



1. In one novel by this writer, a man contemplates killing his father with a pestle in the belief that his lover Grushenka has accepted his father's bribe to sleep with him. Another character created by this writer deliriously condemns the proposed strategic marriage between his sister Dunya and Pyotr Petrovich Luzhin. That character, a poor student, murders the pawnbroker Alyona Ivanovna and subsequently has a breakdown. For 15 points, name this Russian novelist of *The Brothers Karamazov* who created Raskolnikov (rahs-KOL-nih-koff) in *Crime and Punishment*.

ANSWER: Fyodor **Dostoevsky** [or Fyodor Mikhailovich **Dostoevsky**]

014-12-85-14101

BONUS: Name the process that allowed for the production of ammonia on an industrial scale.

ANSWER: **Haber**-Bosch process

066-12-85-1410-1

2. This poem describes "More happy love! more happy, happy love... forever panting, and forever young." In a later stanza, the speaker tells the addressee, "When old age shall this generation waste, thou shalt remain... a friend to man." That addressee of this poem is a "foster-child of silence and slow time" and a "still unravished bride of quietness" which declares, "Beauty is truth, truth beauty." For 15 points, name this ode by John Keats addressing a certain work of art.

ANSWER: "**Ode on a Grecian Urn**"

014-12-85-14102

BONUS: What Walter Scott novel features Richard the Lion-Hearted and Robin Hood as minor characters but focuses on the title knight, who rescues the Jewish maiden Rebecca?

ANSWER: **Ivanhoe**

019-12-85-1410-1

3. The person who holds this position typically resides in the Potala Palace. These people are selected either by the Golden Urn or by a test in which they must identify the possessions of their predecessors as infants. The fourteenth and current holder of this position is Tenzin Gyatso (gee-OT-zo), who in 2011 proposed abdicating from the role of head of state in the face of Chinese authorities choosing his successor. For 15 points, name this spiritual leader of Tibetan Buddhism.

ANSWER: **Dalai Lama**

015-12-85-14103

BONUS: What event saw patriots dressed as Mohawks dump out the contents of the Dartmouth, Eleanor, and Beaver?

ANSWER: **Boston Tea Party**

023-12-85-1410-1

4. One character in this novel plots to seduce the protagonist as he watches her tend to an assistant who faints at the sight of blood named Justin. The protagonist borrows excessively from the merchant Monsieur Lheureux, incurring debts which ruin her when she is abandoned by her lover Rodolphe Boulanger, leading to her suicide by taking arsenic. For 15 points, name this novel about the adulterous wife of a country doctor written by Gustave Flaubert.

ANSWER: **Madame Bovary**

014-12-85-14104

BONUS: What psychological concept is measured by such tests as the MMPI and Myers-Briggs Type Indicator?

ANSWER: **personality**

014-12-85-1410-1

5. A photograph of this city that depicts laundry hanging over an alleyway as people look out their windows was published in Riis' *How the Other Half Lives*. Charles Ebbets took one photograph in this city that depicts construction workers eating lunch as they sit high above the city while on a beam. That picture was taken during the construction of the RCA building, which is part of this city's Rockefeller Center. For 15 points, a nurse and a sailorman were caught kissing on V-J Day in what city's Times Square?

ANSWER: **New York** City [or **NYC**]

149-12-85-14105

BONUS: The capital cities of Buenos Aires and Montevideo sit on opposite sides of what busy estuary on the eastern coast of South America?

ANSWER: the **Rio de la Plata**

019-12-85-1410-1

6. This type of vertex cannot exist in an Eulerian (OIL-air-ian)graph. There are no known perfect numbers of this type. sine of x is this type of function, while cosine of x is not. Functions of this type satisfy the condition f of negative x equals negative f of x, and their graphs are symmetric with respect to the origin. The sum of two consecutive integers of this parity is always divisible by four. All integers of this type can be written in the form $2n + 1$ for some integer n. For 15 points, give this term, the opposite of even.

ANSWER: **odd**

131-12-85-14106

BONUS: What French playwright wrote about an imposter who infiltrates house of Orgon in his comedy *Tartuffe*?

ANSWER: **Molière** [or Jean-Baptiste **Poquelin**]

030-12-85-1410-1

7. A naval battle in this war began when the phrase "You may fire when ready, Gridley" was spoken by George Dewey. Support for this war was spurred by the "yellow journalism" of Joseph Pulitzer and William Randolph Hearst. One of its battles included a charge up San Juan Hill by the Rough Riders. This war began when the USS *Maine* was sunk in Havana harbor in 1898. For 15 points, name this war that resulted in the United States gaining Guam, Puerto Rico, and the Philippines.

