1. Any inviscid flow which possesses this property must possess an inflection point in the velocity profile, according to a theorem of Rayleigh. Analysis of the Taylor-Goldstein equation shows that a stratified shear flow which possesses this property must have a Richardson number of less than one-fourth. Experimentally, plane Couette flow can exhibit this property, despite theoretical analysis indicating it is always absent. For a plane inviscid flow with this property, Howard showed that the eigenvalues of the governing equation are bounded in a semicircle in the upper-half plane centered around the average of the minimum and maximum phase velocities. For a wave propagating in a fluid, this property occurs if the wave's frequency has a positive imaginary part. This property is possessed by a flow acted on by a perturbation with a positive growth rate. For 10 points, what phenomenon can be caused by shear, due to a velocity discontinuity at an interface between two fluids, in an example named for Kelvin and Helmholtz?
ANSWER: **unstable** flow [accept descriptive answers like "the flow possesses an (Kelvin-Helmholtz) **instability**"]

2. This artist took over 40 years to complete a painting in which three cupids, including one with a mirror, surround the title figure, who stands in the "pudica" pose. Another mythological scene by this artist was intended as a complement to Paul Delaroche's *The Assassination of the Duke of Guise* and uses flowing green, blue, red, and orange cloths to depict the title figure's love for his stepmother Stratonice. In another of this artist's paintings, the "Snow King" Starno is surrounded by four maidens, as Malvina reaches out for the hand of a character who is slumped over his harp. This artist of *Venus Anadyomene*, *The Sickness of Antiochus*, and *The Dream of Ossian* also made a painting in which a huge eagle looks on as a suppliant nymph reaches up to stroke the beard of an enthroned god who grasps a scepter. For 10 points, name this artist of *Jupiter and Thetis*, who broke from Neoclassicism with paintings like *The Grand Odalisque*.
ANSWER: Jean-Auguste-Dominique **Ingres**

3. The main character of this work uses resins from the "Tree-of-the-Word" and the "china clay of Tobati" to make "listening-flowerpots." After a cow is murdered in this novel, a bezoar inside its stomach is believed to give prophecies. Its title character once owned an ivory pen named "Loco Solo," which destroys paper when used for writing. Helen Lane's translation of this novel ends with a "Final Compiler's Note" written by Policarpo. A handwritten note stating "On the occasion of my death, I order that my corpse be decapitated" is found pinned to a cathedral at the beginning of this surreal novel, which largely consists of dialogue between the title character and his secretary. Published fourteen years after its author's first novel, *Son of Man*, it fictionalizes the life of Dr. Francia, a Paraguayan dictator. For 10 points, name this novel by Augusto Roa Bastos.
ANSWER: *Yo El Supremo* [or *I, the Supreme*]

4. In the largest collection of poems about this character, he meets his death after he jumps out of his bathtub to pursue a golden stag. After this character encounters a rose garden surrounded by a magical thread, he saves his vassal from losing both his right foot and left hand to the dwarf-king Laurin. This man saves a maiden claiming to be a personification of good luck in the poem "The Monster," which ends with him journeying to Rumeney to fight dragons until the Day of Judgment. A thirteenth-century poem about this character ends with him hopping onto a gigantic black horse that takes him to Hell. This character is mentored by Hildebrand and holds Hagen and Gunther prisoner in *The Song of the Nibelungs,* where he is presented as an ally of King Atli. In most High Germanic stories about him, he is exiled from his native Verona by Ermenrich and fights with Siegfried. For 10 points, name this mythical version of Theodoric the Great.
ANSWER: **Dietrich** von Bern [or **Dietrich** of Bern; prompt on Theodoric the Great]

5. After becoming president of the Parvin Foundation, this man was investigated due to a sale of stock in the Flamingo Hotel being linked to the mobster Meyer Lansky. This man courted scandal by marrying the 23-year old Cathleen Heffernan, and by recusing himself from the obscenity trial of the Swedish film *I Am Curious Yellow*, after it was revealed that the allegedly-pornographic Evergreen Review had printed this man's book *Points of Rebellion*. This author of the memoir *Of Men and Mountains* wrote an oft-cited dissent in *Sierra Club v. Morton*, asserting that trees should have standing to sue for their own environmental protection. This justice, who granted a temporary stay on the execution of Julius and Ethel Rosenberg, wrote a majority opinion holding that guarantees in the Bill of Rights have "emanations" which form "penumbras," in *Griswold v. Connecticut*. For 10 points, name this justice, replaced by John Paul Stevens after he died in 1975, who is still the longest-serving Supreme Court Justice in U.S. history.
ANSWER: William O. **Douglas** [William Orville **Douglas**]

