

1. One generalization of this equation can be applied across the Stern layer after applying the Frumkin correction. Combined with activities, this equation is used to derive the boundary lines found in Pourbaix diagrams. At equilibrium, this equation can be derived by setting the reaction rate to zero in the Butler-Volmer equation. One generalization of this equation multiplies each term with a permeability and is used to find the (*) resting potential across a cell membrane. The coefficient of this equation is RT over zF , which at 25 degrees Celsius reduces to 0.0592 over z volts. This equation is used to find the reduction potential of a half-cell. For 10 points, name this basic equation of electrochemistry.

ANSWER: Nernst equation [accept Butler-Volmer equation before mention]

<Mukherjee>

2. This author wrote a poem whose speaker encourages a "heart-broken husband" and a "left-lonesome daughter" to "weep no more" and describes God sending a "tall, bright angel" to Yamacraw in Savannah to retrieve Sister Caroline. This man coined the term "Red Summer" for a spate of violence in 1919 and wrote a poem which describes standing "where the white gleam of our star is cast" and advocates doing the title action "till earth and Heaven (*) ring". A character created by this author of "Go Down, Death" and *God's Trombones* stops playing ragtime music after watching a lynching turn into a burning-at-the-stake, choosing instead to pass as white. For 10 points, name this author of "Lift Every Voice and Sing" and *Autobiography of an Ex-Colored Man*.

ANSWER: James Weldon Johnson

<Carson>

3. In 2006, Boyle and Smith were awarded the Nobel Prize in Physics for the creation of a device, used in astronomical imaging, that uses photons to build up this quantity. Structures with a non-zero value for this quantity that are driven along magnetic field lines in the atmosphere are named after Birkeland. Many particle species with a non-zero value for this quantity combined to form hydrogen during the epoch of (*) recombination. According to the no-hair theorem, this quantity, mass and angular momentum are the only properties that characterize a black hole. During the epoch of reionization, baryonic matter typically acquired a non-zero value for this quantity. For 10 points, name this quantity which is non-zero for ionic species.

ANSWER: electric charge [accept charged coupled devices on the first sentence; accept current until "no-hair" is read]

<Jose>

4. This deity, who is not Athena, is shown "fixing a sandal" on a relief of the first completely Ionic temple on the Acropolis, which contains a statue often named for this deity "apteros." Another sculpture of this deity may have originally stood on a stone ship moving into the wind, and inspired Umberto (*) Boccioni's *Unique Forms of Continuity in Space*. In that sculpture, this goddess wears flowing garments ruffled by oncoming wind and lacks a head. She is also held in the right hand of the Athena Parthenos. For 10 points, name this Greek goddess depicted with wings in a sculpture discovered on Samothrace.

ANSWER: Nike [or Victory; or *Winged Nike of Samothrace*; *Winged Victory of Samothrace*; or *Nike Apteris*; or *Wingless Victory*]

<Bollinger>

5. As president, this man wrote *Suffering without Bitterness*. A reward offered by Governor Evelyn Baring prompted Rawson Macharia to testify that this man had administered illegal oaths to revolutionaries. His "wife of his old age", Ngina, became fabulously wealthy during his rule. This man promoted nation-building with the slogan "Harambee" and in 1969 arrested his rival and one-time vice president, the (*) Luo chieftain Oginga Odinga. This member of the Kapenguria Six and predecessor of Daniel Arap Moi was arrested prior to 1954's Operation Anvil for supporting the Mau Mau Revolt. This Kikuyu wrote about his homeland in *Facing Mount Kenya*. For 10 points, name this man whose son Uhuru succeeded Mwai Kibaki in 2013, the first President of Kenya.

ANSWER: Jomo Kenyatta [or Kamauwa Muigai]

<Bentley>

6. Criminal charges in this state were filed against members of the Olivia Cortes campaign for putting forth a "sham candidate" to split opposition votes; in that election in this state, Jerry Lewis won a state senate seat and Russell Pearce was recalled. In May 2012, one of the co-founders of the Minutemen, J.T. Ready, killed his family in a murder-suicide in this state. In a 2012 special election in this state, Jesse Kelly was defeated by Ron Barber, who had been injured by (*) Jared Lee Loughner in the same incident that affected the former holder of the seat, Gabrielle Giffords, in a supermarket parking lot. For 10 points, name this state where Sheriff Joe Arpaio and Governor Jan Brewer supported a draconian bill targeting undocumented immigrants.

