

1. **This city is home to the extremely generically named Asia Building, a former office of Royal Dutch Shell that is located along its historical waterfront. It's not Atlanta, but plant seeds were placed in 60,000 acrylic rods in this city's temporary Seed Cathedral, which is adjacent to the Mercedes-Benz Arena. This city's People's Square, which is built on the site of a former race course, is south of a shopping center in the (\*) Puxi ("poo-shee") District. The Ming-era Yuyuan Garden is adjacent to this city's Temple of the City Gods. A namesake World Financial Center and Oriental Pearl Tower are in this city's Pudong New Area, which is connected by the long Donghai Bridge to the Yangshan Islands, part of the world's busiest container port. The historic Peace Hotel is in this city's Bund ("bunned") district, which overlooks the Huangpu River. For 10 points, name this most populous city in China.**

ANSWER: Shanghai

<Geography, BD>

2. **Cross contamination between multiple runs of one type of this technique is prevented by using UNG. It's not a blot, but GAPDH and ACTB can act as endogenous controls in this technique. A step in this technique follows the general guidelines of a length just above or below 20 and a GC content of about 50 percent. In a variant of this technique, the chosen baseline and threshold affect C-sub-t, which is known as the crossing point or take-off point; that variant of this technique can use TAMRA ("TAM-ruh") or (\*) SYBR ("cyber") dyes to report progress. Fluorescent reporter probes are used in a quantitative variant of this technique known as its "real-time" type. The high temperatures of the thermocycler used in this technique require an enzyme from *Thermus aquaticus* known as Taq ("tack"). For 10 points, name this technique that uses stages of denaturation, annealing, and elongation to amplify DNA.**

ANSWER: PCR [or polymerase chain reaction; or qt-PCR; or quantitative PCR; or real-time PCR; or RT-PCR]

<Biology, AK>

3. **A section of this piece begins with a soft, slow crescendo in which the first violins introduce the rising theme [read slowly] "F-sharp, B, long C-sharp." A triangle roll and a held note on muted upper strings introduce a triple-time dance in this piece marked "Tempo di mazurka." An E major section of this piece begins with a solo flute descending from B to E, then rising back up to B. Another section of this piece is built around a theme of six mostly rising (\*) staccato eighth notes followed by a quarter note, which is traded by the bassoons and low strings. This piece contains the sections "Anitra's Dance" and "Åse's Death," as well as a B minor piece that grows to a loud climax as it depicts gnomes, goblins, and trolls singing in the title location. For 10 points, "In the Hall of the Mountain King" is part of what suite by Edvard Grieg?**

ANSWER: Peer Gynt [or Peer Gynt Suites; accept any section of the incidental music to Peer Gynt; accept "Anitra's Dance" on the first line]

<Classical Music/Opera, WA>

4. **This polity replaced a governor who failed to stop 12,000 religious fanatics from sacking the shrine of Husayn at Karbala, though it rejected the help of Fath-Ali Shah in defending the city. This polity's defeat of the Emirate of Diriyah crushed the first Salafi state and split one region's political power between the Rashidi dynasty and the Emirate of Nejd. The predominance of Hanafi jurisprudence in this empire was opposed by (\*) Abd al-Wahhab. This empire connected its Levantine possessions to pilgrimage sites by constructing the Hejaz railway. After the Battle of Chaldiran, at which this empire repulsed Safavid incursions, it turned its attention south and vanquished the Mamluk Sultanate. For 10 points, name this empire that seized Mecca under Selim I.**

ANSWER: Ottoman Empire [prompt on Eyalet of Egypt by asking "what empire was it part of at the time?"]

<World History, WA>

5. This adjective describes a “stream” where the speaker wishes to “remain on a broad flat rock / And to cast a fishing-line forever!” in a poem by Wang Wei (“wong way”). Samuel Taylor Coleridge’s “Dejection: An Ode” mentions a “light” described by this adjective “that lingers in the west.” This color describes a youthful speaker who is “carefree, famous among the barns” and “easy in the mercy of his means.” The speaker repeats this color in the poem (\*) “Sleepwalking Romance” by Federico Garcia Lorca, stating “[this adjective] how I want you [this adjective].” In Dylan Thomas’s poem “Fern Hill,” the speaker says that “time held me [this color] and dying.” A beheading contest involving a warrior of this color was described by the Pearl Poet. For 10 points, name this color that identifies a knight fought by Sir Gawain.

ANSWER: green [or verde or qīng or cheng; accept blue-green until “Lorca” due to Chinese translations; accept *Sir Gawain and the Green Knight*] (The Wang Wei poem is titled “Green Stream.”)