ANSWER: **Spanish-American** War

015-12-85-14107

BONUS: What type of bond featuring carbon and nitrogen links the amino acid building blocks of proteins?

ANSWER: **peptide** bond

104-12-85-1410-1

8. This character repeats "tell people what?" several times to his dancing friends at a wedding, and develops a technique known as the "Lorenzo Van Matterhorn." This character's brother, James, is played by Wayne Brady, and believes that Bob Barker is his father. He cheats on his girlfriend, Nora, in an episode in which Cobie Smulders's character, Robin, also effectively rejects him. For 15 points, identify this ladies' man from *How I Met Your Mother*, played by Neil Patrick Harris.

ANSWER: Barnabus "Barney" **Stinson** [or **Barnabus**; or **Barney**]

189-12-85-14108

BONUS: This is a 20-second calculation question. If $f(x) = x^3$, and $g(x) = x - 4$, what is f of g of 6?

ANSWER: **8**

080-12-85-1410-1

9. In his first appearance, he can be defeated by being hit with five fireballs. He is commonly attributed with children including Wendy and Lemmy. In one appearance, he engages in a rivalry over who's stronger with O'Chunks. A DS game featuring his two main foes is entitled as his *Inside Story*. In his most recent Wii appearance, he is defeated while trying to use his Galaxy Generator and kidnapping Princess Peach. For 15 points, name this Nintendo villain, often cast opposite Mario.

ANSWER: **Bowser** [or **King Koopa**]

088-12-85-14109

BONUS: This is a 30-second calculation question. What is the area of a triangle with side lengths of 5, 7, and 8?

ANSWER: **10 root 3** square units [or **10 radical 3** square units; prompt on square **root** of **300** square units]

197-12-85-1410-1

10. This structure's potential, factoring in all relevant ions, can be found using the Goldman equation. G protein-coupled receptors are found in this structure. This biological structure contains "lipid rafts" according to the fluid mosaic model, and it is partly made of inward-facing hydrophobic fatty acid "tails" in a phospholipid bilayer. For 15 points, name this semi-permeable molecular structure which appears without a cell wall when surrounding animal cells.

ANSWER: cell **membrane** [or plasma **membrane**]

104-12-85-14110

BONUS: What astronomer created a tuning fork for galaxy classification and names a space telescope?

ANSWER: Edwin **Hubble**

066-12-85-1410-1

11. The protagonist of this novel works with Francois and Perrault delivering mail for the Canadian government. Its other characters include Manuel, a gardener who works for Judge Miller. The protagonist of this novel kills a rival named Spitz before being sold to the inexperienced Hal. The death of John Thornton causes the protagonist to kill a bunch of Yeehat Indians and disappear into the woods. For 15 points, name this Jack London novel about the sled dog Buck.

ANSWER: *The **Call of the Wild***

015-12-85-14111

BONUS: What adjective describes analogues of the trigonometric functions in which e is raised to a real power, instead of an imaginary one?

ANSWER: **hyperbolic** functions

132-12-85-1410-1

12. This city was site of the 1893 Columbian Exposition. The 1968 Democratic National Convention, which caused major protests, took place in this city. John Dillinger was shot in this city, which has long been run by the Daley family. Legend holds that in 1871, Mrs. O'Leary's cow knocked over a lantern, which started a fire that burned this city to the ground. For 15 points, name this Illinois city that is currently led by Rahm Emanuel.

ANSWER: **Chicago**

015-12-85-14112

BONUS: This is a 30-second computation question. What is the sin of 75 degrees in simplest terms?

ANSWER: **root 6 + root 2 over four** [or **one fourth times the quantity root 6 + root 2**]

020-12-85-1410-1

13. The tcsh shell is named after this language due to its similar syntax. Dynamic memory allocation is done in this language with the use of malloc. This language's "string" is commonly used to denote a string that is null-terminated. The authoritative book on this language, often abbreviated K&R, was written by Brian Kernighan and this language's developer, Dennis Ritchie, who created it while at Bell Labs. For 15 points, identify this most widely-used and influential programming language.

ANSWER: **C**

066-12-85-14113

BONUS: This is a 20-second calculation question. Consider a jar with 5 red marbles, 3 green marbles, and 8 blue marbles. What is the probability of randomly picking two green marbles, if the marbles are not replaced after being picked?

ANSWER: **1/40** [or **0.025**]

197-12-85-1410-1

14. As this character watches Miss Maudie Atkinson's house burn down, someone she does not see puts a blanket over her. She and her brother exchange gifts with a stranger through a hole in a tree, until it is cemented over. Her friends include the family cook Calpurnia. This sister of Jem has her life saved by Boo Radley after the trial of Tom Robinson. For 15 points, name this daughter of Atticus Finch, the narrator of Harper Lee's novel *To Kill a Mockingbird*.

