



ACADEMIC COMPETITION FEDERATION

2015 ACF NATIONALS
FINALS 2 BY THE EDITORS

TOSSUPS

1. After this man's death, his wife Elizabeth Jarvis commissioned the architect of the Mark Twain House, Edward Potter, to erect an Episcopal church as a memorial. He hired sculptor Hiram Powers to create wax figures based on the Divine Comedy. After spending his youth apprenticed as a sailor on the India-bound ship *Corvo*, this man used those wax figures in a traveling road show, advertising himself as a doctor from Calcutta and doing tricks with laughing gas for crowds. His brother John wrote a textbook on double-entry bookkeeping and was convicted for murdering the printer Samuel Adams over a book debt, which led to a famous trial. This man built a town featuring a building with a giant blue onion dome with gold stars on it; that town has recently been approved to be a national park in Connecticut. His major invention had an early Dragoon model and was improved by Samuel Walker, a captain who used it while serving in the Texas Rangers. For 10 points, name this American inventor who founded the Patent Fire-Arms Manufacturing Company, which produced his .44-caliber revolver.

ANSWER: Samuel Colt

2. This novel's narrator calls his penis "Herr Rickler" when he has sex with his wife, a museum curator who wants to open an antiques store. Its author once explained that this novel consists of "twelve Philipics" and that its structure was based on Arnold Schoenberg's twelve tone scale. At one point, this novel's narrator suggests founding an organization called "The Party of the Disappointed People." Its protagonist recalls his teacher Magus "Mad Meg" Tabor in its section "Life in a Chair" and navigates the dissolution of his relationship with his wife Martha, who collects antique chests of drawers that he fills with dirt. This book is narrated by a Nazi apologist who is contemplating the introduction to his study *Guilt and Innocence in Hitler's Germany*, while creating the title structure in his basement. For 10 points, name this novel about Professor William Frederick Kohler, the masterpiece of William Gass.

ANSWER: The Tunnel

3. In the first act of this opera, a character sings a C minor recitative that ends with the lyrics "Ew'ge Vernichtung, nimm mich auf," which are echoed by ethereal voices in E major. In this opera's song "Verzeiht! Mein Volk..." a man asks to combine a feast with a betrothal. In its third act, the huntsman Erik sings "*Willst jenes Tag's du nicht*" to try to get a woman to come back to him. This opera's narrative was inspired by an incident in the novel *The Memoirs of Herr von Schnabelewopski*. Its notable musical numbers include "Summ und brumm, du gutes Rädchen," in which numerous maidens sing while spinning their spinning wheels, and "*Die Frist ist um*," in which the title character notes seven years have passed. In its final act, Daland's daughter throws herself into the ocean after promising "to be true until death" to the title character. For 10 points, name this Romantic opera about Senta and a sailor doomed to eternally wander the seas, composed by Richard Wagner.

ANSWER: The Flying Dutchman [or Der fliegende Holländer]

4. A tradition claims that this ruler beat his rival in an archery contest and embarrassed him by whipping his horses into festival tents. This ruler exiled that rival of his to Kyushu after claiming he used black magic to attack the ex-emperor Kazan. In order to celebrate his daughter's accession to empress, he wrote a poem which declares "like the full moon I shine uncovered by any cloud." This man's building of the Hojoji temple is described in the account of his reign, the *Eigo Monogatari*, or "Tale of Flowering Fortunes." His rule is also the focus of the historical tale Okagami, or the Great Mirror. This man, who rose to the throne over his nephew Korechika, had his daughter, the Empress Shoshi, sent to live at Ichijo's harem. That daughter of this emperor was tutored by Murasaki Shikibu. For 10 points, name this man who ruled at the apex of the Heian era, the greatest ruler of the Fujiwara clan.

ANSWER: Michinaga no Fujiwara

5. In dimensions greater than two, solutions to this system cannot have isolated singularities or zeroes by Hartogs phenomenon. This system is the simplest example of an auto-Backlund transformation. Exponential integrals of functions that satisfy this system have paths of steepest descent stemming out from saddle points such that the phase remains constant. In fluid mechanics, The stream function and the velocity potential together combine to form a new potential that satisfies this system in potential flow. The fact that values of the derivative must be the same regardless of the direction of the limit gives rise to this system of equations. The real and imaginary parts of functions that satisfy these PDEs also satisfy Laplace's equation separately. For 10 points, name this system of equations which gives the conditions for a function to be complex differentiable and thus analytic.

