



1. In one of this man's poems, he exclaims "What fond and wayward thoughts will slide into a lover's head!" upon imagining the death of his beloved, a girl named Lucy. He wrote, "I have learned to look on nature, not as in the hour of thoughtless youth," in another poem about revisiting the title location on the banks of the Wye after five years. For 15 points, name this Romantic poet of "Tintern Abbey" who collaborated with Samuel Taylor Coleridge on the collection *Lyrical Ballads*.

ANSWER: William **Wordsworth**

014-12-85-05101

BONUS: What country's president Meles Zenawi died in August 2012 and sent troops into neighboring Somalia in 2006?

ANSWER: **Ethiopia**

030-12-85-0510-1

2. Jan Hus was burned at the Council of Konstanz for his heretical teachings in this city. This city became capital of the Holy Roman Empire under Charles IV. A 1968 Soviet invasion was launched in response to a series of liberal reforms known as this city's "Spring." Many of this city's leaders were thrown out of windows in a 1618 "defenestration" that helped spark the Thirty Years' War. For 15 points, name this cultural center of Bohemia that is the capital of the Czech Republic.

ANSWER: **Prague** [or **Praha**]

015-12-85-05102

BONUS: What English scientist discovered the principle of electromagnetic induction on which electric generators are based?

ANSWER: Michael **Faraday**

080-12-85-0510-1

3. The four properties that guarantee reliable transactions within these systems are atomicity, consistency, isolation and durability. Common types of cardinality in these systems are one-to-one, one-to-many and many-to-many. Their unique identifiers are known as primary keys. They most commonly adhere to the relational model, in which foreign keys are used to relate multiple tables; the most popular language for that model is SQL. For 15 points, identify these systems used to store data in rows, known as records.

ANSWER: relational **databases**

066-12-85-05103

BONUS: What Blizzard game, released in 2012, follows the Nephalem in his quest to defeat the title demon?

ANSWER: **Diablo III**

080-12-85-0510-1

4. In 2011, Rick Perry stated that Texas would treat this man "pretty ugly" and called his actions "almost treasonous." He received the derogatory nickname "Helicopter" for referencing the idea of a "helicopter drop" of money in a speech. This man defied Republicans in Congress by launching "Operation Twist," and he coined the term "fiscal cliff." In September 2012, he announced QE3, a third round of "quantitative easing." For 15 points, name this successor of Alan Greenspan as chairman of the Federal Reserve.

ANSWER: Ben Shalom **Bernanke**

080-12-85-05104

BONUS: What lake in Oregon contains Wizard Island and fills the caldera created by an eruption of Mount Mazama?

ANSWER: **Crater** Lake

080-12-85-0510-1

5. This title's current holder beat Boris Gelfand, the winner of the 2011 Candidates Tournament, to defend it. Since 2007, Viswanathan Anand has held this title that was unified with a "Classical" variety in 2006. Boris Spassky and Anatoly Karpov held this FIDE title that is not always held by the player with the highest ELO rating. Its holder must face biennial challengers in a series of matches. For 15 points, name this prestigious title formerly held by Garry Kasparov and Bobby Fischer.

ANSWER: FIDE **World Chess Champion** [or in different word orders such as **World Champion of Chess**; do not accept "Classical World Chess Champion"]

153-12-85-05105

BONUS: Name the Danish proto-existentialist who wrote *Either/Or* and *Fear and Trembling*.

ANSWER: Soren **Kierkegaard**

014-12-85-0510-1

6. This man included his compositions "Budo" and "Deception" on an album he recorded along with Gil Evans, Gerry Mulligan, and the other members of his namesake nonet. In addition to recording *Birth of the Cool*, with a sextet including Cannonball Adderley, he recorded an album featuring his compositions "Flamenco Sketches" and "Freddie Freeloader." For 15 points, name this jazz trumpeter of the seminal album *Kind of Blue*.

ANSWER: Miles **Davis**

014-12-85-05106

BONUS: What Arabic word is used to name the pilgrimage to Mecca every able Muslim must take?

ANSWER: **Hajj**

015-12-85-0510-1

7. These cells contain the ZP3 glycoprotein in an extra membrane, the zona pellucida (peh-LOO-sid-uh), which surrounds them. Fimbriae interact with these cells, which contain a germinal vesicle and form in a process which also creates three smaller polar bodies. These haploid cells are released by the follicle, after which they travel through the fallopian tubes. For 15 points, name these cells which develop into a zygote and then an embryo after fertilization.

ANSWER: **ova** [or **ovum**; or **egg** cells]

104-12-85-05107

BONUS: What programming language was created by Bjarne Stroustrup (YARN strow-STROOP) in order to add classes and objects to an earlier programming language?