ANSWER: Jean Louise **Scout** Finch [or **Jean** Louise Finch; prompt on **Finch**]

015-12-85-14114

BONUS: The end of the era of what type of movie was the subject of *Singin' in the Rain*, an example of which is the 2011 movie *The Artist*?

ANSWER: **silent movies** [accept reasonable equivalents]

030-12-85-1410-1

15. This particle's antiparticle was the first example of antimatter to be found and was discovered by Carl Anderson. Muons always decay into one of these particles and two neutrinos. These particles have the lowest mass of any charged lepton. The original formulation of the Pauli exclusion principle was for these particles. They were formerly known as cathode ray particles. Discovered by J.J. Thomson, for 15 points, name these negatively charged particles that orbit the nucleus of an atom.

ANSWER: **electrons**

131-12-85-14115

BONUS: What school lost consecutive men's basketball championship games to Duke and Connecticut in 2010 and 2011?

ANSWER: **Butler** University

015-12-85-1410-1

16. This work reuses material from its composer's opera *Undina* in its second act, and this work is most often performed in the 1895 version of Marius Petipa and Lev Ivanov. This work includes a "Dance with Goblets" near the end of its first act. Characters in this ballet include the crossbow-wielding Prince Siegfried and the evil wizard Von Rothbart. For 15 points, name this Tchaikovsky ballet in which Odette is transformed into the title creature.

ANSWER: **Swan Lake** [or **Lebedinoye Ozero**]

014-12-85-14116

BONUS: What American painter of *The Gulf Stream* painted children enjoying the title game in front of a schoolhouse in his work *Snap the Whip*?

ANSWER: Winslow **Homer**

030-12-85-1410-1

17. The equipartition theorem states that the energy of each particle of an ideal gas is equal to three-halves times a constant times this quantity. The square root of three times this quantity times the ideal gas constant divided by a gas's molar mass gives the gas's root-mean-square speed. Charles' law states that this quantity is directly proportional to gas volume at constant pressure. On an absolute scale, this quantity is directly proportional to the average kinetic energy of particles in a gas. For 15 points, name this quantity measured on the Rankine, Celsius, and Fahrenheit scales.

ANSWER: **temperature**

131-12-85-14117

BONUS: The Jackson Hole resort and Grand Teton National Park are found in what least populous U.S. state?

ANSWER: **Wyoming**

019-12-85-1410-1

18. This general was nearly forced to resign when the public learned that he had slapped Charles Kuhl with his glove. He was given command of the fictitious First US Army Group as part of a ploy to detract attention from Normandy. After leading the allied invasion of Sicily, this general was given command of the Third Army, which turned back the Germans at the Battle of the Bulge and liberated much of France. For 15 points, name this colorful American general known as "Old Blood and Guts."

ANSWER: George Smith **Patton**

015-12-85-14118

BONUS: Name the German school of architecture founded by Walter Gropius that was denounced as "degenerate art" by the Nazis.

ANSWER: Staatliches **Bauhaus**

014-12-85-1410-1

19. One member of this race was Tethys, the wife of Oceanus and embodiment of the oceans. Mnemosyne, the mother of the muses, belonged to this race. One of them married Pandora and was known for his lack of foresight. Another member of this race was condemned to have his liver eaten out by an eagle each day after stealing fire from the gods and giving it to mankind. For 15 points, Epimetheus and Prometheus were members of what race of Greek deities that warred with the Olympians?

ANSWER: **Titans**

015-12-85-14119

BONUS: This is the number of fluorine atoms attached to the most common molecular form of uranium, as well as the smallest number that is the product of two primes.

ANSWER: **six**

048-12-85-1410-1

20. A city on this river in Scioto County, Portsmouth, has a 77 foot floodwall built in response to this river's 1937 flooding of that city. The city of Huntington is located at the confluence of this river and the Guyandotte, and the world's oldest suspension bridge crosses this river in Wheeling. This river joins the Mississippi River in Cairo, Illinois, and Louisville is located on this river. For 15 points, name this river that forms the boundary between its namesake state and West Virginia and Kentucky.

ANSWER: **Ohio** River

030-12-85-14120

BONUS: Name the "Lady with the Lamp" who served tirelessly as a nurse during the Crimean War.

ANSWER: Florence **Nightingale**

023-12-85-1410-1

21. One character in this play declares “I have given you my soul; leave me my name!” Its characters include the clerk Ezekiel Cheever and the elderly farmer Giles Corey. The protagonist of this play initially does not expose the fraud of Abigail Williams because he does not want the town to know that he cheated on his wife Elizabeth. For 15 points, name this allegory for McCarthyism, an Arthur Miller play in which John Proctor is hanged during the Salem Witch Trials.