ANSWER: Cauchy-Riemann equations

6. This man's idleness was lamented in another author's *Session of the Poets*, which noted that this man had completed only two plays. In 2007, Tom Hardy starred in the National Theatre's revival of a play by this man that contains a subplot in which Emilia captures the affections of both Young and Old Bellair. Pepys's diary records that the crowd was so large that more than a thousand people were turned away from the 1668 debut of this man's second play, *She Would if She Could*. His third and final play, completed in 1676, concerns a libertine balancing the love interests Harriet, Bellinda, and Mrs. Loveit. This man's friend, John Wilmot, the Earl of Rochester, was the likely inspiration for the rakish protagonist, Dorimant, in this man's major play. This playwright pioneered the 17th-century "comedy of manners" with a dramatic work subtitled for the character of Sir Fopling Flutter. For 10 points, name this Restoration comedian who wrote *The Man of Mode*.

ANSWER: Sir George Etherege

7. A version of this procedure named for Tim Bartik multiplies ex-ante geographically disaggregated sectoral employment shares with aggregate sectoral employment changes to estimate labor demand shifts by geography over time. An attempt to use this technique failed because cities don't actually hire more police officers during election years. Since children born on different dates in the year are required to attend school for different lengths of time, another example of this technique used calendar date of birth to avoid selection bias in estimating the return to schooling. A prominent critique of this procedure is that it favors "cute," counter-intuitive results over addressing important questions that must be answered rigorously. For 10 points, name this identification strategy that pins down causality by using an exogenous covariate of a regressor to estimate the relationship between it and the outcome of interest.

ANSWER: instrumental variables [or IVs]

8. An extreme faction of this group, including men such as David Hackston and Donald Cargill, published a pamphlet called the *Informatory Vindication*. Their numbers included the teenager Margaret Wilson, who became one of the "Wigtown Martyrs" after she and an elderly woman also named Margaret were put to death by drowning. A faction of this movement known as the "Society Men" issued the Sanquhar Declaration, under the leadership of Richard Cameron and later James Renwick. Robert Woodrow coined the term for a period of suffering undergone by members of this group who refused to take the Oath of Abjuration, or were accused of participating in the rebellion at Bothwell Bridge. That period of their suffering is called the "killing time." Another leader of this movement, Alexander Henderson, wrote a document which allied this group with Parliament during the English Civil War. For 10 points, name this group of Scottish Presbyterians who agreed to form a "Solemn League" in 1643, and were named for the pact in which they pledged to uphold their religion.

ANSWER: Covenanters [prompt on "Scottish Presbyterians"]

9. An artist with this surname made parchment books of leadpoint drawings that includes his version of the *Flagellation*, which takes place underneath a pair of loggia. That man's son painted the now lost frescoes in the Topkapi Harem and fled from Constantinople after his patron, Mehmed II, beheaded a slave to show him that his depiction of John the Baptist's severed head was not realistic. A different artist with this surname painted a *sacra conversazione* which features Job with a pink loincloth and St. Louis of Toulouse. That artist with this surname painted the *San Giobbe Altarpiece* and included some stone steps that function as a bridge over a river in his version of *Agony in the Garden*. Andrea Mantegna was the brother-in-law of that artist, who depicted a man with outstretched hands in front of a cave in *St. Francis in Ecstasy*. For 10 points, what is this surname shared by Gentile, the official portraitist of the doges of Venice, and his brother Giovanni, who never finished *The Feast of the Gods*?

ANSWER: Bellini [or Jacopo Bellini; or Gentile Bellini; or Giovanni Bellini]

10. Lithium iodide is used in the Celanese AO Plus process to drive down the rate of this reaction. In a different process, this side reaction is mitigated by the addition of a ruthenium tri-carbonyl tri-iodide promoter. The metallic copper catalyst for one step of this reaction is very vulnerable to sintering and poisoning from sulfur and halides—these problems are partially mitigated by the addition of aluminum and zinc oxides. This is the main side reaction in both the Cativa and Monsanto processes. During one of the steps to this reaction, the hematite catalyst is reduced to magnetite while chromium oxide acts as a stabilizer. This reaction is usually performed in two reactors in series referred to as the “high temperature” and “low temperature” reactors. This reaction is typically performed after steam reforming of methane, where it converts the remaining syngas to hydrogen for use in methanol or ammonia synthesis. For 10 points, name this reaction which converts the namesake mixture of carbon monoxide and water to carbon dioxide and hydrogen.

ANSWER: water-gas shift reaction [or WGS reaction]

11. For a short time, this figure resided at the home of doctor William Willcocks Sleight, who published an account of the six days she spent in Philadelphia. Originally, she was a mistress of William Hoyte, the head of the Benevolent Association, and traveled with him to New York, but abandoned him to be the companion of J.J. Slocum, whom she later joined in filing a lawsuit against both Hoyte and George Bourne. The American Protestant Vindicator first detailed this woman’s story, which was published one year after Rebecca Reed released a similar tale. She spent “five years as a novice and two years as a black nun” at the Hotel Dieu Nunnery in Montreal, where she claimed to see a graveyard of dead babies. Her life was the basis for the most widely-read contemporary book in America prior to *Uncle Tom’s Cabin*, due to thirst for anti-Catholic literature. For 10 points, name this nun, the subject of a sensational 1836 book about her “Awful Disclosures.”