ANSWER: Arizona

<Weiner>

7. Mount Clare Station in this city was the eastern terminus of the first American railroad. Eighteenth-century American privateers used an ancestor of the clipper ship named for this city. A divisive German-language Unionist newspaper in this city was known as its *Wrecker*. The Supreme Court held that states were immune from the eminent domain restrictions of the 5th Amendment after this city was sued by John (*) Barron. Union troops were attacked on Pratt Street while passing through this city in 1861. A tax on a satellite branch of the Second National Bank that opened in this city was protested in another case by James McCulloch. For 10 points, name this city whose defense in 1814 by Fort McHenry inspired "The Star-Spangled Banner."

ANSWER: Baltimore

<Weiner>

8. Tulsidas composed a 40-verse *chalisa* hymn to this deity, who was born after an offering of sacred pudding flew into the hands of his mother. Before one journey, Jambavan had to give a reminder of this deity's strength. This child of Anjana is technically a *vanara* in his most common form, just like Vali and a king he advises named Sugriva. This god got a healing (*) herb by changing size to lift a mountain. This god with a scarred chin is the son of Vayu. As a child, this god mistook the sun for a mango, and he later destroyed Ravana's fortress on Lanka as a fire burned on his tail. For 10 points, name this helper of Rama, a Hindu monkey god.

ANSWER: Hanuman

<Jackson>

9. In generative grammar, this term applies to the NP in the VP. Lexical omission of this grammatical entity occurs to the indefinite form of this. This linguistic entity can be either obligatory or non-obligatory, and unlike complements, it can become the focus of passive sentences. Semantically-defined forms of this entity, such as prepositional phrases, are oblique forms of this type of grammatical entity, which usually appears (*) last in clauses in the SVO group of languages. In English, sentences may contain the indirect type of this entity, but those with transitive verbs always require the direct form of it. For 10 points, name this grammatical entity that is acted upon by a verb, usually contrasted with the subject.

ANSWER: object [prompt on complement before read; accept direct object or indirect object or oblique object]

<Spencer>

10. In one scene, a member of this family is defended by the shotgun-wielding Braxton Bragg Underwood. Another member of this family owns a cat named Rose Aylmer and repeatedly makes joking marriage proposals to Miss Maudie. One of its members destroys a camellia bush but later helps its owner kick her morphine habit. Another member resists Aunt Alexandra's efforts toward making her more (*) feminine and is saved by a ham costume during an event in which her brother breaks his arm defending her from Bob Ewell. This family employs the housekeeper Calpurnia and lives next door to the Radleys. Its patriarch defends Tom Robinson. For 10 points, Jem, Scout, and Atticus are members of what central family of *To Kill a Mockingbird*?

ANSWER: the Finches [accept word forms; accept Robinson before "cat" is read, since Underwood is defending Atticus, who himself is blocking a lynch mob from getting to Tom Robinson]

<Carson>

11. Count Boniface was tricked into organizing an invasion by this group against Galla Placidia, the mother of Valentinian III. King Gunderic led the Asdingi branch of these people to prominence. Justinian the Great was close with Hilderich, the penultimate leader of these people, and dispatched Belisarius to invade their kingdom and depose Gelimer. Theodosius employed a half-Roman member of this group, (*) Stilicho. A war with Petronius Maximus preceded the best-known action of this group, who were long allied with the Alans and captured Carthage in 439. After relocating to Africa, Gaiseric led this group's infamous 455 sack of Rome. For 10 points, name this Germanic tribe that thus lends its name to destructive people.

ANSWER: Vandals

<Bentley>

12. In this author's most recent book, Simon decides that a woman he sees playing tennis is the mother of his young friend David. The protagonist of another novel plays the banjo to help him compose his opera about Lord Byron. This author of *The Childhood of Jesus* edited the collection *The Lives of Animals*, which is titled for a story featuring his alter ego Elizabeth (*) Costello. An unnamed magistrate undergoes *strappado* at the behest of Colonel Joll in one of his novels. Lucy's farm is attacked and her dogs are killed in this author's novel about the aftereffects of a professor's affair with his student Melanie. For 10 points, name this South African author of *Waiting for the Barbarians* who wrote about David Lurie in *Disgrace*.

ANSWER: John Maxwell Coetzee

<Bailey>

13. One process by this name occurring in ciliates results in the creation of a new macronucleus by karyogamy of the micronucleus. This process is inhibited by the FinOP antisense RNA system, which regulate the expression of the Tra operon. This process is initiated by the relaxosome creating a nick. Genome mapping experiments can be performed by interrupting this process using a blender.

Rhizobia are able to undergo this process with plant (*) cells in order to exchange the Ti and Ri plasmids. When the plasmid that grants the ability to do *this* integrates into the genome, an Hfr strain is formed. This process occurs in organisms containing an F plasmid. For 10 points, name this process in which bacteria use a sex pilus to transfer genetic information to each other.

