



ACADEMIC COMPETITION FEDERATION

2014 ACF NATIONALS
FINALS 2 BY THE EDITORS

TOSSUPS

1. The speaker of this poem predicts that “power of some sort will go on / In games, in riddles, seemingly at random,” at a location where he wonders if “dubious women [will] come to make their children touch a particular stone” or “on some advised night see walking a dead one.” In the second stanza of this poem “the echoes snigger loudly” when the speaker “pronounces / ‘Here endeth’ much more loudly than I’d meant.” This poem describes a location “in whose blent air all our compulsions meet, are recognized, and robed as destinies,” where the speaker notes “though I’ve no idea / What this accoutred frowsty barn is worth, / it pleases me to stand in silence here.” The speaker of this poem claims, “someone will forever be surprising / A hunger in himself to be more serious” at the title location “which, he once heard, was proper to grow wise in, / If only that so many dead lie round.” The speaker of this poem ends the title activity reflecting “the place was not worth stopping for” after mounting the lectern and feeling the baptismal font. For 10 points, name this Philip Larkin poem about an agnostic visiting a Christian house of worship.

ANSWER: “CHURCH GOING”

2. In two dimensions, the components of the force generated by this process on a body are related to each other via a complex integral according to the Blasius theorem. During this process, the lift per unit area is given by the density times the free-stream velocity times the circulation, according to the Kutta-Joukowski theorem. If skin drag is not taken into account, it can be shown that when this condition holds, a moving body experiences no drag, a situation known as d’Alembert’s paradox. Under the conditions of inviscid, barotropic flow with conservative body forces, Kelvin’s theorem guarantees that flow which starts out with this property will always preserve it. In this type of flow, the velocity can be written as the gradient of a scalar function, and a form of Bernoulli’s equation can be defined for a non-steady flow only if the flow has this property. For 10 points, identify this type of fluid flow characterized by the vanishing curl of the velocity field, the vorticity.

ANSWER: IRROTATIONAL flow [accept equivalents like ZERO VORTICITY flow before mention]

3. In this painting the Latin phrase “Ecce ancilla domini” is written upside down so the Lord can read it from above. The main figures in this painting stand on top of the zodiac signs for Aries and Virgo, which decorate the borders of wooden floor tiles that depict Old Testament scenes including Samson destroying the temple and David slaying Goliath. The setting of this painting transitions from Romanesque rounded arches on the top floor to Gothic pointed arches on the bottom floor. An empty red stool on its lower right-hand corner symbolizes a prepared throne waiting for the main female, who is probably modeled on Isabella of Portugal, the wife of Phillip the Good, and stands beside a crowned angel with rainbow wings inside a church where they seem disproportionately large compared to the scale of the architecture. In this painting, seven rays of light and the dove of the Holy Spirit descend on the Virgin Mary. For 10 points, name this Jan van Eyck painting of the biblical scene where the angel Gabriel proclaims the birth of Christ.

ANSWER: The ANNUNCIATION

4. Encouraged by his own speech impediment, this man built a device out of wood and leather that was capable of pronouncing the /a/, /b/, /p/, and /m/ sounds. Enraged that there was no school that would accept his two illegitimate daughters, this man set one up himself in Ashbourne. This man was savaged in “The Loves of the Triangles,” which spoofed on an amazing erotic drama he wrote about flora in support of Carolus Linnaeus’s taxonomic system, titled *The Loves of the Plants*. In her introduction to *Frankenstein*, Mary Shelley pointed to this man’s experiments as the real-life inspiration for the book. His belief that gases could be applied to treat infections appears in his magnum opus, the *Zoonomia*, which contains several proto-Lamarckian ideas. For 10 points, name this larger-than-life English physiologist, who was both the grandfather of Fran-

cis Galton and the grandfather of the author of *The Origin of Species*.

ANSWER: ERASMUS DARWIN [prompt on DARWIN]

5. A general description of this conflict is acceptable. This conflict was said to originate with a newspaper posting that read: "We make no pompous display of Philanthropy. We say this unequivocally - Self Defence is the First Law of Nature." A book detailing first-hand "reminiscences" of this conflict was written by Henry James Emmett. A campaign known as the "Great Drive" in this conflict involved forming a chain of humans reportedly 30 miles in length, which moved forward for six weeks. The resolution to this conflict was conceived by bricklayer George Augustus Robinson, called "the Conciliator" for opposing the harsh policies of Lieutenant-Governor George Arthur, who used "slaughter parties" to cordon off the area of Eaglehawk Neck after declaring martial law. Robinson founded the "Wybalenna Establishment" in order to relocate the losing side in this war to Flinders Island, where they quickly died out. For 10 points, name this conflict which saw Europeans expel the native population of Van Diemen's Land.