ANSWER: Maria Monk

12. This enzyme is inhibited by the compounds KH7 and NKY80. The gene *cyaA* in *Bordetella pertussis* codes for a toxin which is cleaved into hemolysin and a calmodulin-dependent form of this enzyme. The only soluble isoform of this enzyme is regulated by bicarbonate and is highly expressed in sperm cells. This enzyme can be inhibited by P-site inhibitors and activated by forskolin. The mammalian form of this enzyme consists of two transmembrane domains called M1 and M2 and two catalytic domains called C1 and C2 which are activated by a G-s-alpha subunit of a stimulatory G protein. The compound produced by this enzyme is used to activate catabolite activator protein in the *lac* operon; that compound was discovered by Earl Sutherland and also activates protein kinase A. For 10 points, name this enzyme important in signal transduction which produces a pyrophosphate as it converts ATP to cyclic AMP.

ANSWER: adenylyl cyclase [or adenylate cyclase; or AC]

13. The protagonist of this novel believes that for someone in his profession approaching age 50, “there are only two alternatives: gutter or palace”. A character in this novel who was attacked by the protagonist after calling him a “defeatist” later caused the death of a young boy by making him carry a loaded bazooka. Another character in this novel sent her daughter Henrietta to her death on anti-aircraft patrol and now runs a committee for the “reconciliation of racial differences”, despite her earlier inveighing against “Jewish Yankees”. Hypocrites like Prelate Sommerfeld and Herbert Kalick are condemned in this novel, which ends with the protagonist playing the song “Poor Pope John” on the steps of a train station. Its protagonist hangs out in Bonn making a lot of telephone calls to his Catholic family and moping about his lost love Marie, who has abandoned him for Züpfner. Hans Schnier is the title entertainer of, for 10 points, which novel by Heinrich Böll?

ANSWER: The Clown [or Ansichten eines Clowns; or The Opinions of a Clown]

14. In the midst of this incident, Michael Ryan presented a set of resolutions to Charles Vernou, demanding a response to the rape of two women. William Calhoun tried to prevent this incident by delivering a letter to the governor requesting reinforcements, but he was captured on the water by Paul Hooe and James Hadnot, who was later killed by friendly fire in this incident. This conflict began when Daniel Shaw and Robert Register took oaths of office as sheriff and judge. That led the opposing sheriff Christopher Columbus Nash to march on the local courthouse on Easter Sunday, prompting Governor William Kellogg to call in the militia. Several men arrested as a result of this incident were released because *United States v. Cruikshank* found that the Enforcement Act was unconstitutional. Perpetrated by groups like the Knights of the White Camellia, For 10 points, name this 1873 massacre of black freedmen at a small town in Louisiana, which had been named for the first vice president under Ulysses Grant.

ANSWER: Colfax massacre or riot [or the Battle of Colfax Courthouse; or obvious equivalents]

15. Arthur Nikisch premiered the second movement of this musical work as *Blumenstück*. Its penultimate movement, in F major, is marked “cheerful in tempo and cheeky in expression”, and its final movement ends with thundering kettledrums to be played *gesättigt*, or “with rich, noble tone”. This symphony’s first movement features a solo tenor trombone theme that is followed by a rhythm played by offstage snare drums and a recurrence of its opening passage, in which a group of horns play a theme adapted from the finale of Brahms’s First Symphony. An offstage flugelhorn interrupts the reprise of the scherzo in the third movement of this symphony. Its fourth movement includes an alto soloist singing “O man! Take heed!”, a quote from Friedrich Nietzsche’s “Midnight Song”. “What the Flowers Tell Me”, “What the Angels Tell Me”, and a 30-minute depiction of the “awakening of Pan” are among the six movements of this symphony. For 10 points, name this longest symphony of Gustav Mahler.

ANSWER: Gustav **Mahler**’s Symphony No. **3** [or obvious equivalents, such as **Mahler**’s **Third** Symphony; prompt on partial answer until “Mahler” is read, after which **3** or **Third** or equivalents is acceptable alone]

16. Andre de la Vigne wrote four poems in imitation of this book after reading the translation of it by Octavien de Saint-Gelais. In one part of this book, the speaker attributes his beauty and wit to his mother’s vision of giving birth to a “great flaming torch.” In another portion, a youth in this work inscribes the phrase “I swear by Artemis that I will marry” on an apple and tosses it by Cydippe’s feet. One of this collection’s speakers reminds the boatsman Phaon about the kisses that he once praised. The twelfth entry in this volume is addressed to a warrior who is warned by his wife not to be the first to disembark from his ship. Entries in this collection include one in which Laodamia addresses Protesilaus, and the first one, in which Penelope addresses the long absent Ulysses. For 10 points, name this collection of verse epistles written mostly from the perspective of troubled mythological women, a work of Ovid.