ANSWER: conjugation

<Mukherjee>

14. This battle included the so-called "First Anniversary Hate Shoot." A drunken POW led Frank Goettge's patrol into a disastrous ambush early in this battle, which saw so many ships sunk in a portion of "The Slot" that it became known as Ironbottom Sound. Operation Watchtower began this battle with a landing near Lunga Point, where the 1st Marine Division captured a makeshift landing strip used by the "Cactus Air Force" as (*) Henderson Field. The Tokyo Express supplied the defenders in this battle, which included fighting on Savo, Florida, and Tulagi Islands. Fought from August 1942 to February 1943 over a namesake island in the Eastern Solomons, for 10 points, name this bloody campaign considered along with Midway the major turning point in the Pacific War.

ANSWER: Battle of Guadalcanal [or Guadalcanal Campaign; or Operation Watchtower before mentioned; prompt on Solomon Island campaign; prompt on Solomons; anti-prompt on specific answers like "Savo," "Tulagi," or "Florida"]

<Liao>

15. This artist painted a mare being milked in a work whose title character has been banished to the port of Tomis, where he encounters a group of barbarians. Another work by this painter of *Self Portrait as Ravenswood* and *Ovid Among the Scythians* shows a baby sucking at the breast of its deceased mother, who lies below a soldier in black on a rearing horse, and is set during the (*) Greek War of Independence. In another of his paintings, a boy with a bag slung over his shoulder wields dual pistols and stands atop a pile of dead bodies with the Bastille in the background, next to a bare-breasted woman waving a tricolour flag. For 10 points, name this French painter of *Massacre at Chios* and *Liberty Leading the People*.

ANSWER: Eugene Delacroix

<Rosenberg>

16. In one of this man's writings, he mentions angels that are placed "into gloomy dungeons to be held for judgment." He gets the instruction "Feed my sheep," and is told that "someone else will dress you and lead you where you do not want to go." This man says "May your money perish with you!" when rejecting Simon Magus, and meets a centurion named (*) Cornelius early in the Book of Acts. This man attacks Malchus by cutting off an ear, and is crucified upside down. This recipient of the keys to the kingdom of heaven is called a "rock" upon whom the church will be built. For 10 points, name this disciple of Jesus who denies Christ three times, believed to be the first Pope.

ANSWER: Saint Peter [or Simon Peter; or Petrus; or Simon Cephas; prompt on Simon]

<Cheyne>

17. The Epilogue of this composer's sixth symphony is played entirely pianissimo. The third movement of his seventh symphony is preceded by a quotation from Coleridge's "Hymn Before Sunrise" and is titled "Landscape: Lento". In one of his symphonies, the chorus exclaims "Behold" after an opening brass fanfare. He adapted one of Lorenzo's soliloquies from *The Merchant of Venice* into his (*) *Serenade to Music*. His first symphony sets the poetry of Walt Whitman and closes with a movement called "The Explorers". Another of his works is an adaptation for string ensemble of a tune by the composer of "Spem in Alium". For 10 points, name this British composer of *Sinfonia Antarctica*, *A Sea Symphony*, and *Fantasia on a Theme by Thomas Tallis*.

ANSWER: Ralph Vaughan Williams

<Rosenberg>

18. In this poem, a "heart high-sorrowful and cloy'd, a burning forehead, and a parching tongue" result from the delirious call for "more happy love! More happy, happy love!" The speaker of this poem wonders "what little town by river or sea-shore... is emptied of its folk, this pious morn?" The questions "what mad pursuit?" and "what struggle to escape?" are posed to the title (*) "sylvan historian" of this poem, which reasons that "heard melodies are sweet, but those unheard are sweeter". The title "still unravish'd bride of quietness" imparts by its mere presence a fact that "is all ye know on earth, and all ye need to know"; namely, that "beauty is truth, truth beauty". For 10 points, name this poem inspired by an ancient work of art, an ode by John Keats.

ANSWER: "Ode on a Grecian Urn"

<Gupta>

19. This man wrote about a power called "prerogative" which rulers have in matters where laws don't exist yet. He argued that children's subjection to parents can coincide with man's natural freedom. He wrote that "a little piece of yellow metal" let people get more than they needed in a chapter which discusses falling acorns. This man drafted a document set to expire in a hundred years, in which he and the earl of Shaftesbury reversed course on the wrongness of slavery in the (*) Carolinas. He argued that mixing personal labor with nature produces property, and that government must dissolve when it does not protect life, liberty, and estate. For 10 points, name this Englishman whose *Two Treatises of Government* argue for a social contract.

