



1. One of this architect's projects was overseen by his apprentice Bob Mosher, and he designed many buildings in his self-described "Usonian" style. He incorporated locally obtained desert rocks into the walls of his winter home in Scottsdale, Arizona called Taliesin West (TAH-lee-AY-zin). His most famous building, a Pennsylvania home for Edgar Kaufmann, was built over a running stream. For 10 points, name this Prairie School architect of Fallingwater.

ANSWER: Frank Lloyd **Wright**

014-12-70-01101

2. Lathe and Ruthven developed a version of this technique that uses a gel-bed that allows large particles through but retains small particles; that is the size-exclusion form. This technique comes in gas-liquid and thin-layer varieties, and most forms of this technique require the calculation of retention time. It typically utilizes a stationary phase and a mobile phase. This technique is sometimes performed in chemistry classes whilst utilizing a solvent along with a paper colored with markers. For 10 points, identify this technique which separates mixtures, whose name means "color-writing."

ANSWER: **chromatography** [accept early buzz of **size-exclusion** chromatography]

189-12-70-01102

3. The states of this empire participated in ritual battles called Flower Wars. This empire was consolidated with two alliances arranged under the rule of Itzcoatl (ITS-coh-AW-tul). After the death of one of their rulers, the people of this empire successfully drove invaders from their capital in "La Noche Triste." This empire had its capital at Tenochtitlan (TEN-ok-TEET-lan) and was led by Montezuma. For 10 points, name this Mesoamerican empire conquered by the Spanish under Hernan Cortes.

ANSWER: **Aztec** Empire

014-12-70-01103

4. The addressee of this poem has become a "townsman of a stiller town," having slipped away "from fields where glory does not stay." This poem notes that "early though the laurel grows, it withers quicker than the rose." This poem concludes by describing how "the strengthless dead" will gather round the addressee, who was once chaired through the marketplace. For 10 points, name this A. E. Housman poem recalling "the time you won your town the race" to the title figure.

ANSWER: "**To an Athlete Dying Young**"

014-12-70-01104

5. This man came to power by winning a power struggle over Sidney Rigdon and James Strang. He stepped down as governor after members of the Baker-Fancher party were killed in the Mountain Meadows Massacre. This man proposed the State of Deseret and was pardoned by James Buchanan after waging the Utah War. This successor to Joseph Smith started a settlement at Salt Lake City. For 10 points, name this early leader of the Mormon Church.

ANSWER: Brigham **Young**

015-12-70-01105

6. The protagonist of this novel breaks the necks of a group of dying pheasants shot by hunters. The protagonist's husband leaves her to establish a farm in Brazil after she confesses an ambiguous sexual involvement with a man she later stabs before being arrested at Stonehenge. After her family is evicted, the protagonist reluctantly returns to the villainous Alec, and she is forgiven too late by Angel Clare. For 10 points, name this novel about a "pure woman faithfully presented" by Thomas Hardy.

ANSWER: *Tess of the d'Urbervilles*

014-12-70-01106

7. Four methyl groups are attached to this element in a compound used as a standard for chemical shift calibration in NMR. This element is doped with boron in p-type devices. The most common rock-forming minerals contain this element. A hydrated dioxide of this element forms the cell walls of diatoms. An extremely purified form of this element is used in integrated circuits and semiconductors. This second-lightest of the metalloids has a valence of four. For 10 points, name this element found in quartz, which gives its name to a hi-tech "valley" in California.

ANSWER: silicon [or Si]

020-12-70-01107

8. This character has a friend who "wanders and watches, with eager ears" until he hears the "measured tread of the grenadiers." This character gives "a cry of defiance, and not of fear, a voice in the darkness, a knock at the door." His actions occur on the "eighteenth of April, in Seventy-five," and are cued by "a lantern aloft in the belfry arch of the North Church tower as a signal light." For 10 points, name this character whose midnight ride to warn of impending redcoats was described by Henry Wadsworth Longfellow.