ANSWER: **C++** [do not accept or prompt **C**]

079-12-85-0510-1

8. This country's oldest national park is at Banff. The Ambassador and Peace Bridges connect this country with its southern neighbor that disputes its claims in the Beaufort Sea. This country's Confederation Bridge in the Gulf of St. Lawrence links New Brunswick to Prince Edward Island. The most populous city in this second largest country in the world is on the shores of Lake Ontario; that city is Toronto. For 15 points, name this country that shares its long southern border with the United States.

ANSWER: Dominion of **Canada** [or *le Dominion du Canada*]

153-12-85-05108

BONUS: This is a 20-second calculation question. What is the slope of the line perpendicular to the line described by the equation $3x - y = 5$?

ANSWER: **-1/3**

080-12-85-0510-1

9. These people worshipped a group of nine gods called the Ennead which included an earth god named Geb and a sky goddess named Nut. They believed in a snake god named Apep which harassed the solar barge as it made its way across the sky. One of their gods is cut into fourteen pieces by his brother Seth before being reassembled by his wife Isis. For 15 points, name these people who wrote about the underworld god Osiris in hieroglyphics.

ANSWER: Ancient **Egyptians**

015-12-85-05109

BONUS: This is a 20-second calculation question. If a cube has surface area 54 square inches, what is its volume?

ANSWER: **27 cubic inches**

121-12-85-0510-1

10. One of this leader's invasions was prompted by a plea from Honoria, the sister of Valentinian III. This man came to power after killing his brother Bleda. According to legend, he was turned from one invasion by a plea from Pope Leo I. The Visigothic king Theodoric I allied with the Roman general Flavius Aetius on the Catalaunian Plains to defeat this man at the Battle of Chalons. For 15 points, name this "Scourge of God" known for his harassment of the Romans and his leadership of the Huns.

ANSWER: **Attila** the Hun

015-12-85-05110

BONUS: Shane Lechler and Zoltan Mesko play what position which occasionally attempts coffin corners?

ANSWER: **punter**

015-12-85-0510-1

11. This holiday occurs on the first and second days of Tishri. One common practice on this holiday is eating apples dipped in honey. Celebrants of this holiday also practice *tashlikh*, in which they symbolically cast their sins into a body of water. Unless this holiday falls on the Sabbath, an instrument called the shofar is often blown one hundred times a day during it. The first of the High Holy Days, it occurs ten days before Yom Kippur. For 15 points, name this Jewish New Year.

ANSWER: **Rosh Hashanah**

015-12-85-05111

BONUS: When counting around the face of a twelve-hour clock, one uses what kind arithmetic in which the congruence of one number is given in relation to another number, in this case twelve?

ANSWER: **modular** arithmetic

079-12-85-0510-1

12. These organisms were part of an experiment in which they developed the ability to metabolize citrate over a 20-year period of evolution. Another experiment in which these organisms were used grew them on a nitrogen-15 medium and showed that DNA replication was semiconservative. This organism is infected by the T4 phage, and it was used in the Lenski and Meselson-Stahl experiments. Its O157:H7 strain is a common cause of food-borne illness. For 15 points, name this gram-negative bacterium commonly found in the intestine.

ANSWER: **E. coli** [or **Escherichia coli**]

048-12-85-05112

BONUS: This is a 20-second calculation question. What is the period of the function $y = \sin(x/2)$?

ANSWER: **4 pi**

197-12-85-0510-1

13. The companion piece to this poem asks the addressee, "Dost thou know who made thee?" This poem asks its own subject, "what shoulder, and what art, could twist the sinews of thy heart?" This "Song of Experience" is contrasted with its author's poem "The Lamb," asking "What immortal hand or eye could frame thy fearful symmetry?" For 15 points, name this poem about a creature "burning bright in the forests of the night" written by William Blake.

ANSWER: "The **Tyger**"

014-12-85-05113

BONUS: This is a 30-second calculation question. If two six-sided dice are rolled, what is the probability that exactly one of the dice will be a two?

ANSWER: **five-eighteenths** [or **0.2777** repeating; or **0.278**]

121-12-85-0510-1

14. One method of deriving this law uses the calculus of variations to find the path of least action between two points, one in each region, or by finding the stationary point of the path length. This law thus follows from Fermat's principle of least time. It can be derived by analyzing wavefronts using Huygens (HOI-gens) principle. This law also gives the critical angle at which total internal reflection occurs. For 15 points, name this law which relates the angles of incidence and refraction for a ray of light passing from one medium to the other.