ANSWER: John Locke

<Jackson>

20. One mode of motion for this system was approximated by Chirikov using the Melnikov-Arnold integral. The Gudermannian can be used to derive its motion near unstable equilibria. A complete description of this system requires the use of Jacobi elliptic functions. In phase space, this system has a separatrix at H equals g over l , within which it has closed cycles and outside of which it is sinusoidal. These devices' amplitude is independent of their (*) period. The equation of motion for this system is often derived using the small-angle approximation, and shows that its period is proportional to the square root of the length of the string. For 10 points, name this simple system consisting of a weight on the end of a string.

ANSWER: pendulum

<Mukherjee>

21. Records of a proceeding involving this group were rediscovered in 2001 on the Chinon Parchment. Members of this group were accused of heresies such as venerating cats and worshipping Baphomet, which is likely a corruption of the name Mohammed. Support for this group was rescinded by the Council of Vienne. Gerard de Ridefort led this group, and Thibaud Gaudin escaped to Sidon with much of its (*) wealth near the end of a major battle. Baldwin II provided a residence for this group, whose leader Jacques de Molay was arrested by Philip IV of France. This order was founded by Hugh de Payns in 1119 and was a rival of the Hospitallers. For 10 points, name this knightly order established during the Crusades and named for their headquarters in the Temple of Solomon.

ANSWER: Knights Templar [or Poor Knights of Christ or the Templars or the Militia of the Temple or the Order of the Temple or Pauperes commilitones Christi Templique Salomonici or Poor Fellow-Soldiers of Christ and of the Temple of Solomon or Ordre du Temple]

<Bentley>

22. Every cell generated by a Voronoi diagram is a polytope of this type. If the input to the Art Gallery Problem has this property, then the solution only requires a single guard that may simply adjust his field of view. For a Euclidean space, a set has this property if the line segment between every pair of points stays within the set. A function has this property if its value at the midpoint of every interval does not exceed the (*) arithmetic mean of its value at the endpoints. "Every internal angle is less than or equal to 180 degrees" and "every line segment between two vertices remains within the shape" are two necessary and sufficient conditions for this kind of polygon. For 10 points, name this property that is distinguished from concavity.

ANSWER: convex [accept word form equivalents; accept concave up, but do NOT accept "concave" or "concave down"]

<Jose>

23. One character created by this author disdains his mother for encouraging his sister Henrietta to volunteer for anti-aircraft duty and hits the bottle after his lover Marie leaves him for a Catholic man. This creator of Hans Schnier mocked contemporary politicians with the characters M and K in another novel, in which a gym teacher named "Old Wobbly" is one of many "buffaloes." Another of his protagonists (*) shoots the journalist Totges after he asks her for a "bang." This author of *The Clown* and *The Lost Honour of Katharina Blum* wrote a novel in which Robert Faehmel burns down the St. Anthony Abbey and partakes in a daily ritual at the Prince Heinrich Hotel. For 10 points, name this postwar German author of *Billiards at Half-Past Nine*.

ANSWER: Heinrich Theodor Böll

<Gupta>

24. An overdose of this vitamin can cause inflammation at the corners of the mouth, called angular cheilitis. The skin manifestations of Kaposi's sarcoma can be treated using a derivative of this molecule, and another derivative is used to treat ichthyosis. An oxidized form of this vitamin is used to treat acute promyelocytic leukemia and binds to a receptor that binds to AGGTCA sequences spaced by five bases. One derivative of this molecule transforms from an 11-cis state to an all-trans state when hit by a (*) photon. Retinoic acid is a derivative of this molecule, another derivative of which is the cofactor of rhodopsin. For 10 points, name this fat-soluble vitamin important in color and low-light vision, which is also called beta-carotene.

ANSWER: Vitamin A [or beta-carotene before mention; accept retinol, retinal, retinoic acid]

<Mukherjee>

1. Two characters discuss a tree in an abandoned courtyard, reiterating beliefs laid out in their creator's *Treatise Concerning the Principles of Human Knowledge*. For 10 points each:

[10] Name either of the fictional figures who discuss the "Master Argument." They argue whether God's continued observation guarantees the continued existence of the universe.

ANSWER: **Hylas** OR **Philonous** [accept **Hylas and Philonous**; accept **Philonous and Hylas**]

[10] This Irish bishop wrote *Three Dialogues Between Hylas and Philonous*. He summed up his philosophy with the phrase "*esse est percipi*," or "To be is to be perceived."