<Non-Epic Poetry, WA>

6. Massachusetts governor Francis Sargent cancelled several plans for creating these things in 1970. The memoir *At Ease* describes how its author formulated his so-called “Grand Plan” for these things. The Supreme Court ruled that a plan to withhold five percent of money for these things did not violate the Tenth Amendment in *South Dakota v. Dole*, legitimizing the ability of the federal government to influence state (\*) drinking ages. Lady Bird Johnson sponsored a “beautification act” to improve the appearance of these things. A plan to build a network of these things to help the movement of military convoys was realized by a 1956 bill that began the then-largest public works project in US history. For 10 points, name these thoroughfares, an “Interstate” network of which was begun during the Eisenhower administration.

ANSWER: highways [or freeways or interstates; accept Interstate Highway System; prompt on roads]

<US History, WA>

7. One of these objects exemplifying 8th-century Irish religious art was the greatest find in the Ardagh Hoard. The first twenty-two popes are believed to have used one of these objects now held in Valencia’s cathedral. The excavation of the Holy Sepulchre requested by Saint Helena is held to have uncovered one of these objects used by Mary Magdalene. Medieval symbolism of these objects was strongly connected with a line in Matthew 26:39 in which Jesus asks God to (\*) let one of these objects “be taken away from me” while he is in Gethsemane (“geth-SEH-muh-nee”). According to legend, Joseph of Arimathea (“air-uh-muh-THEE-uh”) brought one of these objects to Britain. For 10 points, identify these objects, holy examples of which were used to collect Christ’s blood and serve wine at the Last Supper.

ANSWER: cups [or chalices or grails; prompt on vessels]

<Religion, WA>

8. The only known work in wood by this artist is a sculpture of a triple-goddess made for the cult of Hecate (“HECK-uh-tee”) on Aegina (“ih-JYE-nuh”). Pliny writes that epigrams were frequently hung on one of this man’s sculptures of a cow. A copy of a work by this artist appears against a backdrop of mist, and is imitated in pose by youths, in the opening shots of a 1938 film about a “Festival of Nations” by Leni Riefenstahl (“REEF-en-shtall”). This artist created a work that was copied by pieces found at the Villa Palombara and Hadrian’s Villa. That (\*) best known work by this Severe Style artist from Eleutherae (“eh-LOO-theh-rye”) is only known from numerous Roman copies, and shows a man touching his arm to his knee while reaching back with a round, flat object in his right hand. For 10 points, name this sculptor of the *Discobolus*, or discus thrower.

ANSWER: Myron of Eleutherae (The Riefenstahl film is titled *Olympia*.)

<Painting/Sculpture, WA>

9. A woman of this first name writes an advice column under the name “Mrs. Green Thumb” and is born despite her mother never knowing she was pregnant; that woman is the protagonist of Carol Shields’s *The Stone Diaries*. In an opening scene set in Switzerland, a woman with this first name remarks on the number of hotels nearby and dismisses complaints about being unable to get “American candy” made by her younger brother Randolph, who later falls asleep and causes a (\*) boat ride to be cancelled. Another woman with this first name repeats “You always look so cool” to confess her love to a man who attended St. Olaf College, and says of her daughter that “the best thing a girl can be” is a “beautiful little fool.” For 10 points, give this first name shared by a Henry James title character who dies of “Roman Fever” and the wife of Tom Buchanan in *The Great Gatsby*.

ANSWER: Daisy [accept Daisy Goodwill Flett; accept Daisy Miller; accept Daisy Buchanan; prompt on Annie (but roll your eyes because the novella is literally called Daisy Miller)]

<Long Fiction, JC>

10. Some of these natural features are called “moaning” due to the sound produced by water moving over them. These features name a member of genus *Carcharhinus* that is often confused with the similar dusky shark. Fernanda Hoefel found that inward migration of these features is heightened by acceleration-induced transport during swell conditions. When one of these features is exposed, it may form a connecting formation called a (\*) tombolo (“tom-BOH-loh”). Buildup of these features may result in the formation of barrier islands. Shifting examples of these features in the Outer Banks cause the nearby area to be called the “Graveyard of the Atlantic,” as hidden examples of these features caused thousands of shipwrecks there. For 10 points, name these underwater ridges formed by deposits of the namesake material near the shore.

ANSWER: sandbars [or shoals or gravelbars or sandbanks or sand ridges; accept sandbar shark or sand spit; prompt on barrier islands before “barrier”; prompt on coastlines or ridges; do not accept or prompt on “islands” or “reef” or “coral reef”]

<Other Science: Earth, WA>

11. A ruler of this city apocryphally collected three pigeons and three sparrows from a town as tribute, then used the birds to douse the town in sulfur and burn it. That ruler of this city, who destroyed the Drevlians, ruled as regent for a man whose plan to move his capital from this city was halted by his defeat at the 970 Battle of Arcadiopolis by Bardas Skleros. Another ruler of this city captured the Sarkel fortress during a campaign in which he destroyed the (\*) Khazar Khaganate. The Mongols feasted on the wood used to suffocate a ruler of this city after winning the Battle of the Kalka River. It’s not Baghdad, but this city was sacked in 1240 by Batu Khan, bringing an end to its time as the seat of power of the Rurikid Dynasty that reached its zenith under Yaroslav the Wise. For 10 points, name this city, the capital of a namesake medieval Rus’ (“roose”) state.