ANSWER: **Snell's** law

048-12-85-05114

BONUS: Name the Italian who wrote about a group of ten youths fleeing the plague and telling one hundred stories in *The Decameron*.

ANSWER: Giovanni **Boccaccio** (buh-KAH-chee-oh)

014-12-85-0510-1

15. In Norse mythology, Loki prevented one of these structures from being built by turning himself into a mare and distracting Svadilfari (svah-deel-FAH-ree). In Greek myth, Laomedon (lay-OH-med-on) angered Poseidon and Apollo by refusing to pay them for building one of these. Roman legend holds that Remus was killed after jumping over one of these structures built by Romulus. For 15 points, name these defensive structures which the Greeks circumvented at Troy by using a wooden horse.

ANSWER: **walls**

015-12-85-05115

BONUS: This process is the first step in erosion and comes in two types: mechanical and chemical. What is this process that results in the breakdown of rock on the Earth's surface?

ANSWER: **weathering**

066-12-85-0510-1

16. Guillaume Apollinaire and Pablo Picasso were questioned after this painting was stolen in 1911. Marcel Duchamp added facial hair to this painting in a work titled *L.H.O.O.Q.*. Since it is thought to depict the wife of Francesco del Giocondo, it is known as *La Gioconda* in Italian. The subject of this portrait wears a translucent veil and holds her right hand over her left. It is permanently displayed in the Louvre. For 15 points, name this Leonardo da Vinci portrait of a woman with an enigmatic smile.

ANSWER: **Mona Lisa** [accept *La Gioconda* before it is mentioned]

015-12-85-05116

BONUS: The USS *Yorktown* sunk in what June 1942 American naval victory that marked a turning point in the Pacific Theater?

ANSWER: Battle of **Midway**

030-12-85-0510-1

17. One of the biggest disasters suffered by this program was the loss of Roger Chaffee, Edward White, and Gus Grissom in a fire. One participant in this program hit a golf ball for "miles and miles and miles." Another participant in this program was Jack Swigert, who relayed the message "Houston, we've had a problem" after an explosion. The eleventh mission in this program was led by Michael Collins, Buzz Aldrin, and Neil Armstrong. For 15 points, name this NASA program that landed on the moon.

ANSWER: **Apollo** 1 [or **Apollo** 14; or **Apollo** 13; or **Apollo** 11; prompt on **NASA**; prompt on **space program**]

015-12-85-05117

BONUS: What Greek analog of Cupid is the son of Aphrodite?

ANSWER: **Eros**

015-12-85-0510-1

18. In *Song of Myself*, Walt Whitman wrote "the hundred and fifty are dumb yet" at the site of this battle. One side's forces in this battle were led by William Travis, who apocryphally drew a line in the sand. Casualties of this battle include knife-inventor Jim Bowie and outdoorsman Davy Crockett. It was a total but costly victory for the Mexican army under Santa Anna. For 15 points, name this Texas Revolution battle that resulted in the death of all the defenders of a San Antonio mission.

ANSWER: Battle of the **Alamo**

015-12-85-05118

BONUS: What husband of Skyler goes by the name of "Heisenberg" in his meth cooking operation and is the principal character in *Breaking Bad*?

ANSWER: Walter **White** [or **Walter** White]

030-12-85-0510-1

19. The protagonist of this novel is disturbed by another character's warning, "I will be with you on your wedding night." That warning comes true when that character is seen grinning and pointing outside the window of the protagonist's house at the corpse of Elizabeth Lavenza. The protagonist is picked up by Captain Robert Walton in the Arctic, where he travels in pursuit of a self-loathing giant. For 15 points, name this Gothic novel in which Victor unwittingly creates a monster, a work by Mary Shelley.

ANSWER: **Frankenstein**

014-12-85-05119

BONUS: What country's military dictator Leopoldo Galtieri was overthrown following this country's loss to the UK in the Falklands War?

ANSWER: **Argentina** [or **Argentine Republic**; or Republica **Argentina**]

030-12-85-0510-1

20. One variation of this law is used to show that, for a smaller body inside a larger body, only the mass below the smaller body pulls on it gravitationally. This law can be stated as the divergence of \mathbf{E} equals ρ divided by ϵ_0 . Another variation of this law, for magnetism, is used to show that there are no magnetic monopoles. This law makes use of namesake surfaces with symmetries that match the surface of interest. For 15 points, name this law that relates the electric flux through a surface to the charge enclosed.

ANSWER: **Gauss's** law

048-12-85-05120

BONUS: Name the Prussian king who gained control of Silesia after fighting against Maria Theresa in the War of the Austrian Succession.