ANSWER: George **Berkeley**, Bishop of Cloyne

[10] More specifically, Berkeley believed that matter is completely nonexistent. Instead, these mental objects and concepts are perceived by spirits.

ANSWER: **ideas** [do not accept any synonyms]

<Jackson>

2. Following this battle, the Americans destroyed an Indian settlement at Moraviantown and broke a coalition that had earlier fought at Tippecanoe. For 10 points each:

[10] Identify this victory for William Henry Harrison fought in Ontario during the War of 1812.

ANSWER: Battle of the **Thames**

[10] This Shawnee chief was killed at the Battle of the Thames. Union general William Sherman bore this man's name as a middle name.

ANSWER: **Tecumseh** [or **Tecumthe** or **Tikamthe** or **Tecumtha**]

[10] This American commodore helped secure an early victory in the War of 1812 when his ship, the *Constitution*, successfully engaged the *Guerriere* off the coast of Egg Harbor, New Jersey.

ANSWER: Isaac **Hull**

<Bentley>

3. The final section of this work is narrated by a ghost, who claims that he stabbed himself with a dagger, which was then stolen by a hitherto-unmentioned person. For 10 points each:

[10] Identify this short story in which a woodcutter, a priest, a bounty hunter, and the infamous criminal Tajomaru are among those who give variously differing accounts of the death of Takehiro.

ANSWER: "**In a Grove**" [or "**Yabu no Naka**"]

[10] "In a Grove" is a work of this Japanese short story master, and was combined with this man's other story "Rashomon" for an Akira Kurosawa film. This man is also the author of "Hell Screen" and "Cogwheels".

ANSWER: Ryunosuke **Akutagawa** [or Ryunosuke **Niihara**; accept names in either order; accept pronunciations resembling "Ak'tagawa"]

[10] Akutagawa is also the namesake of a literary prize whose winners include this author of *The Ark Sakura*, who won it for *The Crime of S. Karuma*. He also wrote a novel about entomologist Niki Junpei.

ANSWER: Kobo **Abe** [or Kimifusa **Abe**; accept names in either order]

<Carson>

4. ReSharper is a tool used to perform this process, which is a key component of Test Driven Development. For 10 points each:

[10] Identify this process of redesigning and optimizing existing code. It often is done in conjunction with static analysis tools and helps reduce code smells.

ANSWER: code **refactoring**

[10] One common exercise in refactoring is to reduce the size of one of these entities, which can sometimes be static. Objects are composed of variables and these entities, which can accept parameters and typically output a return value.

ANSWER: **method** [or **function**; or **procedure**; or **routine**; or **subroutine**; or **subprogram**]

[10] When you remove global variables from a program, you can restore this feature granted by object-oriented languages. This property can be used to hide the internal details of a function, like its private variables, from outside methods.

ANSWER: **encapsulation**

<Bentley>

5. The speaker asks "Children dear, was it yesterday?" in "The Forsaken Merman", a poem by this author who discussed Alexander Pope and William Cowper's versions of the *Iliad* in his essay "On Translating Homer." For 10 points each:

[10] Identify this British poet who memorialized the death of his friend Arthur Hugh Clough in his pastoral elegy "Thyrsis".

ANSWER: Matthew **Arnold**

[10] This most famous of Arnold's poems describes a place "Where ignorant armies clash by night" and where "the sea is calm tonight", also noting that light can be seen on the French coast.

ANSWER: "**Dover Beach**"

[10] Arnold also wrote this long narrative poem whose first stanza describes one of the title characters going "through the dim camp to Peran-Wisa's tent." One of the title characters eventually kills the other, who turns out to be the former's own son.

ANSWER: "**Sohrab and Rustum**: An Episode"

<Bentley>

6. This man's best known advice book contains the quote, "you know more than you think you do". For 10 points each:

[10] Identify this man who discouraged a hardline approach to raising children in his widely read 1946 book, *The Commonsense Book of Baby and Child Care*.

ANSWER: Benjamin McLane **Spock** [or Dr. **Spock**]

[10] The seventh edition of Dr. Spock's book urged all parents to feed their children this diet after the age of two. Many people who follow this exclusively plant-based diet also avoid leather, gelatin, and other animal byproducts.

ANSWER: **veganism** [prompt on **vegetarianism**]

[10] Spock's grandson, Peter, suffered from this disorder and committed suicide in 1983. People with this mental disorder are sometimes grouped into catatonic, hebephrenic or residual types.

ANSWER: **schizophrenia**

<Bentley>

7. The organizers of this rebellion failed to coordinate it with the contemporaneous Covenanters' Rebellion. For 10 points each:

[10] Identify this 1685 rebellion against James II of England. Its namesake was beheaded following the Battle of Sedgemoor.