ANSWER: *The **Crucible***

015-12-85-14121

BONUS: What philosopher, who advocated the “five relationships” and the “reification [RAY-if-uh-cay-shun] of names,” was an adviser to the King of Lu whose ideas were spread throughout China by disciples and the book *The Analects*?

ANSWER: **Confucius** [or **Kongfuzi**; or **Kongzi**; or **K’ung-fu-tzu**; or **K’ung-tzu**; or **Kongqiu** (kon-chi); or **Zhongni**]

019-12-85-1410-1

22. This country's second-largest city has endeavored to unclog its pipes by having all residents simultaneously flush their toilets at 7:30. Carl Mauch discovered an 11th-century city here containing a Great Enclosure surrounded by mortar-less 36 foot walls. Its second-largest city is Bulawayo. The Zambezi River forms this country's border with Zambia; it also borders Mozambique to the east and South Africa to the south. For 15 points, name this African country led by Robert Mugabe, which was formerly called Rhodesia.

ANSWER: **Zimbabwe**

080-12-85-14122

BONUS: Rick Scott declared a state of emergency in response to what hurricane that disrupted the 2012 Republican National Convention?

ANSWER: Hurricane **Isaac**

192-12-85-1410-1

23. Shirakawa discovered a conducting variety of these substances after doping with iodine. These substances can be called isotactic or syndiotactic, either quality making them stereoregular. A solution of these substances can be modeled using Flory-Huggins theory, and one class of compounds used to synthesize these substances work via the Cossee-Arlman mechanism and are titanium-based heterogeneous catalysts known as Ziegler-Natta catalysts. Common examples of these substances include PET, PVC, and nylon. For 15 points, name these molecules that consist of repeating units called monomers.

ANSWER: **polymers**

201-12-85-14123

BONUS: What son of Nyame (nee-AH-may) was a trickster deity from West Africa who was often depicted as a spider?

ANSWER: **Anansi**

189-12-85-1410-1

24. Pope Alexander II ordered the construction of Battle Abbey as penance for the bloodshed in this battle. The loser in this battle had defeated Harrald Hardrada two weeks earlier at the Battle of Stamford Bridge. This battle is depicted on the Bayeux (buy-YOU) Tapestry, which depicts Halley's Comet and Harold Godwinson taking an arrow to the eye. This battle resulted in Norman control over England. For 15 points, name this 1066 victory of William the Conqueror.

ANSWER: Battle of **Hastings**

015-12-85-14124

BONUS: This is a 30-second calculation question. Solve: $\sin^2 \theta + \sin \theta = 0$, on the domain θ is greater than or equal to 0 degrees and strictly less than 360 degrees. Give your answers in degrees.

ANSWER: **{0,180,270}** [or θ equals **0**, **180**, and **270** degrees; do not accept or prompt on partial answer]

003-12-85-1410-1

25. One provision of this act requires the SEC to regulate the market in blood diamonds. The Brown-Kaufman amendment to this bill was voted down. Before it passed the Senate, the Durbin Amendment was added to it. This act reimposed some restrictions from the Glass-Steagall Act with its Volcker Rule, and was intended to end the idea of "too big to fail." This 848-page act is named for two Democratic senators from Connecticut and Massachusetts. For 15 points, name this act signed in 2010 to regulate the financial system.

ANSWER: **Dodd-Frank** Act

080-12-85-14125

BONUS: What literary term, similar to synecdoche, refers to the substitution of something associated with an entity for the entity itself?

ANSWER: **metonymy**

019-12-85-1410-1



26. This condition is linked with the phosphorylation of a microtubule assembling protein called tau, which ultimately leads to the development of neurofibrillary tangles. This disease is also linked with deficiencies in the synthesis of acetylcholine. In general, this disease is characterized by complications in the cytoskeletons of neurons in the cerebral cortex. For 15 points, identify this disease characterized by loss of memory and dementia, named for a German.

ANSWER: Alzheimer's disease

189-12-85-14126

BONUS: What contact force counteracts gravity and points perpendicular to and away from a surface?

ANSWER: normal force [prompt on F_N]

104-12-85-1410-1

27. This man wrote a work about Fred, Jake, and Bridget's relationships with their dying father, Andy. This author of *Moonlight* depicted Emma and Jerry's affair in reverse-chronological order in *Betrayal*. This playwright created the hitmen Ben and Gus, and, in another work, Meg organizes the title event for Stanley Webber, during which he is abducted by McCann and Goldberg. For 15 points, name this British playwright of *The Dumb Waiter* and *The Birthday Party*.

ANSWER: Harold Pinter

191-12-85-14127