ANSWER: the **Heroides** [or The **Heroines**; or The Letters of **Heroines**; or **Epsitulae Herodum**]

17. Tunable examples of a type of these devices include the Berek compensator and the Soleil-Babinet compensator. Spatial hole burning in continuous wave lasers can be avoided by placing two of these devices on either side of the gain medium, a process called a “twisted-mode technique.” An alternative to one type of these devices is the Fresnel rhomb. The amount of retardation is a multiple of two pi larger in a “multiple-order” one of these devices than in a “zero-order” one of these devices. In one type of these devices, the waves propagating parallel to the “fast axis” acquire a phase shift of pi over 2 with respect to waves propagating parallel to the “slow axis,” because the index of refraction is split into “ordinary” and “extraordinary” components. A birefringent crystal which converts linearly polarized light to circularly polarized light is an example of, for 10 points, what type of optical device which comes in “half” and “quarter” types?

ANSWER: **waveplates** [or quarter-**wave plates**; or half-**wave plates**; or phase **retarders** or **retardation plates** until “retardation” is read; prompt on “**polarizers**” until “polarized” is read; prompt on “**birefringent** crystals” until it is read]

18. A love goddess descends from heaven and tries to charm this figure, but an oceanic wave tells her that her attempts are in vain because this figure is both deaf and blind. This being was created to accomplish a goal that the dragon Hedamu failed to complete. A god is brought to tears after seeing this figure from the top of Mount Hazzzi. Astabi leads seventy gods against this threat, but they are unable to stop this figure since it had grown into the realm of the heavenly gods from the underworld, where it perched on Upelluri. This menace was finally stopped when a copper saw was used to cut off its legs by the god Ea. Kumarbi created this creature by impregnating a cliff face as part of his plan to overthrow Teshub. For 10 points, name this genderless giant made out of green quartz, who titles one of the best preserved narratives of Hurrian mythology.

ANSWER: **Ullikummi**

19. While living in this city, John Bellingham was imprisoned after Lloyd’s of London accused him of sabotage, an incident that later caused Bellingham to assassinate Spencer Perceval. A military campaign known by the name of this city was led partly by George Evans Stewart, who was saved by the cruiser USS Des Moines, after his army fought at the Battle of Toulgas, and on the Pinega Front. That campaign aimed at this city was commanded overall by General Edmund “Tiny” Ironside. A settlement on the Peril Strait at the modern town of Sitka became known as the “New” version of this city in 1804 after it was built following a battle on the Indian River with Tlingit tribes. This city, the target of the Polar Bear Expedition during World War One, was the capital of the American colonies held by the Russian-American Company. During Operation Barbarossa, the “A-A Line” was named because it went from Astrakhan to this port city, which is located on Dvina Bay. For 10 points, name this major port on the White Sea, the namesake of a Russian Oblast across from Murmansk.

ANSWER: **Archangel** [or **Arkhangelsk**]

20. This hypothetical act titles a book by Ramona Naddaff, which argues that it is actually an act of cultural and aesthetic discussion. Iris Murdoch's *The Fire and the Sun* defends this action on the grounds that it is easier to copy a bad man than a good man. The so-called "psychological critique" defends this act by citing how art nourishes the irrational part of the soul. The "metaphysical critique" which defends this act uses the example of God creating the Form of furniture, a carpenter creating furniture, and finally, a painter making a representation of a bed. This suggested action seems to contradict itself, since it is immediately followed by the most imaginative portion of the dialogue, the story of the Myth of Er. For 10 points, name this act that occurs at the beginning of the tenth book of Plato's *Republic*, in which Socrates suggests the removal of members of a certain occupation from the polis.

ANSWER: Plato's (or Socrates's) banishment of the poets [or the exile of the Poets; or the banishment of Poetry; prompt on the "censorship of poetry"]

TIEBREAKER

21. This function names a plasma instability which has a "slab" type caused by the coupling between ion acoustic waves and drift waves. This function also names a component of the drift velocity for a charged particle in an inhomogeneous magnetic field. The fluid velocity dotted with this function of the fluid velocity gives the convective acceleration. Performing a gauge transformation of the vector potential is done by adding this function of the gauge function to the vector potential. Under certain conditions, a function F can be expressed as the sum of this function applied to some scalar, V , plus this function crossed with some vector, A , according to Helmholtz's theorem. Applying this operation to the velocity potential gives the fluid velocity, and minus this operation applied to the electric potential gives the electric field. For 10 points, name this operation from vector calculus which generalizes the derivative to multiple dimensions, and is symbolized ∇ .