ANSWER: the BLACK WAR [or any answer specifying a war with the ABORIGINAL peoples of TASMANIA or VAN DIEMEN'S Land before that is mentioned; must specify TASMANIA if a general description is given]

6. This book analogizes the main character's situation to a man hoping to learn the guitar from his boss who offers to teach him, charging three dollars for the first lesson, two for the second, one for the third, and a quarter for the fourth. The narrator compares his struggles to the Israelites who had to "make bricks without straw" after pawning his ring to buy supplies to mold bricks, which he believes develops moral character. In a chapter titled "The Force That Wins," the protagonist is invited to act as the "house father" in a building of seventy-five Indian youth by his mentor General Samuel C. Armstrong. This work's final chapter, "Last Words," recounts Charles Norton inviting the protagonist to receive an honorary degree from Harvard. Governor Bullock rushes on stage to embrace the narrator after he gives a speech beseeching "cast down your bucket where you are" at the Atlanta Exhibition, which was dubbed the "Atlanta Compromise" by W.E.B. Dubois. For 10 points, name this 1901 autobiography that has several chapters about the Tuskegee Institute, written by Booker T. Washington.

ANSWER: UP FROM SLAVERY

7. In the opening section from *Beyond Good and Evil*, "On the Prejudices of Philosophers," Nietzsche argues that along with "immediate certainty," and "absolute knowledge," this concept represents a contradiction. Otto Liebmann's seminal work on the originator of this concept argued that this concept must be abandoned in order to preserve the philosophical system developed by its originator. In an appendix to his own *David Hume on Faith*, Friedrich Jacobi criticized this concept by claiming that without it, he was unable to understand its originator's system, but with it, he could not remain within that system. Book II, Chapter 18 of Schopenhauer's *World as Will and Idea* is titled after the "Possibility of Knowing," this concept, which in much of Schopenhauer's work is typically identified with the Will or an aspect of it. The work in which this concept first appears repeatedly claims that this concept is unknowable through "mere relations" or "external sense," which only provides us with a representation. For 10 points, identify this concept developed in Kant's *Critique of Pure Reason* which is sometimes identified with the *noumenon* and is distinguished from the *phenomenon*, or things as they appear to us.

ANSWER: THING-IN-ITSELF or DING AN SICH [prompt on "noumenon" before mention]

8. This chemical activates guanylyl cyclase D, and no other protein in the GC family, in olfactory neurons. Children with Fanconi syndrome are treated by giving them this chemical to replace reserves lost in the body. A cyanobacterial transport protein for this ion, CmpA, is highly homologous to the human protein NrtA. This ion is extruded from red blood cells via the activity of the Band 3 protein. This is the more massive of two ions that is administered to treat severe aspirin overdoses. Centroacinar cells secrete a solution of this ion in response to the duodenal hormone secretin. Chronic pancreatitis is usually diagnosed by noticing a decrease in the excretion of this ion. The body's inability to form this ion is a major cause of metabolic acidosis. After carbonic anhydrase catalyzes the production of carbon dioxide and water, the products interconvert into this anion and hydrogen. For 10 points, name this anion that is crucial to the body's pH buffering system.

ANSWER: BICARBONATE ion [or HCO₃⁻; or HYDROGEN CARBONATE; do not accept or prompt on "carbonate"]

9. The first bishop to be named to this city was Ludiger, while another of its early bishops Erpho created a namesake cathedral. During a time when this city was ruled by both a town council and the bishop Franz von Waldeck, an insurrection was led by the preacher Bernard Rothmann and the merchant Bernard Knipperdolling, who ran its printing press. Rothmann pro-

claimed this city to be the “New Jerusalem,” but that revolt ended when its leaders had their bodies torn apart with coal-heated tongs, and then publicly displayed in three iron cages built on top of the steeple of St. Lambert’s Church in this city. Much later on, Clemens von Galen was called the “Lion” of this city for leading Catholic resistance to Nazis. A polygamous theocracy was set up in this city by John of Leiden, the Anabaptist leader who spearheaded the Protestant rebellion named for this place in 1534. Along with the town of Osnabruck, this was the city where the Peace of Westphalia was concluded. For 10 points, name this northern German city which shares its name with a province of Ireland.

ANSWER: MUNSTER

10. A religious movement based in this nation worships the mountain god Saman, who has a moss-covered rock sculpture carved in his honor at Weligama. Another holy site in this nation is the Dambulla cave temple, home to a set of monastic shrines and a megalithic cemetery at Ibban-katuwa. Christian traditions say that St. Thomas ascended to heaven in this nation after baptizing a king, while a Muslim legend says that Adam stood on one leg for a thousand years in this nation as penance. This country is home to a certain item that Arahath Khema allegedly stole from a funeral pyre, and then had smuggled to this place in the hair ornament of the princess Hemamala. Pilgrims to this country might visit the aforementioned sites like Adam’s Peak or the Temple of the Sacred Tooth Relic of the Buddha. They also may visit this country’s mystical island of Taprobane. For 10 points, name this island nation home to several religious sites in the city of Kandy.