ANSWER: Kiev [or Kyiv]

<Continental post-600 History, EL>

12. Two answers required. David Lampton used a saying that [emphasize] *originated in one of these two countries*, “Same bed, different dreams,” to title his book about their relationship. The “reasonably enlightened” leaders of one of these two countries were compared favorably to the other’s leaders in a 2009 article by the author of *The World Is Flat*. In 1999, three reporters from one of these two countries were killed when the other of them accidentally (\*) bombed an embassy in Belgrade. Drawing on a phrase from one of these countries, Thomas Friedman wrote that *the other* of them “Needs Its Own Dream.” In July 2018, one of these two countries targeted the other’s soybean exports with a 25-percent tax as part of an escalating trade war. For 10 points, name these two countries that have the largest volume of two-way trade in the world as the two largest national economies.

ANSWER: United States AND China [accept USA or United States of America in place of “US”; accept Zhongguo or PRC or People’s Republic of China in place of “China,” but do not accept “Republic of China”]

<Other/Misc Academic, WA>

13. This functional group is synthesized by treating nitriles with tin chloride, hydrochloric acid, and water. Acyl (“AY-sill”) chlorides are selectively reduced to these functional groups via the Rosenmund reduction. Along with sulfuric acid, a compound with this functional group forms the Marquis reagent used in ecstasy testing kits. DIBAL-H reduces other compounds to this functional group, which appears between 9.5 and 10.5 ppm in NMR. Two of these groups react to yield a (\*) carboxylic acid and an alcohol in the Cannizzaro reaction. Silver nitrate oxidizes this functional group in Tollens’ test, resulting in the formation of a silver mirror. The simplest compound containing this functional group is commonly used in embalming corpses. For 10 points, name this functional group consisting of a terminal carbonyl.

ANSWER: aldehydes [prompt on carbonyls; do not accept or prompt on “ketones”]

<Chemistry, RRP>

14. James Bartholomew spent 11 years seeking a publisher for his scathing critique of this system in Britain, titled for one that “we’re in.” Paul Pierson’s dissertation focused on the “retrenchment debate” concerning this system, which was critiqued in a 1984 book that formulated its author’s namesake laws of “imperfect solution” and “net harm” using data from 1950 to 1980. A radical downsizing of this system is called for in *Losing Ground* by (\*) Charles Murray. Historians often credit Otto von Bismarck with creating the first modern example of this system, which is often conceived as a series of “cradle-to-grave” interventions like those advocated in the Beveridge Report. This system is a key component of the “Nordic model.” A 1996 law in the US reformed, for 10 points, what sort of “state” that gives extensive social benefits?

ANSWER: welfare state [accept *The Welfare State We’re In*; accept social welfare or state socialism or Staatssozialismus after “Otto von Bismarck”; prompt on benefits or socialism or social safety net or social security; anti-prompt on universal health care by asking “can you be less specific?”]

<Social Science: Sociology, WA>

15. A 2018 play by Theresa Rebeck dramatizes a controversial 1899 theatrical production starring Sarah Bernhardt as this character. This character remarks “Pray God, your voice... be not cracked within the ring” upon noticing a young man’s dropping voice. Though not Dracula, Henry Irving popularized an inward-facing, “melancholy” interpretation of this character, who asks a dead man “Where are your gibes” and “flashes of merriment?” after arguing with a singing (\*) gravedigger. This character “marvellously distempers” a king with a “Mouse-trap” in which a Player pours poison into the ear of a victim. He stages *The Murder of Gonzago* with an acting troupe recruited by his friends Rosencrantz and Guildenstern. For 10 points, name this title character of a Shakespearean revenge tragedy and prince of Denmark.

ANSWER: Hamlet

<Drama, JC>

16. Though none of its battles were at Thermopylae, this conflict included a clash in which defections by soldiers from Kourion enabled Artybius to win a victory; that Battle of Salamis took place during a phase of this war brought about by Onesilus in Cyprus. A message that encouraged an ally to start this conflict was written on a slave’s head, then concealed by the slave’s hair growing back. This conflict resulted in part from a rivalry involving the tyrant Histiaeus (“hiss-tee-EYE-us”). Its first major action was the burning of (\*) Sardis, the capital of the satrap Artaphernes (“ar-tuh-FER-nee-z”), who joined this conflict’s instigator in a failed power play to take Naxos. Aristagoras (“air-uh-STAG-or-us”) started this conflict, which ended with the sack of his city of Miletus. Athens antagonized the Persian empire by backing, for 10 points, what revolt against Darius I in western Anatolia?