ANSWER: **Monmouth's** Rebellion [or the **Revolt of the West** or the **West Country Rebellion**]

[10] Following Monmouth's Rebellion, "Hanging Judge" Jeffreys carried out a series of trials or assizes known by this adjective. This adjective is also associated with Queen Mary I for her penchant for burning Protestants.

ANSWER: **Bloody**

[10] James, along with his older brother, King Charles II, had previously been targeted in this 1683 assassination attempt. This plot is named for the residence close to where the assassination would have taken place.

ANSWER: **Rye House** Plot

<Bentley>

8. Azalis do not accept the authority of this faith's founder, who penned the sacred *Book of Certitude*. For 10 points each:

[10] Name this tolerant religion. Founded by Bahá'u'lláh in Persia in the late 1800s, it holds that the prophets of other major religions all received manifestations of the same god.

ANSWER: **Bahá'í** [or **Bahaism**]

[10] Bahá'u'lláh was a follower of this man, a Persian merchant who took a name meaning "gate" before his 1850 execution.

ANSWER: the **Báb** [or Siyyid Mirza **Ali-Muhammad** Shirazi]

[10] A large Baha'i House of Worship in India is shaped like this organism. This organism partly names a text that inspired Nichiren and Tendai Buddhism with its discussion of *upaya*, or "skillful means" by which all people can achieve Buddhahood.

ANSWER: **lotus** flower [or **Nelumbo** *nucifera*; accept the **Lotus Sutra** or Saddharma **Pundarika** Sutra; accept **Lotus Temple**]

<Wasserman>

9. This quantity's shear form measures the resistance of a fluid to shearing forces. For 10 points each:

[10] Name this quantity, the resistance of a fluid to flow. The Navier-Stokes equations are solvable when it equals zero.

ANSWER: **viscosity**

[10] This equation, which can be derived from the Navier-Stokes equations, models the drop in pressure in a fluid flowing in a cylindrical pipe. It assumes that fluids are incompressible and experience laminar flow, causing it to fail for fluids moving rapidly or through large pipes.

ANSWER: Hagen-**Poiseuille** equation [or Hagen-**Poiseuille** law]

[10] In the Poiseuille equation, the drop in pressure varies as the radius of the pipe raised to this power.

ANSWER: **negative fourth** [or **inverse fourth**, do not accept or prompt on "fourth"]

<Nutter>

10. This piece opens with the movement "Of Foreign Lands and Peoples" and closes with "The Poet Speaks". For 10 points each:

[10] Name this cycle of piano pieces that includes the movement "Träumerei", or "Dreaming".

ANSWER: Kinderszenen [or Scenes from Childhood]

[10] *Kinderszenen* is by this German Romantic composer, the husband of Clara Wieck, who portrayed his alter egos Eusebius and Florestan in his *Carnaval*.

ANSWER: Robert Schumann

[10] This Schumann song cycle is setting of poems from Heine's *Lyrisches Intermezzo*. It opens with a description of the buds blossoming in May and ends with the poet burying his songs in a coffin.

ANSWER: Dichterliebe [or The Poet's Love]

<Lawrence>

11. The name for these institutions comes from a term for the part of the flour that a miller kept after grinding the corn. For 10 points each:

[10] Identify these factories that sprang up as part of the Border Industrialization Program in the 1960s in Northern Mexico.

ANSWER: maquiladoras [or maquila]

[10] Critics of this treaty argued that maquiladoras were damaging the environment and stealing US jobs. Signed in 1992, this treaty reduced most tariffs between the United States, Mexico and Canada.

ANSWER: NAFTA [or North American Free Trade Agreement]

[10] China had its own period of economic liberalization in the 1980s, setting up these administrative regions that relaxed the restrictions of the command economy. They include Zhuhai, Shantou, and Shenzhen.

ANSWER: Special Economic Zones [or jingji tequ or anything that sounds vaguely like that]

<Bentley>

12. This character and Friar John establish the monastic rule "Do What Thou Wilt" at the Abbey of Thélème, which they build after defeating the forces of Lord Picrochole. For 10 points each:

[10] Identify this literary character, the son of Grandgousier. In another scene, he drowns thousands of Parisians, though his adventures are later eclipsed by those of his own son.

ANSWER: Gargantua

[10] Gargantua and his son Pantagruel were created by this sixteenth-century French author. Their adventures were published under his anagrammatic pseudonym Alcofribas Nasier.

ANSWER: François Rabelais

[10] This Russian critic analyzed *Gargantua and Pantagruel's* use of the carnivalesque and the grotesque in his *Rabelais and his World*. His other critical works include *Problems of Dostoevsky's Poetics* and *The Dialogic Imagination*.