ANSWER: SRI LANKA

11. Richard Crooks teamed up with Frank LaForge to produce one of the earliest complete recordings of this composition, though a version of that recording without missing titles was not made public until 1997. A later piano and flute piece, that thematically draws on an E minor portion of this work, is the *Variations* that the composer wrote for his friend Ferdinand Bogner. The first fortissimo chord of this composition doesn’t appear until halfway through, during the D major portion “Mein!” Another part of this composition contains an omnipresent F-sharp, which represents the color green. One song in this cycle draws upon Beethoven’s *Adelaide* to express the main character’s desire for flowers to sprout from his grave. Throughout this cycle, the piano imitates the sounds of a paddle-wheel, a hunter’s horn, and the burbling of a brook, the last of which sings a lullaby after the spurned protagonist drowns himself. It opens with “Das Wandern” and depicts a journeyman as he wanders the countryside and falls in love with the title girl. For 10 points, name this song cycle by Franz Schubert, which like his later *Winterreise* is based on poems by Wilhelm Muller.

ANSWER: Die SCHÖNE MÜLLERIN, Op. 25, D. 795 [or The MAID IN THE MILL; accept things like The WOMAN OF THE MILL as well]

12. An essay about this concept describes a letter from an old lady in California that chided the author because “when the tired reader comes home at night, he wishes to read something that will lift up his heart” and that essay argues this concept is critical for resisting the “tired reader.” One essay argues the author writing in this tradition is the “realist of distances” who approaches fiction with “prophetic vision” that “sees far things close up.” Thomas Mann called this term the “genuine anti-bourgeois style,” and one novelist wrote that someone turns into this thing “the moment . . . [he] took one of the truths to himself, called it his truth, and tried to live his life by it.” Bakhtin argued that this type of realism was the literary mode of the “carnavalesque,” and a well-known essay on “some aspects” of this mode in Southern fiction was written by Flannery O’Connor. Sherwood Anderson wrote about an old writer watching a procession of these types of figure in the opening chapter of *Winesburg, Ohio*, which is titled for “The Book” of this term. For 10 points, name this term for deformed figures that, along with “Arabesque,” titles a collection of Poe’s “tales.”

ANSWER: GROTESQUE

13. One consequence of this experimental result, which is not the theory of inflation, is that the brightest spots of the cosmic microwave background are about a degree across in angular size. The location of the largest peak in the CMB power spectrum at an index of about 200 is experimental evidence for this result. This result, first suggested by Robert Dicke in a series of public lectures, is explained by the equation which gives density as a product of the scale factor and the inverse of the critical density ratio minus one; therefore, as the scale factor grows, constant density drives the ratio to 1, explaining this fact, which along with the horizon problem was the main motivation for Alan Guth’s inflationary hypothesis. The aforementioned location of the CMB power spectrum peak indicates that the density of the universe is equal to the critical density because the energy density associated with the curvature term is zero, thereby demonstrating this fact. For 10 points, identify this statement according to which the global curvature of the universe is also zero, meaning that it is neither open nor closed.

ANSWER: FLATness of the universe [accept anything that indicates that universe is flat, or has zero curvature before the word “curvature” is mentioned]

14. Like the geographer Pausanias, this historian wrote about an oracle which said “Wreathed is the bull. All is done. There is also the one who will smite him,” foretelling that a certain man would be assassinated with a Celtic dagger while wearing a garland outside the entrance to a theatre. He relied upon the writing of Agatharcides to give a famously detailed description of gold mining in ancient Nubia, as practiced by chained slaves, and he wrote that he personally witnessed the lynching of a Roman man in Egypt for killing a holy cat under the reign of Ptolemy XI Auletes. He’s the only source on the Battle of Chaeronea and the stabbing of Philip II of Macedon at his daughter’s wedding. This historian from Agyrium is known for a work in forty books which runs from ancient times through the Gallic Wars of Caesar, though none of the books after 20 survive in toto. For 10 points, name this author of the *Bibliotheca Historica*, or *Library of World History*, whose surname refers to the fact that he was born on Sicily.

ANSWER: DIODORUS Siculus [or Diodorus of Sicily]

15. A computational “three-embedded-component” theory of this phenomenon was formulated by Oberauer. Jonides and Smith formulated a theory of this phenomenon on the basis of PET imaging known as the “mind and brain” model. A series of experiments involving reading comprehension led Daneman and Carpenter to formulate a theory of individual differences with respect to this psychological phenomenon; that theory in turn led another theorist of this phenomenon to introduce the concept of the episodic buffer. A multicomponent theory of this psychological phenomenon in which a central executive directs attention while storage is handled by the visuo-spatial sketchpad and the phonological loop was formulated by Hitch and Baddeley. An “embedded process” theory of this phenomenon as “cognitive processes that are maintained in an unusually accessible state” was formulated by Cowan, who argued that this phenomenon had a storage capacity of about four items. For 10 points, identify this psychological capability to store, retrieve, and manipulate information over a short period of time.