ANSWER: Ionian Revolt [or Ionian Rebellion]

<Ancient History, EL>

17. It's not a thermostat, but a simplified version of this formalism is modeled by an algorithm named for Shuichi Nosé ("shoo-ee-chee noh-say") and William Hoover that is used in MD simulations. Using this formalism to analyze an Ising ("EE-zing") model in a finite magnetic field is equivalent to using a [emphasize] *similar* construct to analyze a lattice gas. If the constraints on this formalism are [emphasize] *relaxed* such that particle exchange is possible, but the (\*) chemical potential is held constant instead, then it can no longer be described by a Boltzmann distribution. This construct is sometimes called "NVT" because within it, the temperature, the number of particles, and volume are all held constant. For 10 points, name this idealized construct, first described by J. Willard Gibbs, that represents possible states of a system of particles in equilibrium with a heat bath at fixed temperature.

ANSWER: canonical ensemble [accept NVT ensemble before "NVT" and prompt after; prompt on statistical ensembles; do not accept or prompt on "microcanonical ensemble" or "grand canonical ensemble"]

<Physics, WA>

18. Alfred Habegger coined the term "scissored deletions" regarding three texts by this author that contain lines like "One drop more from the gash that stains your Daisy's bosom – then would you believe?" The first verse of a poem by this author stutters the lines "Did you not / His notice instant is – ." This author, who was profiled in *My Wars Are Laid Away in Books*, wrote a poem about a creature that leaves the speaker (\*) "Zero at the Bone." She wrote several riddle poems to her friends, as well as three letters to a mysterious "Master." This author's correspondence with Thomas Wentworth Higginson resulted in Higginson's eventual posthumous editorship and publication of her poetry. For 10 points, name this author whose many letters contained poems such as "A narrow Fellow in the Grass" and "I heard a Fly buzz – when I died –."

ANSWER: Emily Dickinson

<Misc. Lit, JC>

19. Lester Flatt and a man who was arguably the most influential player of this instrument formed the Foggy Mountain Boys band. The 1790 painting *The Old Plantation* depicts a slave playing one of these instruments to accompany a stick-dance. Oumou Sangaré and N'Goni Ba worked with a player of this instrument, Béla Fleck, on a collaboration exploring its African heritage. Many sequences played on this instrument feature drone notes played on its short (\*) fifth string. A "three-finger" method of playing this instrument was debuted by prolific player Earl Scruggs at the Grand Ole Opry in 1945. The singer of "O Susanna" is said to have one of these instruments "on my knee." For 10 points, name this instrument used in folk songs such as "The Ballad of Jed Clampett," the theme song for *The Beverly Hillbillies*.

ANSWER: banjo

<Other Art: Misc Auditory, BB>

20. This god spent 3,200 *kalpas* becoming a saint, then another hundred million *kalpas* cultivating the virtue needed to acquire his current position. When a dragon brought rain to a village, this god banished the dragon, beginning a custom of burning dragon-shaped figurines of incense and joss paper in this god's honor to bring rain. This god, whose birthday is on the ninth day of the first lunar month, employs ten judges to govern the underworld. He recruited the Buddha's help to imprison a troublemaker under a (\*) mountain for five hundred years and organized the race of twelve animals that determined the zodiac order. This god, who figures among the Three Pure Ones in Daoist tradition, makes the mistake of letting the peaches of immortality in his palace be guarded by the monkey Sun Wukong. For 10 points, name this ruler of heaven in Chinese myth who is named for a precious green stone.

ANSWER: the Jade Emperor [or Yù Huáng or Yù Dì; prompt on Heaven or Lao t'ien-ye; do not accept or prompt on "Yu the Great"]

<Mythology, WA>

## Bonuses

1. An external potential is a unique one of these things by the first Hohenberg–Kohn theorem. For 10 points each:  
[10] Identify these things whose most common “hybrid” example is B3LYP, which relies on three parameters as well as a generalized gradient approximation and is used to better model exchange–correlation. These things name the “F” in DFT.

ANSWER: **functionals** [accept hybrid **functionals**; do not accept or prompt on “functions”]

[10] The terms exchange and correlation in the exchange–correlation energy refer to interactions between these particles. Density functional theory models molecules using the density of these negatively charged fermions.