ANSWER: gradient [or slab ion temperature gradient instability; or grad-B drift; or del until it is read]

BONUSES

1. This process can occur via models introduced by Frank and van der Merwe, Volmer and Weber, or Stranski and Krastanov. For 10 points each:

[10] Name this process by which thin layers of crystalline material are deposited and retain the orientation of the substrate. Effusion cells are used to generate beams of particles which are deposited onto a surface in its “molecular beam” form, which is used to make thin films.

ANSWER: epitaxy [or epitaxial growth]

[10] Thin films can be characterized using this technique, which measures an amplitude ratio and a phase difference caused when light changes polarization upon reflecting off a film.

ANSWER: ellipsometry

[10] Molecular beam epitaxy is typically conducted in the “ultra-high” form of this medium. The permittivity of this medium equals 8.85 times 10 to the minus 12th in SI units.

ANSWER: ultra-high vacuum [or free space]

2. This theory was developed in Andre Bazin’s monthly magazine *Cahiers du Cinema*. For 10 points each:

[10] Name this theory of film which argues that the director, and not the actors or the studio, is the true artistic source behind a movie.

ANSWER: auteur theory [or politique des auteurs]

[10] In “A Certain Tendency in French Cinema,” this director of *Shoot the Piano Player* and *Stolen Kisses* advanced auteur theory by arguing against the idea that a director merely adds to a pre-existing literary scenario.

ANSWER: François Truffaut [or François Roland Truffaut]

[10] Henry James’ “The Altar of the Dead” inspired this personal film of François Truffaut, which is an homage to André Bazin. It focuses on Julien Davenne, who obsesses on a shrine to his dead wife.

ANSWER: The Green Room [or La Chambre verte]

3. While acting as regent for Louis VII during the Second Crusade, this man passed laws to stop the cutting of trees in the kingdom and suppressed a revolt to make Robert, Count of Dreux, the king. For 10 points each:

[10] Name this abbot who also wrote a life of the French king Louis VI, while rebuilding the church of Saint-Denis in Gothic style.

ANSWER: Abbot Suger

[10] Louis VII’s daughter Alys was known as the Countess of this important region, which was the border between British Normandy and France. This county, separated into Norman and French portions, was given to Marguerite of France as her dowry for marrying Henry the Young King.

ANSWER: the Vexin

[10] Tension in the Vexin had existed since the Treaty of Saint-Clair-sur-Epte, concluded in 911 CE between Frankish king Charles the Simple and this man, who was fatefully given all of the land between Epte and the sea. He possibly also received the hand of Charles’ daughter Gisela.

ANSWER: Rollo of Normandy [or Robert I]

4. This author’s first novel, *The Tragedy in the Amazon*, is much less popular than his magnum opus, in which the strict headmaster Aristarco rules over an institution at which the presence of only a single woman, the nurse Dona Ema, leads to a lot of situational homosexuality. For 10 points each:

[10] Name this Brazilian author of a semi-autobiographical novel about Sergio’s time at a military academy called *O Ateneu*, or *The Atheneum*.

ANSWER: Raul Pompeia

[10] Cava oafishly breaks a window while stealing a chemistry exam in this other novel set at a South American military academy. This Mario Vargas Llosa novel centers on a group of senior students called “the Circle”.

ANSWER: The Time of the Hero [or La ciudad y los perros; or The City and the Dogs]

[10] One of *The Time of the Hero*’s two first-person narrators is this leader of “the Circle”, a former juvenile delinquent who, it is implied, arranged the shooting of the Slave as revenge for his revealing the test theft plan.

ANSWER: the Jaguar

5. In one story, a glutton gets into a yelling contest with one of these creatures and finally kills it by yelling louder than it. For 10 points each:

[10] Name these formerly human giants who are known for their brazen acts of cannibalism. Many descriptions claim they have no lips, but do have a heart made entirely of ice.

ANSWER: wendigo [or windigo; or Witiko; or Kokodjo]

[10] Wendigos often terrorize Native Americans during this period of time. In Greek myth, it corresponds to the time that Persephone must spend in Hades.

ANSWER: winter

[10] When not eating human flesh, wendigos often ate these things. In Robert Graves's study *What Food the Centaurs Ate*, he suggests that satyrs, centaurs, and maenads ate this food to gain muscular strength.