ANSWER: Paul Revere [or Paul Revere]

015-12-70-01108

9. William Yancey led a group of "Fire-Eaters" from this state. This state was the namesake of a Confederate warship that took down dozens of Union merchant ships before being sunk by the USS *Kearsarge*. Before moving to Richmond, the capital of the Confederacy was in this state. Another city in this state was the site of a bus boycott during the Civil Rights movement. For 10 points, name this Southern state where Civil Rights clashes occurred in Selma, Montgomery, and Birmingham.

ANSWER: Alabama

015-12-70-01109

10. One poem in this collection ends by comparing mortal eyes to glazed mirrors reflecting the rays of light from a sacred source. Another poem in this collection addresses a woman who entered the speaker's heart like a dagger thrust and compares her to the title monster. The poem "The Denial of Saint Peter" opens this collection's section "Revolt," and the aforementioned "Benediction" opens its first section, "Spleen and Ideal." For 10 points, name this seminal poetry collection by Charles Baudelaire (BOH-duh-lair).

ANSWER: *Les* *Fleurs du Mal* [or *The* *Flowers of Evil*]

014-12-70-01110

11. As Vice President, this man engaged in the "kitchen debate" with Khrushchev. He defended his integrity in the "Checkers" speech, which was named for his daughter's dog. This man lost the 1960 presidential election to John F. Kennedy. As President, he spoke of a "silent majority" and worked with Henry Kissinger. This man declared, "I am not a crook," despite refusing to release a series of tapes. For 10 points, name this President who was forced to resign after the Watergate Scandal.

ANSWER: Richard Milhous Nixon

015-12-70-01111

12. A malfunction in one protein found in these organelles results in Pompe's disease. They were discovered in 1949 by Christian de Duve after he homogenized animal cells in an ultracentrifuge. These objects form as vesicles budding from the Golgi network fuse with endosomes. Since these organelles can release destructive enzymes into the cytoplasm, they are sometimes referred to as "suicide sacs." For 10 points, name these organelles in animal cells which break down waste materials.

ANSWER: **lysosomes**

052-12-70-01112

13. In one experiment, this thinker showed that individuals were less likely to mail misplaced envelopes addressed to controversial organizations than those addressed to individuals. He provided evidence that the average path length between two people in the worldwide social network was six people in his "small world" experiment. In another of his experiments, a participant designated a "teacher" was instructed to deliver electric shocks to a "learner." For 10 points, name this psychologist who conducted a series of experiments on obedience to authority.

ANSWER: Stanley **Milgram**

014-12-70-01113

14. In three-dimensional systems, one value in this law is replaced by a tensor with 81 coefficients. The square root of the proportionality constant in this law divided by the mass gives the natural frequency of the system it describes. This law only holds below the yield point, and integrating it gives an expression for potential energy, which is minimal at zero displacement. For 10 points, name this law, which relates the displacement of a spring to the force applied.

ANSWER: **Hooke's** law

048-12-70-01114

15. One of these procedures divides a list into n sublists of one element and then merges them. Tony Hoare developed one of these procedures which recursively divides a structure around a pivot value. That one is a divide-and-conquer algorithm aptly named "quick." One of the first examples of these algorithms compares every bordering pair of elements and switches them if necessary; that is the bubble type. For 10 points, name these algorithms used to order lists.

ANSWER: **sorting** algorithms

121-12-70-01115



1A. What Shakespearean character exclaims, “Lord, what fools these mortals be!” to Oberon in *A Midsummer Night’s Dream*?

ANSWER: **Puck** [or **Robin** Goodfellow; or Robin **Goodfellow**]

1B. What misfolded proteins cause conditions such as mad cow disease and kuru when their misfolded state propagates, creating holes in the brain?

ANSWER: **prions**

2A. Name the French philosopher and mathematician who wrote *Meditations on First Philosophy* and famously declared, “I think, therefore I am.”

ANSWER: Rene **Descartes**

2B. What river that rises in the Black Forest is the second-longest in Europe and flows through Vienna, Belgrade, and Budapest?

ANSWER: **Danube** River

3A. This is a 20-second calculation question. What is the median of the set of numbers 4, 6, 3, 7, 2, 11?