ANSWER: WORKING MEMORY [prompt on partial answers or on “short-term memory”]

16. In an instance of coloratura from this opera, one character sings the word “arrogance” once over sixty measures. Having been addressed with the word “mio caro,” this opera’s antagonist sneezes to signal a man to leave, becoming furious when that man misses his cue. In its Haydn-inspired overture, a series of quiet pizzicato basses is followed by a sudden loud sound played by the whole orchestra. The tenor in this opera sings the unhappy cavatina “Languir per una bella.” One character in this opera dupes another into believing that he will join a society of model husbands who eat and stay silent, in its “Pappatacci Trio.” Its female lead sings the mournful aria “Cruda sorte” after getting caught in a shipwreck and being taken prisoner, but soon joins forces with Taddeo, who is obviously in love with her. Growing bored of his wife Elvira, this opera’s antagonist Mustafa searches for a younger, European addition to his harem. For 10 points, name this Rossini opera in which Isabella travels to North Africa to rescue her lover Lindoro.

ANSWER: L’ ITALIANA IN ALGERI [or The ITALIAN GIRL IN ALGIERS; accept synonyms for girl, such as WOMAN]

17. One member of this family dates a girl who changed her name to Marianne Droste when her birth mother tried to reclaim her from her adopted parents despite thirteen years earlier hanging her younger brother and trying to hang her. The proverb “Their right hand is full of bribes” is repeated throughout the novel as this family’s unofficial motto. Lenore works as a secretary for a member of this family who only spends one hour a day in his office and leaves instructions that he is only available to five people. A female member of this family takes a tour of “Roman children’s graves” on the day of her grandfather’s 80th birthday when another member steals a pistol from a gardener and escapes a mental asylum to assassinate Old Wobbly, but shoots the wrong person. The patriarch of this family has eaten a special breakfast of paprika cheese every morning at Café Kroner since winning a contest to design St. Anthony’s Abbey, which is later demolished by his son Robert who plays a certain game every morning at the Prince Heinrich Hotel. For 10 points, name this family of architects from Heinrich Boll’s *Billiards at Half-Past Nine*.

ANSWER: FAEHMEL family

18. This chemist used o-nitrocinnamic acid as the starting material for a process involving that molecule’s dibromide as a derivative, in order to replace an unfeasible process that applied phosphorus pentachloride to the expensive isatin. This chemist first synthesized a compound by adding zinc chloride to precipitate a Friedel-Crafts reaction between resorcinol and phthalic anhy-

dride. This chemist's reagent, an alkaline solution of potassium permanganate, is qualitatively used to test for the presence of unsaturation. He accounted for the unusual reactivity of cyclopropane and cyclobutane ring-opening reactions, and explained the difficulty of making rings with seven carbons or more, by proposing the earliest instance of ring strain theory. Because its discovery took place on the feast day of St. Barbara, this synthesizer of fluorescein bestowed the name "barbituric acid" on the parent compound of barbiturates. He is the first namesake of a reaction in which disodium phosphate and mCPBA oxidize ketones to esters. For 10 points, name this German organic chemist who synthesized indigo dye, and co-names an oxidation with Victor Villiger.

ANSWER: Johann Friedrich Wilhelm Adolf von BAEYER

19. This character brings out a gold-decked chariot yoked by four brand-new steeds, but the horses eventually get crushed by a mace. In an earlier appearance, he throws out a dark smoke that not only renders him invisible, but also mutes the sounds of his weapons and footsteps. This character demoralizes one of his opponents by fashioning an image of his wife, then conspicuously grabbing her hair and decapitating her. Weapons wielded by this character include a trap made of a million snakes and a magic missile granted by Brahma, who refuses to make him immortal and changes his name from Meghanatha. Hanuman sets out to gather an herb to heal a grievous wound this character inflicted on an enemy who eventually overcomes him with the help of Vibhishana, who finds out that the yagna ritual is this demon's source of immortality. This demon arrives to avenge his uncle Kumbhakarna, but is bested by Lakshmana after three days of combat. For 10 points, name this son of Ravana, a rakshasa named for his superiority over the storm god.

ANSWER: INDRAJIT [or MEGHANATHA before mentioned; or MEGHANAAD before mentioned; or even CONQUEROR OF INDRA or synonyms; do not accept or prompt on "Indra" or other wrong answers]

20. The first casualty of this event may have been Robert Bathurst, who was mauled to death with weapons obtained from Hutchinson's general store, after which Wallace's Tavern was occupied. A firsthand account of it was written by Lieutenant governor William Bull, who was out joy-riding on horseback and witnessed a column of men singing and banging drums, holding a banner that read "Liberty." Its participants were probably trying to reach Fort Mose, a rumored safe haven, but met their end at the Battle of Edisto River after marching for hours down Pon Pon Road. The militia then hired Catawba Indians to track down survivors of this uprising, who were mostly from the Kingdom of Kongo. Its leader was known as Cato, though his common name was Jemmy. For 10 points, name this revolt in South Carolina, which was the largest rebellion of slaves prior to the American Revolution, and was named for a river near Charleston.