6. This noun appears in the title of a short piece that opens with a rising and falling theme in the right hand that goes B, E, A-sharp, high B, G, E before the left hand begins playing a tremolo alternating between B flat and A natural. Two unusual seven-note chords end that Franz Liszt piece, whose title shares this noun with a song whose English lyric adaptation is often called "The Bluest Kind of Blues". A *movement* with this title features an F-sharp major interlude marked "Un peu anime" that is dominated by flute and harp. That movement with this title opens with a melody played by the clarinets and bassoons before the cor anglais enters playing a theme that begins with a rising triplet starting on G-sharp. A song first recorded in 1940 by the Quintette du Hot Club du France shares this title with a movement that is followed by "Fêtes" and "Sirènes" in an 1899 suite. For 10 points, give this atmospheric name shared by a Django Reinhardt standard and the first of Debussy's *Nocturnes*.
ANSWER: *Nuages* [or *Clouds*; or **Wolken**; accept *Nuages gris* or *Trübe Wolken* or *Gray Clouds* or *Murky Clouds*]

7. This longtime atheist authored a scrapbook addressed to the Chinese statesman Li Hung Chang, in which he apologized for the fact that European missionaries were dumb enough to believe in devils and ghosts. In order to prevent fires and get rid of rats at a local flour mill in Crayford, this man developed the first sprinkler system and the first re-setting mousetrap. This man, whose son of the same name wrote a biography of him entitled *A Genius in the Family*, also built an amusement park ride called the "Captive Flying Machine" at Blackpool Pleasure Beach to fund his failed research on airplanes. His best-known invention was financed by and sometimes named for Albert Vickers. That invention was first used during the Emin Pasha Relief Expedition, and then developed for use during the Matabele War and the Battle of Omdurman. His invention was a rival to the design of Benjamin Hotchkiss, and used recoil force to improve upon the crank that was needed to operate the Gatling gun. For 10 points, name this man who invented the first fully automatic gun.
ANSWER: Sir Hiram [Stevens] **Maxim**

8. Keith Hollingsworth's book about the literature of this place notes that the first of the Bon Gaultier papers contained a series of parody poems by Theodore Martin including "The Fakers' New Toast" entitled "Flowers of Hemp" or the "Garland" of this place. At the end of an essay titled partly for this place, a man is reminded of his childhood schoolbook by the "torn and soiled" Bible he is handed and is haunted by the tolling of a bell that signifies seven, then six remaining hours. William Harrison Ainsworth's *Jack Sheppard* and Edward Bulwer-Lytton's *Eugene Aram* are among the many novels based on stories from the "Calendar" named for this place. It's likely that most of *Le Morte d'Arthur* was written while Thomas Malory was in this place, a "visit to" which was described in a Charles Dickens essay. A character is reunited with her "Lancashire husband" Jemmy after returning to this place; that character's mother escaped this place by "pleading her belly". For 10 points, name this birthplace of Moll Flanders, a notorious London prison.
ANSWER: **Newgate** Prison/Gaol [prompt on "prison" or equivalents; prompt on "the Old Bailey"; prompt on "London" until it is read]

9. Lattice theory is used to prove that these systems output a Boolean algebra isomorphic to the ones generated by Turing Machines. John Myhill devised the first deterministic machines that accepts the class of these systems, though it was Lawrence Landweber who first proved the result about acceptance. One of two results named the Immerman-Szelepcsenyi theorem holds that these systems are closed under the complement operation. These systems can be made lambda free by writing them in Kuroda normal form. They are equivalent in power to a version of Turing Machines that employ left and right angle bracket symbols called linear bounded automata. They correspond to Type-1 languages on the Chomsky Hierarchy. The defining characteristic of these non-contractile systems is that the left-hand side of a production rule may have terminals and non-terminals. For 10 points, name these grammars that can be used to define more languages than context-free languages.
ANSWER: **context-sensitive** languages [or **context-senstive** grammars; or **indexed** languages until "indexed" is read; accept **linear bounded automata** or **linear bounded automaton** until "Kuroda"]