ANSWER: **5**

3B. This is a 20-second calculation question. If a right triangle has one side of length 9 and a hypotenuse of length 15, what is the length of the remaining side?

ANSWER: **12**

4A. What recently deceased comedian played a sheriff in the small town of Mayberry in a 1960’s sitcom?

ANSWER: Andy **Griffith**

4B. What Danish author wrote such fairy tales as “The Little Mermaid” and “The Ugly Duckling”?

ANSWER: Hans Christian **Andersen**

5A. Name the 20th-century Russian composer of a first symphony in D major, commonly nicknamed “Classical,” as well as *Peter and the Wolf*.

ANSWER: Sergei **Prokofiev**

5B. Britain’s Queen Elizabeth II celebrated the 60th anniversary of her accession in 2012, an event known by what more elaborate term?

ANSWER: **Diamond Jubilee**

6A. What children’s character recorded a viral parody of “Call Me Maybe” entitled “Share it Maybe”?

ANSWER: **Cookie Monster** [or **Alistair Cookie**]

6B. What Indian religion was led by ten gurus and has its adherents follow the “five K’s”?

ANSWER: **Sikhism**

7A. This is a 30-second calculation question. Given the 3 equations $x + y + z = 5$, $2x + y - z = 3$, and $x + 2y = 1$, solve for z .

ANSWER: **11/4** [or **2.75**]

7B. This is a 30-second calculation question. Consider a circle of radius 3 with a trapezoid inscribed inside. If one of the trapezoid's bases is the diameter, the other base has length 4, and the legs of the trapezoid each form an angle of 30 degrees with the diameter, what area of the circle is not covered by the trapezoid?

ANSWER: **$9\pi - 5\sqrt{3}$** [or **19.6**]

8A. What Spartan brother of Agamemnon is married to Helen before the Trojan War?

ANSWER: **Menelaus**

8B. On what British ship did Charles Darwin serve as a naturalist, allowing him to make many key scientific observations?

ANSWER: HMS ***Beagle***

9A. What Italian artist painted *Primavera* and *The Birth of Venus*?

ANSWER: Sandro **Botticelli**

9B. Name the sometime-exorcist who has pushed for educational reforms as Governor of Louisiana.

ANSWER: Bobby **Jindal**

10A. What equation has a pre-exponential factor and relates the rate constant of a reaction to its temperature and activation energy?

ANSWER: **Arrhenius** Equation

10B. What Baylor quarterback was drafted by the Washington Redskins with the second overall pick of the 2012 NFL draft?

ANSWER: Robert Lee **Griffin** III [or **RGIII**]



1. The narrator of this poem stands “deep into the darkness peering” and “dreaming dreams no mortals ever dared to dream before.” That narrator is affected by the “silken sad uncertain rustling of each purple curtain” in his room, which contains a “pallid bust of Pallas.” This poem takes place “once upon a midnight dreary,” and features a narrator mourning his lost Lenore. For 10 points, name this poem in which an “ebony bird” repeats the word “nevermore,” a work of Edgar Allan Poe.

ANSWER: “The Raven”

015-12-70-01117

2. One location in this state is said to be where the “Spirit of the Above-World,” Skell, resides, according to the stories of the Klamath Tribes. One figure in this state opposed the damming of the Tuolumne River and Hetch Hetchy Valley. That man worked here as an environmental activist and was named John Muir. This state is home to Mount Shasta and the largest tree on Earth, the General Sherman. For 10 points, name this western state whose tallest point is Mount Whitney, a peak in the Sequoia National Park.

ANSWER: California

052-12-70-01118

3. One test of this organ outputs peaks called QRS complexes between a P-wave and a T-wave. Some of its collagen-heavy chordae tendineae (COR-die ten-DEE-nay-eye) connect to its tricuspid valve. This organ’s sinoatrial (SIGH-no-AY-tree-ul) node generates signals for its Purkinje fibers, which conduct electrical impulses through it. One of its two atriums connects to the left ventricle, where fluid is pushed through to the aorta. For 10 points, name this organ revived by a defibrillator, which pumps blood.