ANSWER: **electrons**

[10] One of the two Hohenberg–Kohn theorems of density functional theory is essentially a restatement of this quantum mechanical principle, which states that the ground state wavefunction can be found by minimizing the energy of a trial wavefunction.

ANSWER: **variational** principle

<Chemistry, AK>

2. The Black Shuck is one of these animals that is said to roam the coasts of East Anglia. For 10 points each:

[10] Identify these animals that frequently guard underworlds in Indo-European mythological traditions, such as in Greek mythology, which features a three-headed one called Cerberus.

ANSWER: **dogs** [or **Canis major**; prompt on **canines**]

[10] This monstrous, deathly black dog from British folklore, which is often described as a “goblin-dog,” has fiery red eyes and walks around making the sound of rattling chains. It is similar to the Padfoot of Wakefield and the Gwyllgi (“GWILL-gee”) of Wales.

ANSWER: **barghest** (“bar-guest”)

[10] This dog from Norse myth may have influenced British traditions relating to various hounds of hell. This blood-stained beast guards the gates of Hel’s realm.

ANSWER: **Garm** [or **Garmr**]

<Mythology, WA>

3. The framework for suing under this section of a law was established by *McDonnell Douglas v. Green*, which ruled that plaintiffs must prove prima facie (“PREE-muh FAY-shee”) discrimination then show that an offered explanation is just a pretext for discrimination. For 10 points each:

[10] Name this section of a larger law that laid out the mandate of the Equal Employment Opportunity Commission.

ANSWER: **Title VII** of the Civil Rights Act of 1964 [do not accept or prompt on “Civil Rights Act of 1964”]

[10] *Griggs v. Duke Power Co.* established this standard for Title VII discrimination, which holds that facially neutral policies must not disproportionately hurt a protected class. English-only policies were subject to this standard in *McDonald v. Santa Fe Transportation Co.*, which, like *Griggs*, mandated proof of business necessity.

ANSWER: **disparate impact** [or **adverse impact**]

[10] Discrimination due to this characteristic is prohibited by Title VII because Howard Smith added it, thinking it would tank the Act. The Equal Rights Amendment would mandate legal equality based on this characteristic.

ANSWER: **sex** [accept answers referring to being **male** or **female**; prompt on **gender**]

<US History, EL>

4. For the 1964 New York World’s Fair, Texaco sponsored a million-dollar installation to accompany the New York State Pavilion designed by this architect. For 10 points each:

[10] Name this architect who won the first Pritzker Architecture Prize in 1979. This architect based the design of his own Connecticut residence on Mies van der Rohe’s (“meese van der roh’s”) Farnsworth House.

ANSWER: Philip **Johnson**

[10] Buckminster Fuller designed this Canadian city's Biosphere, a geodesic dome on a narrow island in the Saint Lawrence River, for Expo '67.

ANSWER: **Montreal**

[10] After designing the German Pavilion of Expo '67, engineer Frei Otto helped design the Japanese pavilion made out of this material for Hanover's Expo 2000. This material was used to build the Byumba refugee camps in Rwanda, the Takatori Catholic Church in Kobe, and a building for the Diocese of Christchurch.

ANSWER: **cardboard** paper [or **paper tubes**; prompt on **paper**] (All of the works are by Shigeru Ban.)

<Other Art: Architecture, BD>

5. When applied to multivariate data sets, this technique identifies variables that have the highest correlation with its namesake outputs, and thus selects which variables have the most explanatory power. For 10 points each:

[10] Name this technique whose output is a basis set of vectors corresponding to the eigenvectors of the underlying covariance matrix.

ANSWER: **principal components analysis** [or **PCA**]

[10] The first principal component selected is equivalent to this line, since it best explains the variance in the data.

Many tools such as Excel allow the user to generate one of these lines to represent the data on a scatter plot.

ANSWER: line of **best fit** [or **best-fit** line or **trendline** or **regression** line]

[10] PCA is often confused with a similar technique that selects a number of unobserved variables denoted by this term to explain observed, correlated variables. Raymond Cattell introduced the "scree test" to determine how many of these things to select based on a plot of their eigenvalues.

ANSWER: **factors** [accept **factor** analysis]

<Other Science: Math, WA>

6. A monograph by Theodor Mommsen analyzes this writer's proposal that classical antiquity was a period of cultural achievement, while his own era was a "Dark Age." For 10 points each:

[10] Name this writer whose rediscovery of Cicero's letters is often credited with sparking the Renaissance. This author, whose own letters include the *Epistolae familiares*, wrote the biographies in *De Viris Illustribus*.

ANSWER: **Petrarch** [or Francesco **Petrarca**]

[10] Leonardo Bruni, a writer from this city, noted a century later that culture had advanced much since Petrarch's time, and thus called Petrarch's "Dark Age" the "Middle Ages." This city was home to the Medici family.