ANSWER: STONO River Rebellion [or just Stono Rebellion, or Cato's Conspiracy or Cato's Rebellion - before the word "Cato" is mentioned]

TIEBREAKER

21. In the midst of this conflict, controversy erupted when a document ended up in the hands of the enemy suggesting that General Charles Mast be named high commissioner - that document, the Revers Report, caused a scandal called the Generals' Affair. A peace delegation led by Paul Mus failed to avert this conflict, when hostilities arose over who was allowed to collect customs dues under the Fontainebleau Agreement, resulting in arrest of three customs officials. One party tried to garner international support by issuing the Elysée Accords. That party then turned over command to its general Jean de Lattre, who set up a namesake Line of fortifications prior to fighting at the Battle of the Day River during a key counteroffensive in this conflict. The end of this war saw Operation Castor, which was followed by the failure of Christian de Castries to defend fortified zones like Gabrielle and Beatrice. FTP, name this war ended in 1954 with the Geneva Accords and the Battle of Dien Bien Phu, in which the Viet Minh struggled against the French in the namesake region.

ANSWER: First INDOCHINA WAR [or FIRST INDOCHINESE War, or "FRENCH WAR WITH VIETNAM" and related answers that specify France and Vietnam]

BONUSES

1. Name these related mythological doofuses, for 10 points each.

[10] This Elean king trailed dried skins and cauldrons behind his chariots to simulate thunder and lightning, fooling his subjects into thinking he was Zeus. He got thunderbolted by the real Zeus for his trouble.

ANSWER: SALMONEUS

[10] This sister of Salmoneus was forced by Aeolus to kill herself after her baby born of incest and out of wedlock cried, proving that it was, in fact, a baby and not a sacrificial offering in an unassuming basket.

ANSWER: CANACE

[10] This brother of Salmoneus and Canace is best known for being forced to roll a boulder up a hill for all eternity after pissing the gods off multiple times.

ANSWER: SISYPHUS

2. In its third act the stage manager interrupts the play to announce several actors have caught food poisoning and will be replaced by volunteers he has recruited, including a dresser and a janitor. For 10 points each:

[10] Name this play whose first act is set in New Jersey during an Ice Age when a glacial wall is spreading over the continent. It opens in the home of the Antrobus family where George has just invented the wheel.

ANSWER: The SKIN OF OUR TEETH

[10] In *The Skin of Our Teeth*, this maid is George's former mistress and tries to seduce him again after winning a beauty pageant in the second act under the name Miss Fairweather. Her name is a composite of a biblical temptress and a scene from classical history.

ANSWER: LILLY SABINA [accept either name]

[10] In the second act, the Antrobus family comes to Atlantic City to see George's inauguration as president of the Ancient and Honorable Order of this group, "Subdivision Humans."

ANSWER: MAMMALS

3. The Giubas-Stolfi algorithm is a divide-and-conquer algorithm that accomplishes this task. For 10 points each:

[10] Identify this task, in which edges are drawn between points of a point set in order to subdivide the set into simplexes in such a way that a circle can be drawn which contains the edge endpoints but no other point of the set. This task is the dual of the Voronoi diagram.

ANSWER: DELAUNAY triangulation

[10] The problem of Delaunay triangulation is identical to the problem of finding this structure for a set of lifted points of the original point set. For a point set, this structure is the set of all points that contain the original set such that any line between any of those two original points is also in the structure.

ANSWER: CONVEX HULL

[10] Decomposition into simplexes is one of the many ways for computing this value for a polytope of arbitrary dimension. For a three-dimensional parallelepiped, this value is given by the magnitude of the dot product of the one edge vector with the vector produced by the cross product of the other two edge vectors.

ANSWER: VOLUME

4. Answer some things about the political career of David Lloyd George, for 10 points each. .

[10] Lloyd George became known as a champion of this proposal under H.H. Asquith, which was adopted in 1910. It imposed a number of taxes on the upper classes in England to fund government welfare programs, though the land tax proposal could not be pushed through.

ANSWER: the PEOPLE'S BUDGET

[10] Lloyd George was, of course, at the Paris Peace Conference in 1919, where he often clashed with this French statesman known as the Tiger, who was another member of the Big Four.

ANSWER: Georges CLEMENCEAU

[10] Lloyd George's fall from power was caused partly by the crisis named for this Turkish city on the Hellespont, where British troops were put under threat of attack by Turks in 1922.

ANSWER: CHANAK [Canakkale]

5. Answer some things about landmark works of Christian apologetics, for 10 points each.

[10] This 1908 book by G.K. Chesterton was intended as a companion to his earlier book of essays *Heretics*. Its nine chapters, including “The Ethics of Elfland,” describe how Chesterton discovers that Christianity is the only reasonable worldview because it satisfies the double spiritual need for adventure and security.

ANSWER: ORTHODOXY

[10] This guy wrote about reconciling human suffering with Christianity in his *The Problem of Pain*, though he’s better known for apologetic works like *Mere Christianity* and *The Screwtape Letters*.

ANSWER: Clive Staples LEWIS

[10] This evangelical Presbyterian pastor is known for establishing L’Abri, a religious community in the Swiss Alps, together with his wife Edith. A “pre-suppositionalist” theologian, this American published a boatload of works, including *How Should We Then Live?* and *A Christian Manifesto*, before he croaked in the 1980s.