ANSWER: the heart

104-12-70-01119

4. The protagonist of this novel decides to get drinks with the Columbia student Carl Luce. One of its characters is given a “Little Shirley Beans” record and rides a carousel in the rain. Its protagonist loses some fencing equipment on the subway before encountering the prostitute Sunny. The central family in this novel includes the Hollywood writer D.B., the leukemia victim Allie, and the ten-year-old Phoebe. For 10 points, Holden Caulfield is the protagonist of what novel by J. D. Salinger?

ANSWER: *The Catcher in the Rye*

015-12-70-01120

5. 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 10 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"]

048-12-70-01121

6. One performer on this instrument collaborated with trumpeter Dizzy Gillespie to record the piece “Ko-Ko,” one of the first bebop recordings. That performer on this instrument also composed “Billie’s Bounce” and “Ornithology,” and was nicknamed “Bird.” A later performer on this instrument recorded such albums as *A Love Supreme* and *My Favorite Things*. For 10 points, name this instrument played by Charlie Parker and John Coltrane, a woodwind whose most common varieties are tenor and alto.

ANSWER: **saxophone** [or **sax**]

014-12-70-01122

7. In one story by this author, the overweight college student Mary Grace throws a book at the judgmental Ruby Turpin in the waiting room of a doctor’s office. She wrote a novel in which Hazel Motes returns from World War II to his family home in Tennessee. In one story by this exemplar of the “Southern Gothic” style, a the grandmother's family is killed by an escaped convict named "The Misfit." For 10 points, name this author of the novel *Wise Blood* and the story "A Good Man Is Hard to Find."

ANSWER: Flannery **O’Connor** [or Mary Flannery **O’Connor**]

015-12-70-01123

8. One novel written in this language includes a blank chapter suggesting the death of the protagonist entitled, “Vanished into the Clouds.” One female writer in this language provided extensive records of medieval court life in *The Pillow Book*. A 20th-century novelist in this language wrote a tetralogy called *The Sea of Fertility* and described a disturbed acolyte who burns down the title structure in *The Temple of the Golden Pavilion*. For 10 points, name this language used by Lady Murasaki (mur-uh-SAH-kee) and Yukio Mishima.

ANSWER: **Japanese** [or **Nihongo**]

014-12-70-01124

9. This quantity for a magnetic moment in the presence of a magnetic field is calculated as the dot product of negative m and the B-field. Deriving this for two point charges from Coulomb's (COO-lawm's) law yields $k q_1 q_2$ over r . The gravitational form of this quantity is the product of mass, gravitational acceleration, and height, or $m g h$. For 10 points, identify this quantity symbolized U , the change of which is equal to the change in kinetic energy.

ANSWER: **potential** energy

189-12-70-01125

10. Theodor Adorno noted the existence of this place made the writing of poetry barbaric. Residents of this place who wrote about their experiences include Viktor Frankl, Primo Levi, and Elie Wiesel. The gates to this site bore a sign that read "work sets you free." This site was the location of the experiments of Dr. Mengele, the so-called "Angel of Death." For 10 points, name this Polish site where a million Jews were killed, the largest of the Nazi concentration camps.

ANSWER: **Auschwitz**-Birkenau [or **Oswiecim**]

015-12-70-01126

11. This mathematician devised a topologically invariant measure that is two for all convex polyhedra. This man laid the foundation of graph theory in solving a problem that asked if it was possible to walk through a certain town while only crossing over every bridge in it once, the seven bridges of Konigsberg problem. His identity equates cosine of x plus i times sine of x to his namesake constant raised to the $i x$ power. For 10 points, identify this Swiss mathematician who is the namesake of the constant e , equal to about 2.718.