ANSWER: Mikhail Mikhailovich Bakhtin

<Carson>

13. One character in this opera rejoices in the name of her beloved in "Caro Nome". For 10 points each:

[10] Name this opera, whose title character, a hunchbacked jester, fears that his daughter, Gilda, will become the conquest of the Duke of Mantua, who sings "*La donna e mobile*".

ANSWER: Rigoletto

[10] *Rigoletto* is by this Italian opera composer of *Aida*.

ANSWER: Giuseppe (Fortunino Franceso) Verdi

[10] *Aida* was one of the major roles for this African-American Verdi soprano who recorded it twice, once in 1962 led by Georg Solti and once in 1970 led by Erich Leinsdorf.

ANSWER: (Mary Violet) Leontyne Price

<Lawrence>

14. The inability to put together information about a visual scene, or simultanagnosia, is part of Balint's Syndrome, which is caused by bi-lateral damage to this region. For 10 points each:

[10] Name this portion of the brain that contains the primary somatosensory cortex and is concerned with integrating sensory information. This lobe is located on the top of the brain.

ANSWER: **parietal** lobe

[10] Another portion of the parietal lobe is a "stream" of visual input described by this adjective. Objects described by this anatomical adjective are found closer to the back of the body, as opposed to ventral.

ANSWER: **dorsal**

[10] Around 5% of incidences of this condition arise from the parietal lobe. The most familiar variety is characterized by seizures resulting from exposure to flashing lights.

ANSWER: **epilepsy** [or **epileptic** seizures]

<Gupta>

15. Paul Barras introduced this woman to her second husband. For 10 points each:

[10] Identify this first wife of Napoleon Bonaparte.

ANSWER: **Josephine** Bonaparte [or Marie-Josèphe-Rose Tascher **de La Pagerie** or Vicomtesse de **Beauharnais**]

[10] Josephine Bonaparte spent time on this Caribbean island while separated from her first husband, Alexandre de Beauharnais. It was once ruled by Jacques-Dyél du Parquet, and in 1902 around thirty thousand people died on this island when Mount Pelee erupted.

ANSWER: **Martinique**

[10] Napoleon divorced Josephine for this niece of Marie-Antoinette and daughter of Francis I of Austria. She served as regent during Napoleon's Russian campaign.

ANSWER: **Marie Louise, Duchess of Parma** [accept either underlined answer; or **Maria Ludovica** Leopoldina Franziska Therese Josepha Lucia von Habsburg-Lothringen or **Marie-louise** -léopoldine-françoise-thérèse-joséphine-lucie or **Maria Luigia** D'asburgo-lorena or **Duchessa Di Parma**, Piacenza, E Guastalla]

<Bentley>

16. This author wrote three collections about the 11-year-old troublemaker Penrod Schofield and a novel whose title character, who is really the nephew of King Louis XV of France, disguises himself as a barber named Victor. For 10 points each:

[10] Identify this author of *Monsieur Beaucaire* who depicted three generations of an upper-class Indianapolis family in his magnum opus, *The Magnificent Ambersons*.

ANSWER: Booth **Tarkington** [or Newton Booth **Tarkington**]

[10] Tarkington won Pulitzers for both *The Magnificent Ambersons* and this novel, whose protagonist enrolls in Frincke's Business College after her father Virgil's prospective glue factory fails and is bought out by J.A. Lamb.

ANSWER: **Alice Adams**

[10] Tarkington mocked critics who referred to 19th-century American authors as "Victorians" in his introduction to a 1933 edition of this Mark Twain novel, whose title character rafts down the Mississippi with a slave named Jim.

ANSWER: *The Adventures of* **Huckleberry Finn** [or **Huck Finn**]

<Bentley>

17. The Bribri Indians live in this country's Cordillera de Talamanca, part of which is protected in La Amistad National Park. For 10 points each:

[10] Name this country that is also home to hundreds of orchid species in the Monteverde Cloud Forest Reserve.

ANSWER: Republic of **Costa Rica** [or Republica de **Costa Rica**]

[10] The Cordillera de Talamanca runs near the border between Costa Rica and this neighboring country to the south, which is located on a namesake isthmus.

ANSWER: Republic of **Panama** [or Republica de **Panama**]

[10] A "gap" named for this region of Panama is the only section of the Pan-American highway that remains incomplete. This region, which separates Central and South America, is home to the Choco people.

