his only concerto, a Violin Concerto in D minor. A tone poem by this composer uses an English horn to depict a swimming bird. That piece, *The Swan of Tuonela*, is one of his many compositions influenced by the mythology of his home country. He produced a brass-heavy composition that he often renamed to evade Russian censors. For 15 points, name this composition of the unofficial national anthem *Finlandia*.

ANSWER: Jean **Sibelius**

142-13-104-15122

BONUS: What city is the site of the Kennedy Center and of a famous 1939 concert given by Marian Anderson?

ANSWER: **Washington** D.C. [or Washington **D.C.**, or the **District of Columbia**]

015-13-104-1510-11

23. Officers in this country's army were slaughtered in a forest in the Katyn Massacre. After World War II, this country's western border was moved to the Oder-Neisse line. This country was led for eight years by the Communist General Jaruzelski. An electrician from this country who started a strike at a shipyard in Gdansk. For 15 points, name this European country of the Solidarity Party and Lech Walesa that was invaded at the start of World War II.

ANSWER: Republic of **Poland** [or Rzeczpospolita **Polska**]

023-13-104-15123

BONUS: What Irish polymath invented quaternions and lends his name to a physical quantity equalling the sum of kinetic and potential energies?

ANSWER: William Rowan **Hamilton**

233-13-104-1510-11

24. A grey individual climbs a ladder up to the broken egg-shell of a "tree-man" in this painting, whose face is the artist's. When closed, the exterior panels of this painting show the world on the third day of creation. A number of pink statues receive rivulets from a giant fountain in the background of this painting, whose right depicts a hellscape, and whose left shows Adam being introduced to Eve in the title Biblical location. For 15 points, name this proto-surrealistic triptych by Hieronymus Bosch.

ANSWER: **Garden of Earthly Delights**

135-13-104-15124

BONUS: What politician became the first president of the Fifth French Republic when it was established during the Algerian war of independence?

ANSWER: Charles **de Gaulle**

153-13-104-1510-11

25. Gilbert Ryle described a theory of this thinker as the "ghost-in-the-machine" concept of mind. He offered a proof for God in a treatise that imagines a situation where all sensory and even mental experiences were unreliable. In *Discourse on Method*, he showed that his own existence was the only fact it was impossible to doubt. For 15 points, name this French philosopher who proved his own existence with the argument "I think, therefore I am."

ANSWER: René **Descartes**

121-13-104-15125

00--20-1510-11

26. The inequality named after one of these shapes states that the absolute value of quantity x plus y is less than or equal to the absolute value of x plus absolute value of y . Two of these figures are not necessarily congruent if SSA is satisfied, but they are if SAS is. The Euler line goes through their incenter, orthocenter, and centroid. For 15 points, what are these polygons whose area equals one-half base times height?

ANSWER: **triangles**

233-13-104-15126

00--20-1510-11



27. A character in this novel has his research stunted because he cannot read German. That man has a poor cousin named Will Ladislaw. This book's female protagonist is married to the prospective author of *The Key to All Mythologies*, a foolish clergyman named Reverend Edward Casaubon. The main characters of this novel, Dr. Tertius Lydgate and Dorothea Brooke, are stuck in unhappy marriages. For 15 points, name this George Eliot novel subtitled *A Study of Provincial Life*.

ANSWER: Middlemarch: *A Study of Provincial Life*

052-13-104-15127

00--20-1510-11

28. This molecule is released during a decarboxylation of a carboxylic acid, and is also released during quicklime production from limestone. The Solvay process uses sodium chloride, ammonia, and this molecule to form sodium bicarbonate. Carbonic anhydrase regulates water and this molecule's concentration in the blood stream. This molecule, which is linear according to VSEPR theory, is commercially sold in solid form as dry ice. For 15 points, name this greenhouse gas which is exhaled from our lungs and released with the burning of coal.

ANSWER: carbon dioxide [or CO₂]

239-13-104-15128