ANSWER: Leonard **Euler** (OIL-er)

189-12-70-01127

12. In this country, in September 2012, Chou Wan swallowed a fake diamond to distract police as his accomplice got away with the real one. Its Northern Province contains the Jaffna Peninsula, and it is southeast of the Palk Strait. This country's president, Ranasinghe Premadasa (RA-nah-SIN-gay PRAY-mah-DA-suh), was killed in the 1983-2009 civil war between its Sinhalese majority and the Tamil Tigers. It was formerly known as Ceylon. For 10 points, name this island to the southeast of India.

ANSWER: **Sri Lanka** [or **Ceylon** before it is read]

080-12-70-01128

13. In 1378, this city's class of wool carders called the ciompi (CHOM-pee) revolted. Pope Sixtus IV backed the Pazzi family in their attempt to assume power in this city. Charles VIII of France's invasion allowed the religious fanatic Girolamo Savonarola to come to power in this city and institute the bonfire of the vanities. For much of the Renaissance, this city was led by bankers and art patrons like Cosimo and Lorenzo the Magnificent. For 10 points, name this Italian city ruled by the Medici.

ANSWER: **Florence** [or **Firenze**]

015-12-70-01129

14. Daniel Jones created the first system for classifying these entities. Jones' cardinal diagram for these can be used to illustrate chain shifts of them, examples of which include the Northern Cities and "Great" shift that occurred in the fourteenth century. A diphthong is two of these entities in the same syllable. For 10 points, name these sounds produced with an open vocal tract, which in English are usually represented by letters such as "A" and "E."

ANSWER: **vowels**

121-12-70-01130

15. Stromatolites were formed in this substance. Hypoxic or anoxic areas in this substance are known as dead zones. The temperature at which this substance is densest is lowered below four degrees celsius when its salinity is not zero. Its solid form is less dense than its liquid form. This substance participates in a namesake cycle that, in part, involves evaporation and precipitation. For 10 points, identify this substance found in the oceans, which has formula H₂O.

ANSWER: **water** [or ocean **water**; or sea **water**]

066-12-70-01131



1. This president's policies were supported by newsman Walter Winchell and Supreme Court justices Cardozo, Brandeis, and Stone. His Secretary of Labor was Frances Perkins. He attended the Casablanca Conference as a member of the Big Three. This deliverer of the Fireside Chats helped create the Civilian Conservation Corps and the National Recovery Administration as part of his New Deal. For 10 points, name this four-term president who led the US through the Depression and World War II.

ANSWER: Franklin Delano **Roosevelt** [or **FDR**]

015-12-70-01132

2. One novel by this author includes a monologue concluding with the words, "yes I said yes I will yes." Another novel by this author opens with the beginning of a story about "a moocow coming down along the road." The protagonist of that novel becomes sick after being pushed into a cesspool by his schoolmates at Clongowes Wood College. This novelist created Stephen Dedalus and Leopold Bloom, both of whom appear in his massive 1922 modernist novel. For 10 points, name this Irish novelist of *A Portrait of the Artist as a Young Man* and *Ulysses*.

ANSWER: James **Joyce** [or James Augustine Aloysius **Joyce**]

014-12-70-01133

3. 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 10 points, identify these basic cells of the nervous system.

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

189-12-70-01134

4. 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 10 points, give this term, the opposite of even.

ANSWER: **odd**

131-12-70-01135

5. This man used a stealthy night climb to take the Sogdian Rock, where he met his future wife Roxana. He commanded a cavalry unit known as the Companions. At the age of eighteen, he led forces over the Athenians and Persians at the Battle of Chaeronea, a victory for his father, Philip II. This general, who was tutored by Aristotle, defeated the Persians at the battles of Issus and Gaugamela. For 10 points, name this Macedonian who died at the age of 32 after conquering much of the known world.

ANSWER: **Alexander the Great** [or **Alexander III** of Macedonia ; prompt on **Alexander**]

015-12-70-01136

This is a calculation question. Find the positive solution to the equation $x^2 - 4x - 21 = 0$ (x squared minus four x minus twenty-one equals zero).

ANSWER: **7**

Name the German school of architecture founded by Walter Gropius that was denounced as “degenerate art” by the Nazis.

ANSWER: Staatliches **Bauhaus**