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

[10] This two-word Latin term denotes what Caesar Baronius considered the darkest of dark ages: the corrupt early 10th century, in which popes were controlled by the Theophylact family. This period is often called the Pornocracy.

ANSWER: **saeculum obscurum**

<Historiography, WA>

7. The official sanctioning of this term was intended to reduce stigmatization. For 10 points each:

[10] Give this two-word term. In 2013, the APA recognized it as the proper academic term for the distress experienced by an individual on account of a certain characteristic that they are assigned at birth.

ANSWER: **gender dysphoria** [prompt on partial answer; prompt on **GD**; do not accept or prompt on "gender identity disorder," which is the now-deprecated term]

[10] Common side effects of gender dysphoria include this disorder, which is commonly treated with selective reuptake inhibitors that increase the patient's dopamine levels.

ANSWER: clinical **depression** [or major **depression** disorder]

[10] In an infamous experiment, a Canadian boy with this surname was given gender reassignment surgery after a botched circumcision mutilated his penis, while his twin brother of the same surname grew up as a cis male; one of the brothers later committed suicide, while the other died of an antidepressant overdose.

ANSWER: **Reimer** [accept David **Reimer** or Bruce **Reimer** or Brian **Reimer**]

<Social Science: Psychology, WA>

8. A 2012 book by Michael Fried is titled for this novelist's tendency to remove repetitions from his prose by yelling passages from it. For 10 points each:

[10] Name this novelist who adopted a type of third-person narration that allows character expression without attribution known as the free indirect style. This author uncompromisingly searched for *le mot juste* ("luh moh joost"), or "the right word."

ANSWER: Gustave **Flaubert**

[10] Fried's book *Flaubert's "Gueuloir"* ("flow-BAIR's gull-WARR") analyzes both *Salammbô* and this other novel by Flaubert, which centers on an unhappy doctor's wife who has affairs with Léon Dupuis ("doo-PWEE") and Rodolphe Boulanger.

ANSWER: **Madame Bovary**

[10] Flaubert began *Madame Bovary* after reading this novel aloud to his friends, only to be told that his work should take a realist approach. Flaubert spent over thirty years writing this novel.

ANSWER: *The **Temptation of Saint Anthony*** [or *La **Tentation de Saint Antoine***]

<Long Fiction, AK>

9. In the *Phaedrus*, writing is presented as one of these things for King Thamus by the Egyptian god Theuth, who almost certainly represents Thoth. For 10 points each:

[10] Give this Greek word. In an essay, Jacques Derrida notes that this word can refer to both a cure and a poison, since it is presented as both a way to help memory, or as a method of reminding that leads to forgetfulness.

ANSWER: **pharmakon** [do not accept or prompt on "pharmakos" or "pharmacy"]

[10] Plato's use of the word *pharmakon* relies on its similarity to the word *pharmakos*, which refers to one of these rituals in Athens. The Aztecs would sometimes perform thousands of these rituals per day to keep the sun in the sky.

ANSWER: **human sacrifices** [accept any answer that refers to **offering people** to the gods; prompt on **sacrifices** or **offerings** or **killings**]

[10] In "Da Capo senza Fine" ("da KAH-po SENT-sah FEE-nay"), this philosopher argues that the embrace of Derrida in American universities was itself a kind of *pharmakon*. This philosopher's works include *The Sublime Object of Ideology* and two movies whose titles begin with "The Pervert's Guide."

ANSWER: Slavoj **Žižek** ("SLAH-voy ZHEE-zhek")

<Thought, WA>

10. In his anthropological research, Lucullus Virgil McWhorter investigated one of these rites in which a *wayakin* was sought by the participant. For 10 points each:

[10] Give the common English term for this rite that may involve an initial purification in which the participant spends time in a sweat lodge. Many New Age religions have co-opted these rites.

ANSWER: **vision quests**

[10] A vision quest may be part of the initiation of one of these spiritualists, who alter their states of consciousness to connect with the spirit world in many religious traditions. The Inuit call these people *angakkuq* ("ahng-ah-kook").

ANSWER: **shamans** [or **medicine men** or **witch doctors**]

[10] Many tribes in modern-day Wyoming had their vision quests end at a great example of these structures atop the Bighorn Mountains. These megalithic stone circles share their common English name with a four-colored circular symbol common in Native shamanic traditions.

ANSWER: **medicine wheels** [prompt on partial answer]

<Religion, WA>

11. This poet pre-empted Burger King by several decades by using the line "Have it your way" twice in "Gubbinal," whose title refers to a dumb person. For 10 points each:



[10] Name this eccentric word choice enthusiast who wrote of “Heavenly labials in a world of gutturals” in “The Plot Against the Giant,” and used the word “slovenly” to describe a wilderness in “Anecdote of the Jar.”