ANSWER: Francis August SCHAEFFER

6. John Gardner wrote “Tomorrow Shall be My Dancing Day” and many other Christmas carols for this school. For 10 points each:

[10] Name this girl’s school that was honored in a suite whose first movement jig alternates between 9/8 and 6/8 time, written by a composer who toiled in its soundproof studio room as its director for nearly 30 years.

ANSWER: ST. PAUL’s Girl’s School

[10] This English composer of the *St. Paul’s Suite* went through a period of intense interest in Indian mythology and culture before composing his most famous suite, *The Planets*.

ANSWER: Gustav (Theodore) HOLST [or Gustavus Theodore VON HOLST]

[10] Holst later composed a *Choral Fantasia* for this annual musical festival where Ralph Vaughan Williams furthered his career by premiering his *Fantasia on a Theme by Thomas Tallis*. Mendelssohn’s *Elijah* is a fan favorite at this festival, which is alternately held in cathedrals at Hereford, Gloucester, and Worcester.

ANSWER: THREE CHOIRS Festival

7. For an even-dimensional differentiable manifold, this term designates a nondegenerate 2-form on the manifold. For 10 points each:

[10] Identify this term from differential geometry. A function defined on a manifold designated by this term has a differential 1-form with a tangent vector associated to it at every point, yielding a Hamiltonian vector field; defining the 2-form via the external derivative of differentials of momentum and position connects this type of manifold to classical mechanics.

ANSWER: SYMPLECTIC

[10] A Hamiltonian phase flow preserves symplectic structure, which is equivalent to this theorem, according to which the phase-space density of a Hamiltonian system is unchanged with time.

ANSWER: LIIOUVILLE’s theorem

[10] Constants of the motion in Hamiltonian dynamics have this relationship to the Hamiltonian under the Poisson bracket. Matrix multiplication does not obey this relationship, but addition in Abelian groups does.

ANSWER: they COMMUTE [accept word forms]

8. This character is called the Ragged Knight of Sorry Countenance when he’s first encountered living in the wildest outskirts of the Sierra Morena mountains. For 10 points each:

[10] Name this character who tells a story of how he was driven insane by the betrayal of his wife Lucinda who leaves him to marry the Duke’s son Don Fernando.

ANSWER: CARDENIO

[10] Cardenio’s tragic tale is one of many tangential stories that color the perception of this character who believes that a barber’s basin is the Helmet of Mambrino and the peasant woman Dulcinea is an ideal princess.

ANSWER: Don QUIXOTE

[10] Don Quixote starts his chivalric quest to imitate this literary knight-errant whose story he calls “the best of all books.” Quixote rashly confronts two lions to re-enact one of his adventures.

ANSWER: AMADIS of Gaul [or AMADIS de Gaula]

9. In 1995, this union merged with the Amalgamated Clothing and Textile Workers’ Union to form the Union of Needletrades,

Industrial, and Textile Employees. For 10 points each:

[10] Name this union first formed in 1900, which led revolts like the “Uprising of 20,000” consisting of Jewish immigrants such as Clara Lemlich, who protested the conditions of females like herself in sweatshops.

ANSWER: INTERNATIONAL LADIES’ GARMENT WORKERS Union [or ILGWU]

[10] The defining moment in the early history of the ILGWU was the 1911 fire at this factory located in the Asch Building in New York City.

ANSWER: TRIANGLE SHIRTWAIST Factory

[10] The most powerful president of the ILGWU was this son of a Polish baker who succeeded Benjamin Schlesinger in 1932 and stayed in power through 1966. He maintained membership in the AFL, and supported its merger with the CIO, as detailed in his autobiography *A Life with Labor*.

ANSWER: David DUBINSKY

10. This book argues that the title phenomenon cannot be understood “in terms of the ideas disseminated by middle-class philosophers.” For 10 points each:

[10] Identify this work which advocates the use of the title strategy to bring about socialism; that strategy is contrasted with the “Parliamentary Socialism” of leaders like Jean Jaures.

ANSWER: REFLECTIONS ON VIOLENCE [or REFLEXIONS SUR LA VIOLENCE]

[10] *Reflections on Violence* is the most famous work of this French Socialist and syndicalist who attacked the idea of a progressive history in his *Illusions of Progress*.

ANSWER: Georges SOREL

[10] According to *Reflections on Violence* this phenomenon, termed a “myth” by Sorel, is the animating catastrophe needed to upend the capitalist order and bring about a full-scale transformation to socialism.

ANSWER: GENERAL STRIKE [prompt on partial answers]

11. One essay argues the word “failure” cannot be applied to this art form “for when something goes ‘wrong’, something far more ‘right’, may emerge.” For 10 points each:

[10] Name this art form coined in the essay “The Legacy of Jackson Pollock” that discarded the hierarchy between audience and artist. One titled “Words” saw people tear off fragments of two rolls of cloth printed with random texts.