10. One member of a family with this name was imprisoned by her son Alberic II because he opposed her second marriage to Hugh of Arles, who escaped the castle himself by swinging off a rope. A historian with this first name wrote an eight-book history of Emperor Maurice, and an account of Chosroes II, while serving as prefect and imperial secretary for Emperor Heraclius—that Byzantine historian had the last name Simocatta. The founder and namesake of this dynasty had a daughter, Marozia, who was attacked by Liutprand of Cremona for taking the titles of *serenissima vestaratrix* and *senatrix*. This dynasty included John XII, who was deposed at a council called by Otto the Great. The influence of this family characterized a period called the "saeculum obscurum," which began a few years after Formosus was put on trial in the Cadaver Synod. For 10 points, name this family of counts from Tusculum who dominated the papacy during the Pornocracy.
ANSWER: **Theophylact**us [or **Teofilatto**; or **Theophylacti**; or Counts of **Tusculum**, the **Tusculan** Papacy, or **Tusculani** until "Tusculum" is read and prompt afterwards]

11. A poem compares the "finite infinity" of the "polar privacy" of this entity with the "solitude of space," a "solitude of sea," and the "solitude of death." This thing "dances like a Bomb, abroad, / And swings upon the Hours" in a poem in which a "Goblin" caresses "her freezing hair;" in that poem, this thing "has moments of Escape" and also has "Bandaged moments." In a third poem, this entity "notes the Chariots – pausing – at her low Gate" and eventually "closes the Valves of her attention – like stone". Yet another poem asserts that in case "the Heaven inquire," this thing "should always stand ajar". This thing is also said to shut "the Door / to her divine Majority" after it "selects her own Society". "Hope" is the thing with feathers that perches inside, for 10 points, what entity, according to Emily Dickinson?
ANSWER: the **Soul**

12. One album titled for this location features a 10- minute 3/4 swing arrangement of the Mongo Santamaria tune "Afro Blue"; that Coltrane album features the song "Alabama," which was written as a tribute to the victims of the 16th Street Baptist Church bombing. Maynard Ferguson created a "Dream Band" named for this location. Art Blakey's performance here with Curly Russell, Lou Donaldson, Clifford Brown, and Horace Silver led to two Blue Note albums titled "A Night at *this location.*" The lyrics "Down them stairs, lose them cares / Where? Down in *this location*" were added to a song titled for this location by the band Manhattan Transfer. That song named for this location was the most successful song of a band featuring Jaco Pastorius, Wayne Shorter and Joe Zawinul. A Grammy-winning song by the band Weather Report is named after, for 10 points, what New York City jazz club which was named to advertise its regular headline performer, Charlie Parker?
ANSWER: **Birdland**

13. Brillouin's theorem explains why CIS wave functions do not account for this phenomenon in the ground state, while CISD and CISDT wave functions do. The energy induced by this phenomenon is increased by the formation of a Fermi heap and reduced by the formation of a Fermi hole. Thom Dunning developed a type of basis set which is said to be "consistent" with the presence of this phenomenon. The "dynamic" form of this phenomenon can be modeled using the coupled cluster method. This phenomenon's namesake energy is defined as the difference between the exact energy of the system and the energy computed using the Hartree-Fock method. The Schrodinger equation for the helium atom is non-separable because this phenomenon produces a non-linear term proportional to one over the difference between two radii. For 10 points, name this phenomenon caused by the Coulombic interactions between particles outside the nuclei of atoms.
ANSWER: electron-**electron correlation** [or electron-**electron repulsion**; or **electrostatic repulsion**; or **dynamic correlation**; or **static correlation**; prompt on "electron-electron interactions," "electrostatic interactions," correlation, or answers describing a "deviation from the Hartree-Fock method"]