ANSWER: **Frederick the Great** [or **Frederick II** of Prussia; or **Friedrich der Grosse**; prompt on **Frederick**]

023-12-85-0510-1

21. In the battle fought here, John Brown Gordon attempted to break through to the supply depot at Lynchburg, but retreated upon seeing that Sheridan's cavalry was backed by infantry. This location is the site of a house purchased by Wilmer McLean after he had moved from Manassas in 1861. The deal reached at this location guaranteed no treason prosecutions and allowed farmers to keep their horses and mules. For 15 points, name this Virginia site of Lee's surrender to Grant.

ANSWER: **Appomattox** Courthouse

015-12-85-05121

BONUS: An iconic portrait probably depicting Jonathan Buttall titled *The Blue Boy* was executed by what 18th-century English painter?

ANSWER: Thomas **Gainsborough**

014-12-85-0510-1

22. People with this disease are susceptible to salmonella osteomyelitis, and it is often treated with hydroxyurea. One effect of this disease is the eventual infarction and destruction of the spleen. Heterozygotes for this disease have increased resistance to malaria, which is why it is prevalent in African Americas. This disease is caused by a glutamic acid to valine mutation in the beta-chain of hemoglobin. For 15 points, name this genetic disease in which red blood cells take on a curved shape.

ANSWER: **Sickle-cell anemia**

048-12-85-05122

BONUS: This is a calculation question. What is the negative root of the polynomial $3x^2 - 21x - 24$.

ANSWER: $x = -1$

001-12-85-0510-1

23. After being castigated by his wife, Senator Bird helps out the central characters of this novel. Its title character is married to Chloe and shares his pioussness with Eva St. Clare. Another of its characters is Eliza Harris, who carries her son Harry during her daring escape across the frozen ice of the Ohio River. In this work, the goodness of George Shelby is contrasted with the evil of Simon Legree. For 15 points, name this anti-slavery novel by Harriet Beecher Stowe.

ANSWER: **Uncle Tom's Cabin**

015-12-85-05123

BONUS: What Herman Melville character tells his employer "I would prefer not to" when assigned any task?

ANSWER: **Bartleby** the Scrivener

121-12-85-0510-1

24. One tributary of this river gains its name from the clay sediments carried into it above Malakal by the Sobat River. Another tributary of this river is sometimes called the Abay River and flows out of Lake Tana. Abu Simbel was forced to relocate when a decision was made to dam up this river. The man-made Lake Nasser was created by water from this river being diverted by the Aswan High Dam. For 15 points, name this river with Blue and White tributaries that is the longest in the world.

ANSWER: **Nile** River [or Bahr Al-**Nil**; or Nahr Al-**Nil**]

023-12-85-05124

BONUS: Name this collection of pieces in which Edward Elgar used musical cryptograms to depict his family and friends in movements like "Nimrod."

ANSWER: *Enigma Variations*

020-12-85-0510-1

25. The protagonist of this novel meets Nicholas Schliemann at a party thrown by the millionaire Fisher. Its protagonist is imprisoned for attacking his wife's boss Phil Connor after learning that he had raped her. Ona dies giving birth to her second child in this novel, pushing Jurgis Rudkus further towards socialism. This novel inspired legislation with its depictions of the Chicago meatpacking industry. For 15 points, name this muckraking novel by Upton Sinclair.

ANSWER: *The Jungle*

015-12-85-05125

BONUS: In poetry, what literary term refers to the continuation of a single grammatical unit across a line break without end-stopping?

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

190-12-85-0510-1



26. Unlike its counterpart, this substance's monomers do NOT have 2-prime hydroxyl groups. This substance was revealed by Avery to be the "transformative agent" in Griffith's experiments, and it was labeled with 32-P in an experiment that used a blender to show that bacteriophages transfer it to E. coli. It was labeled with nitrogen-15 in the Meselson-Stahl experiment to show that its replication was semiconservative, and this substance is wrapped around histones and usually found in the nucleus. For 15 points, name this genetic material.

ANSWER: **DNA** [or **deoxyribonucleic acid**]

048-12-85-05126

BONUS: What storms form from tropical depressions and are measured by the Saffir-Simpson scale?

ANSWER: **hurricanes**

124-12-85-0510-1

27. Lane Turner wrote a song responding to this statement in which he described his "two rugged hands." Similar to a controversial speech given by Elizabeth Warren in 2011, this statement was uttered during a campaign stop in Roanoke. It was reversed in the motto of Day 2 of the RNC and refers back to a comment about "roads and bridges." For 15 points, name this soundbite of Barack Obama claiming that "if you've got a business," you received help from the government along the way.

ANSWER: "If you've got a business, **you didn't build that**" [or "**We Built It**" until "Warren" is read]

080-12-85-05127