ANSWER: mushrooms [or shrooms; or the amanita muscaria; prompt on "fungi" or equivalents]

6. Walter Henry Rothwell was the first music director of an orchestra in this city; a later holder of that position, Esa-Pekka Salonen, commissioned Arvo Part's fourth symphony, which is named for it. For 10 points each:

[10] Identify this American city. Its namesake philharmonic orchestra plays its regular season at the Walt Disney Concert Hall and its summer season at the Hollywood Bowl.

ANSWER: Los Angeles, California [or L.A.]

[10] The current music director of the LA Philharmonic is this Venezuelan conductor, who has the same position with Venezuela's Simon Bolivar Symphony Orchestra.

ANSWER: Gustavo Dudamel [or Gustavo Adolfo Dudamel Ramírez]

[10] From 1933 to 1939, the LA Philharmonic was led by this man, who served as Mahler's assistant during the premiere of the *Symphony of a Thousand*. He was noted for his uncommonly slow tempos, which got slower as he aged.

ANSWER: Otto Klemperer

7. In isotopic geochemistry, the lowercase form of this Greek letter is used for the ratio of heavy isotopes to light isotopes, such as the ratio of oxygen-18 to oxygen-16 or the ratio of sulfur-34 to sulfur-32. For 10 points each:

[10] Name this Greek letter that lends its name to the sediment deposits that occur at the mouths of rivers.

ANSWER: delta

[10] The international standards for the ratio of sulfur-34 to sulfur-32 and the ratio of lead-206 to lead-204 are set using the mineral troilite from this meteorite, making it the most important rock for dating the Earth.

ANSWER: Canyon Diablo meteorite

[10] This isotope's ratio to lead-206, its decay product, can be combined with the ratio of its lighter counterpart to lead-207 to perform radiometric dating ranging from millions of years to 4.5 billion years. This isotope's ratio to lead-206 and lead-206's ratio to lead-204 can be combined for isochron dating.

ANSWER: U-238 [or uranium-238; prompt on "uranium"]

8. This man took his pregnant wife Saraswathi out to view a solar eclipse in order to dispel the myth that it would poison her baby. For 10 points each:

[10] Name this Indian social reformer who organized the First World Atheist Conference, after having founded the Atheist Center in 1940. His many discussions with Gandhi were published in the book *An Atheist with Gandhi*.

ANSWER: Gora [or Goparaju Ramachandra Rao]

[10] Gora also had several meetings with this lady, who founded American Atheists in 1963. While living in Baltimore, she had a pair of "Atheist dogs" named Marx and Engels. She filed a namesake lawsuit against Curlett that was consolidated with *Abington v. Shempp*, ending mandatory Bible reading in public schools.

ANSWER: Madalyn Murray O'Hair [accept either underlined portion; or Madalyn Mays; prompt on "M. Bible"]

[10] The great atheist Joseph Lewis published the lectures of this man, including "Some Mistakes of Moses" and "The Creed of Science." This politician and orator from Illinois is known for his nickname "the Great Agnostic."

ANSWER: Robert Green Ingersoll

9. This piece opens by describing “a spider crawling along the matted floor of the room where I sit” and inquires into the “set of whist players” mentioned in another author’s *Epistle to Robert Southey*. For 10 points each:

[10] Name this essay. It asserts that a title concept “asks a greater effort of the mind to support it than pain” in an effort to explain the title effect, which is described as “a poisonous mineral” that “eats into” religion, patriotism, and virtue.

ANSWER: “**On the Pleasure of Hating**”

[10] “On the Pleasure of Hating” was written by this English essayist, a friend of Charles Lamb. His oft-anthologized essay “The Indian Jugglers” can be found in his book *Table Talk*.

ANSWER: William **Hazlitt**

[10] This collection of 25 personal sketches includes Hazlitt’s essays on Bentham, Godwin, Malthus, and others, and its pieces were taken from a similarly-titled series of articles for the *New Monthly Magazine*. Name the book or the series.

ANSWER: The **Spirit of the Age**: Or, Contemporary Portraits [or “**Spirits of the Age**”]

10. Answer the following about Sun Yat-sen and the Xinhai Revolution of 1911, for 10 points each.

[10] The secret society known by this Chinese name was formed in 1905 from the merger of the Restoration Society under Cai Yuanpei and the Revive China Society of Sun Yat-sen. Also called the Chinese United League, it evolved into a political party in 1912 that formed the nucleus of the Kuomintang.

ANSWER: **Tongmenghui**

[10] Sun Yat-sen offered to resign the presidency in favor of Yuan Shikai in return for the abdication of this final ruler of the Qing Dynasty. This ruler, given the English name Henry by his Scottish teacher, was later installed as the nominal emperor of Manchukuo.