14. Practitioners of this technique include Stephen Khamsi and Steven Witty, whose study of ten subjects in San Francisco found that it consists of seven stages ending in disengagement. An extension to this technique called the "four steps method," developed by J. Konrad Stettbacher, was praised by Alice Miller for addressing this practice's flaws. The founder of this technique wrote that humans have three lines of consciousness, which leads to three levels of imprinting. Tomas Videgard wrote a report on the success and failure of this technique, which was described in books such as *The Biology of Love* and one subtitled "Toward a Real World." It was first discovered on a patient known as Danny Wilson, when he fell down to the floor and started convulsing while yelling out "Mommy! Daddy!" This technique, now practiced at a namesake center in Santa Monica by its founder, attempts to force patients to find their "real self" by reliving childhood trauma. For 10 points, name this technique of Arthur Janov, which cures neurosis by reducing people to a namesake basic level of existence.
ANSWER: **Primal** Therapy [or **Primal Scream** therapy, or **Feeling** Therapy until Videgard is read]

15. During a late portion of this military campaign, a friendly chief advised the army to tie bags around the feet of his horses, so the horses would not sink to their bellies in the snow. That army had to live upon cattle stolen from the Taochians as it navigated through the country of the Chalybes, filled with barbarians who were said to sing and dance as the enemy approached. The central army in this campaign chose Cheirisophus as its commander after several of its officers were led into a tent during a feast and decapitated by Tissaphernes. That event led to a retreat through Armenia which allegedly ended with the exclamation "Thalatta! Thalatta!" on sight of the Black Sea. This campaign, initially led by Clearchus up through the Battle of Cunaxa, was named for a force assembled by Cyrus the Younger to dethrone Artaxerxes II. For 10 points, name this expedition described in the *Anabasis* by Xenophon, and named for the number of Greek soldiers which participated.
ANSWER: Expedition/Retreat/March of the **Ten Thousand** [accept the Battle of **Cunaxa** before it is mentioned, prompt on general descriptive answers such "campaign of Cyrus the Younger" or "Clearchus"]

16. Charles Lohr catalogued 298 separate commentaries on this text that were published during the Middle Ages, including John of Jandun's *Questions,* which discusses if "accidents" could induce "degeneration." Nicole Oresme was made the Bishop of Lisieux for translating this text for King Charles V, and his translation includes an "analytical table of contents" to call attention to "many things worthy of note" in this book. Its fourth and final section begins by noting that "heavy" bodies move naturally toward their center, while "light" ones move naturally away from it. This book posits a substance that is neither subject to "generation nor corruption" that exists beyond the "sublunary sphere" to explain the motions of the "most perfect realities." For 10 points, name this cosmological treatise which posits a fifth element called "aether," a book written by Aristotle.
ANSWER: *De Caelo* [or *On the Heavens*; accept *De Caelo et Mundo* but do not accept or prompt on "*De Mundo*"]

17. This novel's protagonist is not surprised in the "incompetence and failure of science and of fire" after visiting the mechanic Herr Spieghalter, though after the protagonist visits Baron Japhet breaks a razor, he is angered. A notary named Cardot asks this novel's protagonist if his last name is O'Flaherty, since he would be the sole heir of Major O'Flaherty, a nawab who left him a massive fortune. As a youth, this novel's protagonist loses much of his fortune when the Comte de Villele becomes prime minister; he later pursues Countess Feodora to enter high society. While at the spa town of Aix-les-Bains in Savoy, this novel's protagonist wins a duel that he tried to intentionally lose. A curved line from *Tristram Shandy* opens this novel, in which the main character is about to throw himself into the Seine, until he wanders into a curiosity shop and purchases the title ever-shrinking object. For 10 points, name this novel in which Raphael de Valentin postpones his own suicide by using the wish-granting title object, a novel by Balzac.
ANSWER: The *Wild Ass's Skin* [or The *Magic Skin* or La *Peau de chagrin*]