ANSWER: HAPPENINGS

[10] This American artist who studied under John Cage created hundreds of “Happening” throughout his career and created the term “Environment” to describe a precursor to “installation art.”

ANSWER: Allan KAPROW

[10] Kaprow is often viewed as a pioneer of this conceptual art where the artist usually tries to interact with the audience, exemplified by Joseph Beuys’s *How to Explain Pictures to a Dead Rabbit*.

ANSWER: PERFORMANCE art

12. The ADME scheme is a set of four criteria in this field pertaining to the disposition of compounds. For 10 points each:

[10] Name this branch of pharmacology, broadly defined as “what the body does to the drug,” as opposed to pharmacodynamics, which is about “what the drug does to the body.”

ANSWER: PHARMACOKINETICS [or PK]

[10] This pharmacokinetic metric is 100% for when a medication is given intravenously, but lower for other routes of administration. It’s a measure of the fraction of a drug’s dose that reaches the systemic circulation.

ANSWER: BIOAVAILABILITY

[10] The most complex pharmacokinetic models take into account this phenomenon, in which molecules bind to drugs or enzymes and decrease their activity either noncompetitively, uncompetitively, or competitively.

ANSWER: drug (or enzyme) INHIBITION

13. In a poem dedicated to this person, the speaker mentions being forsaken by Apollo and the Muses, so he turns to a bottle of wine provided by Bacchus for inspiration. For 10 points each:

[10] Give the nickname of Esther Johnson, a certain poet’s probable secret wife, to whom seven birthday poems were addressed. That poet also wrote 65 posthumously published letters to this woman.

ANSWER: STELLA

[10] This poet savaged John Churchill in “A Satirical Elegy on the Death of a Late Famous General” and wrote those birthday poems and that *Journal to Stella*. He also appeared to advocate eating babies in “A Modest Proposal.”

ANSWER: Jonathan SWIFT

[10] Swift mocked Virgil’s *Georgics* in this poem, in which “Triumphant Tories, and desponding Whigs, forget their feuds and join to save their wigs” during the title deluge.

ANSWER: “A DESCRIPTION OF A CITY SHOWER”

14. This culture was composed mainly of people from the Purepecha ethnic group, and its capital on the shores of Lake Patzcuaro contained a row of temple pyramids called yácatas. For 10 points each:

[10] Name this empire based in Michoacan and ruled by several cazonci including Zuangua. They fought several wars against the Aztecs to the southeast.

ANSWER: TARASCAN empire [or TARASCO culture, or also accept TZINT-ZUNT-ZAN which was technically their capital, but is sometimes used as a designation for the state]

[10] The Tarascans battled this eighth king of the Aztecs, who was succeeded by Moctezuma II in 1502. This fellow famously built a temple of skulls from the sacrificed victims of the Flower Wars, and took his name from a legendary water monster.

ANSWER: AHUIZOTL [or AHUITZOTL]

[10] Ahuizotl added the House of the Eagle Warriors to his version of the Templo Mayor in this capital city of the Aztecs, built on an island in Lake Texcoco, which was put under a 75-day siege by Hernan Cortes.

ANSWER: TENOCHTITLAN

15. This work criticizes both intellectualists and empiricists for being “incapable of expressing the peculiar way in which perceptual consciousness constitutes its object.” For 10 points each:

[10] Identify this philosophical work whose last section concerns freedom, regarding which its author argues that “there is never determinism and never absolute choice,” because “the world is already constituted, but also never completely constituted.”

ANSWER: The PHENOMENOLOGY OF PERCEPTION [or PHENOMENOLOGIE DE LA PERCEPTION]

[10] *The Phenomenology of Perception* was written by this French philosopher who continued his study of the relationship between the body and the world in his chapter titled “The Intertwining - the Chiasm,” contained in his posthumously published *The Visible and the Invisible*.

ANSWER: Maurice MERLEAU-PONTY

[10] The first section of the third part of *The Phenomenology of Perception* is titled after this concept, which according to Merleau-Ponty, “is always beyond what I bring to mind at the moment;” that chapter is explicitly modeled after Descartes’ *Meditations*.

ANSWER: the COGITO

16. Frederick Kiesler designed its Surrealist Gallery as a long black-painted corridor with curved wall displays that positioned the artworks to jut out towards the viewer. For 10 points each:

[10] Name this art gallery that was open from 1942 to 1947 and was divided into four galleries including the Kinetic Gallery and the Daylight Gallery. Pollock had his first solo show here.

ANSWER: The ART OF THIS CENTURY Gallery

[10] The Art of This Century Gallery was founded by this American art collector whose namesake collection is housed in the Palazzo Venier dei Leoni. Her third husband was Max Ernst.

ANSWER: Peggy GUGGENHEIM

[10] The Kinetic Gallery was rigged with a giant spinning wheel that would rotate to open up a peephole for the viewer to look at different perspectives of this artist’s *Box in a Valise*. This artist’s other kinetic works include animated drawings he called “Roto-reliefs” and the first kinetic sculpture, *Bicycle Wheel*.