ANSWER: **Puyi** [or Aisin-Gioro **Puyi**; or Henry **Pu Yi**; or the **Xuantong** Emperor]

[10] This American adventurer served as chief of staff to Sun Yat-sen during the 1911 revolution and formulated the aborted “Red Dragon Plan” to conquer the Guang provinces. He wrote a novel about his time with the Manchu entitled *The Vermilion Pencil* and a work of military analysis, *The Valor of Ignorance*.

ANSWER: Homer **Lea**

11. In sections such as “Hippophagy” and “Dogs, Cats, Dingoes, and Other Pets,” this anthropologist examined various “foodways,” and “riddles of food culture” in his book *Good to Eat*. For 10 points each:

[10] Name this academic, who included a chapter on the sacredness of the Indian cow in *Cows, Pigs, Wars and Witches*.

ANSWER: Marvin **Harris**

[10] In *The Rise of Anthropological Theory*, Marvin Harris outlined this approach, which combines Marxism with an ecological framework, to understand the differences and similarities that exist in communities.

ANSWER: **cultural materialism** [prompt on partial answers]

[10] Another book by Marvin Harris is titled for kings and people who engaged in this practice. The Fore people of Papua New Guinea engaged in this practice, worsening the spread of the disease kuru.

ANSWER: **cannibalism** [or word forms, such as **cannibals**]

12. The Schulz-Zimm distribution characterizes the molecular weight distribution produced by one type of this reaction. For 10 points each:

[10] Name this type of reaction which typically produces a polydisperse product. When the chain-growth type of this reaction is mediated using free radicals, it is divided into initiation, propagation, and termination steps.

ANSWER: **polymerization** [or obvious equivalents, such as the **formation** of a **polymer**]

[10] The molecular weight distribution created by this type of polymerization is the Poisson distribution. This idealized type of polymerization is defined as a form of chain-growth polymerization in which there are no irreversible terminations or transfer reactions.

ANSWER: **living** polymerization

[10] When deriving the kinetics of chain-growth polymerizations, the differential equation can be simplified by introducing this quantity, denoted ν , which is the ratio of the number of monomers incorporated into polymer chains divided by the total number of polymer chains.

ANSWER: **kinetic chain length**

13. The death of Donald Barthelme inspired the author to create this book of “memory criticism”, which claims that book reviews are “the principal engines of change in the history of thought”. For 10 points each:

[10] Identify this 1991 nonfiction book in which the author of *Vox* describes his obsession with another author, despite having actually read less than half of that man’s work.

ANSWER: **U and I: A True Story**

[10] This American author is the subject of Nicholson Baker’s *U and I*. In the book, Baker meets him at a signing of *Rabbit is Rich*, one of his novels about Harry Angstrom.

ANSWER: John Hoyer **Updike**

[10] This first novel by Nicholson Baker consists of the extensive interior monologue of an office worker named Howie, who muses on Marcus Aurelius’s *Meditations* and his hot dog lunch while riding up an escalator.

ANSWER: The **Mezzanine**

14. This man travelled to the province of Overijssel, to paint *Two Watermills and an Open Sluice at Singraven*. For 10 points each:

[10] Name this 17th century Dutch landscapist, the most talented member of his family of four painters. He also painted two versions of *The Jewish Cemetery*.

ANSWER: Jacob van **Ruisdael** [or Jacob Isaacksz van **Ruisdael**]

[10] Jacob von Ruisdael’s depiction of Bentheim Castle was made after he travelled with this other artist to Westphalia. This son of Pieter Claesz is known for his depictions of landscapes using Biblical characters, such as *Landscape with Elizabeth and his Two Wives*.

ANSWER: Nicolaes **Berchem** [or Nicolaes Pietersz **Berchem**]

[10] This student of Jacob von Ruisdael was inspired by his teacher’s *Two Watermills and an open Sluice at Singraven* to create a series of paintings depicting water mills. He is best known for his depiction of trees on a road, *The Avenue at Middelharnis*.

ANSWER: Meindert **Hobbema**

15. The main source for this man’s life is the panegyric of African poet Flavius Corippus, who may be the last Roman author of consequence in Late Antiquity. For 10 points each:

[10] Name this lesser-known general of Justinian, who defeated the Moors in Africa in 548 CE, winning a great victory at the Battle of the Fields of Cato. He was Justinian’s choice to replace the Armenian general Artabanes in 546 CE.

ANSWER: John **Troglita** [or Ioannes **Troglita**; or Ioannes **Trogilos**; prompt on “**John**”]

[10] Previously, Troglita had served under this general, who was apocryphally blinded and made a beggar in old age by Justinian, and who was dominated by his wife Antonina according to Procopius.

ANSWER: Flavius **Belisarius**

[10] Belisarius’ war against the Vandals culminated in this 533 CE battle that followed the Byzantine victory at Ad Decimum. Fought at a village just west of Carthage, the Vandal king Gelimer fled from this battle after his brother Tzazon was killed.