ANSWER: Wallace **Stevens**

[10] Stevens used the odd plural “complacencies” to begin his poem titled for this day of the week. In that poem, he describes a woman’s decision to stay at home in her peignoir (“pane-WARR”) instead of attending church.

ANSWER: **Sunday** [accept “**Sunday** Morning”]

[10] In Stevens’s “Peter Quince at the Clavier,” which describes the accosting of Susanna by the elders, Susanna is attended by a number of these people who make “a noise like tambourines.”

ANSWER: **Byzantines**

<Non-Epic Poetry, WA>

12. Roger Cardinal coined the name for this kind of art as an English version of the term *art brut* (“arr BRUTE”), which was applied by Jean Dubuffet (“doo-boo-FAY”) to works created by prisoners and psychiatric patients. For 10 points each:

[10] Give this term for art created by people who do not work in the artistic establishment, especially art created by those with disabilities or who live on the fringes of society.

ANSWER: **outsider** art

[10] Many critics debate whether art created in this medium, such as works created by Banksy and Jean-Michel Basquiat, qualify as “outsider art” or not.

ANSWER: **graffiti** [prompt on street art]

[10] Outsider artist James Hampton, an African-American janitor, is best known for creating a huge assemblage that he referred to as one of these objects. Ingres (“ANG-ruh”) used similar poses for his painting *Jupiter and Thetis* and his painting titled for Napoleon and one of these objects.

ANSWER: **thrones** [accept *The **Throne** of the Third Heaven of the Nations’ Millennium General Assembly* or *Napoleon on his Imperial **Throne***]

<Painting/Sculpture, WA>

13. British military historian Charles Oman spent thirty years working on a magnificent seven-volume history of this war. For 10 points each:

[10] Name this protracted war that Napoleon called an “ulcer.” Oman’s first volume covers events from the Treaty of Fontainebleau to the Battle of Corunna in this war.

ANSWER: **Peninsular** War

[10] Oman’s work on the Peninsular War includes a book titled for the army of this man, who commanded Allied forces during the Peninsular War and later defeated the French at Waterloo.

ANSWER: Arthur **Wellesley**, 1st Duke of **Wellington** [accept either name]

[10] Oman’s major references on the Peninsular War included a book by an Irish-born British historian named William who had this surname who served at Corunna. A British commander with this surname sent the telegram “peccavi” (“peh-KAH-wee”), meaning “I have sinned,” as a pun after capturing the region of Sindh in India.

ANSWER: **Napier** [accept William Francis Patrick **Napier** or Charles **Napier**]

<Continental post-600 History, NB>

14. Two instances of this equation are derived by first taking the curl of the curl of the electric and magnetic field, which results in two terms: the gradient of the divergence of the field and its Laplacian. For 10 points each:

[10] Name this equation that sets the second time derivative of a function equal to a constant squared times the Laplacian of that function.

ANSWER: **wave** equation

[10] The square of this quantity, which equals 1 over the square root of the quantity permeability times permittivity, appears in the three-dimensional electromagnetic wave equation. This quantity is roughly 3 times 10-to-the-8th meters per second.

ANSWER: **speed of light** [or **c**]

[10] Given an arbitrary charge distribution, this technique makes determining the electric scalar potential or magnetic vector potential at a particular distance much easier by rewriting the integral as a power series with denominators of increasing powers of the distance.

ANSWER: **multipole expansion** [prompt on partial answer]

<Physics, AK>

15. From 1970 to 1978, the Beaux Arts (“boh zarr”) Trio recorded all of this composer’s piano trios, producing an album that won Gramophone Record of the Year. For 10 points each:

[10] Name this composer who wrote the “Gypsy” Trio. A symphony by this composer contains a theme that begins with the staccato notes [read slowly] “C C E E G G” followed by a *tenuto* E.

ANSWER: Franz Joseph **Haydn**

[10] Haydn composed over 100 trios for violin, cello, and this instrument, a favorite of Nikolaus Esterházy. This instrument has six bowed strings, as well as a number of strings that may be plucked.

ANSWER: **baryton**

[10] Haydn composed “Prussian” and “Russian” examples of this genre of chamber music. He is considered the “father” of this genre, which features two violins, a viola, and a cello.

ANSWER: **string quartet**

<Classical Music/Opera, WA>

16. Zompist.com is a hub for this activity, which is represented by a purple flag whose foreground depicts a black tower in front of a rising yellow sun. For 10 points each:

[10] Name this activity performed by Mark Rosenfelder and David J. Peterson. Popular products of this activity include Ithkuil (“ith-KOO-eel”) and Volapük (“VOH-lah-POOK”).