ANSWER: Marcel DUCHAMP

17. The Linde technique, which is commonly used in the petrochemical industry, works as a result of this process. For 10 points each:

[10] Name this process in which a gas is forced through a valve, and then cools while undergoing isenthalpic expansion. It’s named for two dudes.

ANSWER: JOULE-THOMSON effect [or JOULE-THOMSON expansion; or KELVIN-JOULE effect; accept any of the listed pairs of names in either order; accept THROTTLING]

[10] The Joule-Thomson effect doesn't work on helium and hydrogen gases because of their low values for this point, above which the Joule-Thomson expansion causes the temperature to rise, and below which it causes it to drop.

ANSWER: INVERSION temperature [or INVERSION point]

[10] Joule-Thomson cooling stages are frequently used in these cryogenic devices which employ a mixture of helium-3 and helium-4 and rely on the latent heat of evaporation between a "rich" and a "poor" phase to achieve millikelvin temperatures.

ANSWER: DILUTION refrigerator [prompt on "refrigerator"]

18. In this novel, warders regularly scoop executed dissidents out of the sea because the sharks are surfeited with the taste of human flesh. For 10 points each:

[10] Name this novel by Ramon del Valle-Inclan, in which the title character shows up on the Day of the Dead in an unnamed Latin American country and starts murdering people in his creepy castle.

ANSWER: TYRANT BANDERAS [or TIRANO BANDERAS]

[10] Though it was written by a Spaniard, *Tyrant Banderas* inaugurated a craze for a genre of Latin American prose focused on this kind of person, exemplified by Roa Bastos's *I, The Supreme* and Asturias's *El Señor Presidente*.

ANSWER: DICTATOR novels [or novela del DICTADOR; accept synonyms like CAUDILLOS; prompt on answers like LEADERS, we want them to say something akin to an AUTHORITARIAN LEADER]

[10] Unlike most dictator novels, this book was written decades after the regime it depicted. This novel intermingles the storyline of Urania Cabral's father with the stories of Trujillo and his assassins.

ANSWER: The FEAST OF THE GOAT [or La FIESTA DEL CHIVO]

19. Answer the following about the less-impressive later history of the Lombards, for 10 points each.

[10] This final king of the Lombards succeeded Aistulf as ruler, but he was conquered by Charlemagne in 774 CE, who put a siege to his capital at Pavia. Charlemagne had previously married, and then repudiated, this king's daughter.

ANSWER: DESIDERIUS [or DESIDERIO]

[10] Charlemagne was encouraged to conquer the Lombards by the first pope of this name. The more famous fourth pope of this name, aka Nicholas Breakspear, is the only English pope ever, and issued the bull *Laudabiliter*.

ANSWER: ADRIAN [or HADRIAN]

[10] This guy was a councilor under king Desiderius. Perhaps to save his brother Arichis, he became a member of Charlemagne's palace school at Aachen and penned the seminal work on the history of the Lombards, the *Historia Langobardorum*, which he wrote at Monte Cassino.

ANSWER: PAUL THE DEACON [or PAULUS DIACONUS; prompt on just "Paul"]

20. This thinker explored Rousseau's social theory in the 1966 work *Men and Citizens*, and introduced the concept of "passive injustice" in 1990's *The Faces of Injustice*. For 10 points each:

[10] Identify this longtime professor of political theory at Harvard, who drew on both literary and political sources in an analysis of such human shortcomings as hypocrisy and misanthropy, titled *Ordinary Vices*.

ANSWER: Judith Nisse SHKLAR

[10] In *Ordinary Vices*, Shklar gives a definition of these people as those who think that cruelty is the worst thing that we can do.

ANSWER: LIBERALS

[10] Shklar's definition of liberalism is cited repeatedly in the chapter on cruelty in *Contingency, Irony, and Solidarity*, a work by this American philosopher who also wrote *Philosophy and the Mirror of Nature*.

ANSWER: Richard McKay RORTY

EXTRA BONUS

21. Answer the following about the rise of the Seljuk Turks, for 10 points each.

[10] This guy founded the great Seljuk Empire and became its first sultan by uniting the Turkmen on the Great Steppe, and subjugating the later Abbasid rulers, together with his brother Chaghri Beg. Three sultans by this name ruled the Seljuks, including the final ruler of the empire, who was killed in 1194 CE.

ANSWER: TOGHRUL I [or TUGHRIL or TUGRIL or TUGRUL or TOGHRIL BEG or “Rukn ad-Dunya wa ad-Din Abu Talib Muhammad Toghrul-Beg ibn Mikail”]

[10] The Seljuks were initially defeated by Mahmud, the ruler of this dynasty, but then smashed his son Mas’ud I at the Battle of Dandanaqan in 1040 CE to gain a large swath of territory. This dynasty had been founded by Sabuktigin in modern-day Afghanistan around 977 CE.

ANSWER: GHAZNAVID Dynasty or Empire

[10] Alp Arslan then expanded Seljuk holdings some more by winning this landmark 1071 CE battle, where the Byzantine emperor Romanos IV was captured.

ANSWER: Battle of MANZIKERT