ANSWER: **Darien** Region [or **Darien** Province]

<Bentley>

18. For 10 points each, answer the following about paintings created by Edward Hopper.

[10] Two men and a woman in a red dress sit at a counter in a diner in this iconic 1942 painting by Hopper.

ANSWER: **Nighthawks** [do not accept "The Nighthawks"]

[10] Hopper exhibited several paintings at this 1913 art exhibition in New York, planned by Arthur B. Davies to expose Americans to modern art from Europe.

ANSWER: the **Armory Show** [or the 1913 **International Exhibition of Modern Art**; do not accept or prompt on "Auschwitz"]

[10] Another Edward Hopper painting shows a bald man tending one of three red machines at this type of store. That store is on a deserted road and has a sign showing a red, winged horse.

ANSWER: a **gas station** [or **Gas**; or **filling station**; or **petrol station**; or **petrol pump**; or **gas pump**]

<Berend>

19. This deity gives Odysseus the moly plant to protect him against Circe's magic, and steals Apollo's cattle when he was only a day old. For 10 points each:

[10] Name this wielder of the snake-wrapped *caduceus* staff, who wears a winged helmet in his role as messenger of the gods.

ANSWER: **Hermes** [accept **Mercury**]

[10] This grandson of Hermes was born to Hermes's thieving son Autolycus. Penelope weaves and unweaves a burial shroud for this man to keep away suitors during Odysseus' voyage.

ANSWER: **Laertes**

[10] This Aztec god shared a role with Hermes in that they both guided dead souls to their respective underworlds. This god, one from a set of twins, is often shown with a dog's head.

ANSWER: **Xolotl**

<Silverman>

20. It was first inferred after Fritz Zwicky applied the virial theorem to the Coma Cluster and couldn't account for missing mass. For 10 points each:

[10] Name this mysterious substance, a type of matter that fails to interact with any form of electromagnetic radiation in the universe, but which still has discernible gravitational properties.

ANSWER: **dark** matter

[10] This type of dark matter travels at ultrarelativistic speeds. The most probable candidate for this type of dark matter is the neutrino.

ANSWER: **hot** dark matter

[10] Using mass to light ratios, Zwicky inferred the existence of dark matter specifically because galaxies were doing this faster than the predicted rate as the distance from the center of the galaxy increases.

ANSWER: **rotation** [accept word forms or equivalents like **spinning**; prompt on amusing answers like "moving"]

<Jose>

21. The active form of insulin has three of these bonds. For 10 points each:

[10] Name this type of covalent bond.

ANSWER: disulfide bridges [or disulfide bonds; or S-S bond; or sulfur-sulfur bond]

[10] Disulfide bridges form between two of these amino acids, the only ones, other than methionine, to contain sulfur

ANSWER: cysteine

[10] One of the non-standard amino acids can be formed by replacing the sulfur in cysteine with this element.

ANSWER: selenium

<Morlan>

22. The title creatures in this poem are always saying, "Come buy, come buy", hawking "grapes fresh from the vine, / Pomegranates full and fine". For 10 points each:

[10] Identify this Christina Rossetti poem in which Lizzie helps redeem her sister Laura by refusing to indulge in the proffered goods.

ANSWER: "Goblin Market"

[10] Christina Rossetti wrote the text for "In the Bleak Midwinter", which celebrates this holiday. A novella titled for this holiday contains characters like Jacob Marley and Ebenezer Scrooge.

ANSWER: Christmas Day [or A Christmas Carol; accept Noel or Nativity or Xmas]

[10] This other Victorian poet lamented that "I...lay wrestling with (my God!) my God" in "Carrion Comfort", one of his "terrible sonnets". In another poem, he described the fate of "five Franciscan nuns" who perish after their ship collides with the Kentish Knock.

ANSWER: Gerard Manley Hopkins

<Bentley>

23. This building was built on a filled-in lake in the *Domus Aurea* of Nero, whose nearby statue gave this building its most common name. For 10 points each:

[10] Name this building east of the Roman Forum that was also known as the Flavian Amphitheatre. It was the largest gladiatorial arena in the city.

ANSWER: Colosseum [or Flavian Amphitheatre and Amphitheatrum Flavianus before mention]

[10] This emperor, the lover of the Jewish queen Berenice, opened the Colosseum. Vesuvius erupted during the reign of this emperor, who as a general under Vespasian destroyed the Second Temple.

ANSWER: Titus Flavius Caesar Vespasianus Augustus

[10] The phenomenon of the Colosseum was described in *De Spectaculis* by this Roman author from Carthage. This author of the *Apologeticus* is often considered the father of Latin Christianity, to which he introduced the concept of the Trinity.

ANSWER: Quintus Septimius Florens Tertullianus

<Liao>