ANSWER: Battle of **Tricamarum** [or **Tricameron**]

16. The holy texts of this religion include the Shariyat-Ki-Sugmad, or Way of the Eternal, and the writings of Harold Klemp, who is its current Mahanta, or Living Master. For 10 points each:

[10] Name this religion founded by Paul Twitchell in Las Vegas in 1965, which has its headquarters at a golden pyramid in Chanhassen, Minnesota.

ANSWER: **Eckankar** [or **ECKism**; or **Eckists**]

[10] The name of Eckankar derives from this Sikh chant, which was the first composition of Guru Nanak when he obtained enlightenment. This basic statement of belief is the beginning of the Adi Granth, where it’s followed by the Japji hymn.

ANSWER: **Mul Mantra** [or **Mool Mantar**; or **Mul Mantar**; or **Mul Mamtar**; prompt on “**Mul**”]

[10] During one of his past lives, Twitchell claims he was eaten by one of these animals. The final major work of Baha’u’llah was titled as an epistle to the son of one of these creatures.

ANSWER: **wolf** [or word forms, such as **wolves**]

17. G.S. Fraser's translation of this poem opens by asking "Who or what is crying, if not only the wind, at this hour / Only, of uttermost diamonds?" For 10 points each:

[10] Name this poem written in 512 lines of rhymed alexandrine couplets by the author of "The Cemetery by the Sea". Its 1917 publication broke its author's nearly-twenty-year "Great Silence" after the death of Stéphane Mallarmé.

ANSWER: "La **Jeune Parque**" [or "The **Youngest Parca**"; or "The **Youngest** of the **Fates**"]

[10] Both "La Jeune Parque" and "The Cemetery by the Sea" were written by this last major French symbolist, whose poem "Palme" inspired James Merrill's own poem *Lost in Translation*.

ANSWER: Paul **Valéry** [or Ambroise-Paul-Toussaint-Jules **Valéry**]

[10] Valéry wrote a series of essays about this character, an extremely dedicated intellectual whose motto "Que peut un homme?" means "Of what is man capable?". This character also claims that "stupidity is not my strong suit".

ANSWER: Edmond **Teste** [or Monsieur **Teste**; or Mr. **Teste**]

18. This work, published in 1957, uses the example of a detective following a man around a shopping market, making a list of what he purchases, to illustrate two different types of "direction of fit." For 10 points each:

[10] Name this philosophical work which analyzes predictions and actions that are influenced by the title state.

ANSWER: **Intention**

[10] *Intention* is a work by this moral philosopher, who coined the term "consequentialism" in the article "Modern Moral Philosophy."

ANSWER: G.E.M. **Anscombe** [or Gertrude Elizabeth Margaret **Anscombe**]

[10] This other philosopher explains intentionality by proposing a theory of propositional content grounded in reasoning and inference in his books *Making it Explicit* and *Articulating Reasons*.

ANSWER: Robert **Brandom**

19. The Fc regions of these proteins can be engineered to increase their serum half-life or increase their cytotoxicity. For 10 points each:

[10] Name these proteins whose 5 isotypes interconvert in a process called class switching. Drugs whose names end in the suffix "-mab" use monoclonal forms of these proteins to bind to specific cells or proteins.

ANSWER: **antibodies** [or **immunoglobulins**]

[10] A drug delivery strategy often used with interferons or liposomes is to bind them with this polymer, which masks the drugs from the body's immune system, thus increasing their serum half-life.

ANSWER: **polyethylene glycol** [or **PEG**; or **PEO**; or **POE**; or **polyethylene oxide**; or **polyoxyethylene**; prompt on "**ethylene glycol**"]

[10] PEGylated interferon alfa-2a and alfa-2b are used to treat this disease, which can also be treated with sofosbuvir.

ANSWER: **hepatitis C** virus [or **HCV**]

20. This association created a five-member court to run its territory chaired by John Carter, and negotiated with Cherokee Indians to make the Transylvania Purchase. For 10 points each:

[10] Name this association which, in 1772, established an autonomous republic on the banks of the namesake river in Tennessee when they realized they were living south of the official territory of North Carolina.

ANSWER: **Watauga** Association [or Republic of **Watauga**]

[10] John Sevier, who came to live at Watauga after it was established, is better remembered as the only governor of this attempted US state that was set up at Jonesborough in 1784.

ANSWER: State of **Franklin** [or Free Republic of **Franklin**; or State of **Frankland**]

[10] The State of Franklin met its end when Sevier was defeated by this colonel, who commanded the loyalist army of North Carolina in Washington County. This man's nephew of the same name was a Senator from Indiana who commanded the Yellow Jackets at Tippecanoe.

ANSWER: John **Tipton**