ANSWER: **language construction** [or **conlanging**; or **language invention**; or **language creation**; or equivalents]

[10] By far the most widely-spoken constructed language is this creation of L. L. Zamenhof. Though designed for international use, most of its vocabulary is based on Romance, Germanic, and Slavic languages.

ANSWER: **Esperanto** [or **lingvo internacia**]

[10] Esperanto, Klingon, and Elvish languages are coded by three letters in the 639 series of this standards body that maintains quality control between countries. Many companies conform to its 9001 series of quality management.

ANSWER: **ISO** [or **ISO 639**; or **ISO 9001**:2015; or **International Organization for Standardization**; or **Organisation internationale de normalisation**; or **Mezhdunarodnaya organizatsiya po standartizatsii**]

<Other/Misc Academic, KL>

17. The title object of a story by this author has manifested as a 20-cent coin, an astrolabe, the implication of the bottom of a well, and an actual living tiger. For 10 points each:

[10] Name this author whose story “The Zahir” describes an object that drives people to obsession, until they can no longer perceive reality. This author also wrote “Death and the Compass.”

ANSWER: Jorge Luis **Borges** (“BOR-hays”)

[10] Murderers obsess over their victims’ teeth and imaginary beating hearts, respectively, in this author’s stories “Berenice” and “The Tell-Tale Heart.”

ANSWER: Edgar Allan **Poe**

[10] In this author’s story “The Idol of the Cyclades,” the title object inspires the archaeologist Morand to strip naked and prepare to kill his wife after earlier thwarting Somoza’s similar murder attempt by killing him. This author catalogued his travels through France with Carol Dunlop in *The Autonauts of the Cosmoroute*.

ANSWER: Julio **Cortázar**

<Short Fiction, JC>

18. Answer the following about neurotoxins, for 10 points each.

[10] Alpha-conotoxin (“co-no-TOX-in”) inhibits nicotinic (“nick-oh-TIN-ick”) receptors for this neurotransmitter, while some isotopes of the mamba toxin inhibit muscarinic (“musk-uh-RIN-ick”) receptors for it. This neurotransmitter triggers voluntary movement in skeletal muscles.

ANSWER: **acetylcholine** [or **ACh**]

[10] In a method similar to saxitoxin, this neurotoxin, which is produced by pufferfish and blue-ringed octopuses, selectively binds to and inhibits site 1 of voltage-gated sodium ion channels. This toxin can cause paralysis.

ANSWER: **tetrodotoxin** [or **TTX**]

[10] Tetanus toxin and some isoforms of the botulinum toxin cleave VAMP1 and VAMP2, which are isotopes of this protein. SNARE complexes are composed of SNAP-25, syntaxin, and this protein.

ANSWER: **synaptobrevin**

<Biology, JL>

19. This city’s emblem glyph is the most widely distributed of all such glyphs in the Americas. For 10 points each:

[10] Name this city whose ruler Sky Witness achieved a major power reversal by converting Caracol from a vassal of this city’s rival Tikal into an ally. Today, this city is identified as the capital of the “Kingdom of the Snake.”

ANSWER: **Calakmul**

[10] Calakmul and Tikal are cities built by this Mesoamerican civilization. This civilization’s advanced astronomy allowed it to develop a calendar that is slightly more accurate than today’s Gregorian calendar.

ANSWER: **Maya** civilization [or **Mayan** civilization or **Mayans**]

[10] Though Calakmul’s efforts at conquest were usually directed at the vassals of Tikal, it also fought a war against this city’s leader Pacal the Elder. Pacal’s grandson was Pacal the Great, who ruled this city for 68 years.

ANSWER: **Palenque** (“pah-LEN-kay”)

<World History, WA>

20. Answer the following related to Anne Dacier (“doss-YAY”), a 17th-century French *madame* and scholar, for 10 points each.

[10] Dacier was known primarily for her skill at this task, which led to her feud with Antoine Houdar de la Motte (“on-TWAHN oo-DAR duh la moat”). Matthew Arnold listed four necessities for performing one instance of this task in lectures that critiqued, among others, attempts at this task by George Chapman and Alexander Pope.

ANSWER: **translating Greek** [accept **translating Homer** or **translating the Odyssey** or **translating the Iliad**; prompt on **translation** or other word forms]

[10] Dacier was used to illustrate St. Cyril’s attack of Hypatia of Alexandria in this author’s *Philosophical Dictionary*. This man used his character Dr. Pangloss to mock Leibniz in his novel *Candide*.

ANSWER: **Voltaire**

[10] Dacier began her career by translating the work of this man, whose *Pinakes* catalogued the Library of Alexandria. This poet described himself transported to Mount Helicon in his *Aetia*.

ANSWER: **Callimachus**

<Misc. Lit, EL>