18. This man ran a government-in-exile from the Shoreham Hotel, where he had an entire floor and an enclosed glass balcony to fly his nation's flag. After being diagnosed with tuberculosis, he recorded a farewell speech called "Message to My People" asking everyone to "work together for a better world," but then lived another 20 years. The "Open Doors" monument in Israel celebrates that this man, together with Paul McNutt, approved a plan allowing over a thousand Jewish refugees into his country. His nation's constitution required him to be succeeded after eight years by his vice president Sergio Osmeña, which he resisted for a time. A year before he rose to power, he fought for passage of the Tydings-McDuffie Act as the leader of the Nacionalista party, which also included his later successor Manuel Roxas. He also founded a city that became the national capital from 1948 to 1976, and was the actual site of the last fight between Joe Frazier and Muhammad Ali. For 10 points, name this man who, in 1935, became the first commonwealth president of the Philippines, and is the namesake of its most populous city.
ANSWER: Manuel L. **Quezon** [Manuel Luis **Quzezon** y Molina]

19. The founder of this religion died in a building called "Temple for the Defense of the Nation by means of the King of Doctrines," a monastery on a mountain which he converted. In this religion, a blindfolded acolyte would drop a flower to establish contact with Dainichi Nyorai during the *Kechien Kanjo* ritual. This religion's founder represented the phenomenal aspect of the "Womb World" and the transcendental aspect of the "Diamond World" by creating two *mandalas* often found in its places of worship. The *Kongo-cho Sutra* is one of the two main texts of this religion, which emphasizes the eternal Mahavairocana aspect of a certain figure. The founder of this religion is believed to have invented *hiragana* when he was spreading it with his teacher Hui-kuo. For 10 points, name this esoteric "True Word" Buddhist sect founded by the monk Kukai, which thrived in Japan starting in the 9th century.
ANSWER: **Shingon** Buddhism

20. Reeves et al. isolated a "pyrophosphate-dependent" form of this enzyme found in the cytosol of some plant cells. Whether a positive or negative effector binds to this enzyme changes whether or not its Arg-162 or Glu-161 residue faces the active site. A mutation in this enzyme's gene leads to a rare glycogen storage disease called GSD7 or Tarui disease. A second isoform of this enzyme forms a homodimer with FBPase-2 and is responsible for creating an activator of the first isoform of this enzyme. It's not hemoglobin, but phospho-enol-pyruvate and citrate can bind to this tetrameric enzyme, causing it to shift from the active R state to the inactive T state. In a classic example of feedback inhibition, this strongly exergonic enzyme is allosterically activated by AMP and inhibited by ATP, causing cells to only produce ATP when they need it. For 10 points, name this important regulatory enzyme in glycolysis which catalyzes the conversion of fructose-6-phosphate to fructose-1,6-bisphosphate.
ANSWER: **phosphofructokinase**-1 [or **PFK**-1]

Tiebreaker: This book's last section proposes a real "maxiworld" and multiple real "miniworlds" to support Hugh Everett's many-worlds interpretation of quantum mechanics, since the author believes that "that a superposed brain state should be associated with a number of distinct subjects of discrete experience." In its "Preliminaries," this book proposes a "two-dimensional semantics" that captures both the primary and secondary intension of a concept, which is used to later argue that "inverted qualia" may possibly exist, but does not necessarily exist. A property dualist account of the title phenomenon is presented in this book, which argues that it is possible to conceive of a world where every being in the world is replaced by a philosophical zombie counterpart, thus refuting physicalism. For 10 points, name this book about a "search for a fundamental theory," written by the Australian philosopher David Chalmers.
ANSWER: *The **Conscious Mind***

ACF Nationals 2016
Packet by Editors 8 (Finals Packet 1)
Bonuses

1. Answer the following about monks who wrote British history in the early Middle Ages, for 10 points each.
[10] The Venerable Bede is best remembered for this five-book work completed around 731 CE that praises Edwin of Northumbria as the ideal Christian king.
ANSWER: *The **Ecclesiastical History** of the English People* [or ***Historia Ecclesiastica*** *Gentis Anglorum* or ***History of the English Church***]
[10] This Welsh monk from St. David's Abbey is best known for writing a Life of King Alfred the Great in 893 CE, after he was invited to Alfred's court and given the monasteries of Congresbury and Banwell.
ANSWER: **Asser**
[10] This Celtic monk from Rhuys is a key source for Britain during the 5th and 6th centuries. He blasts rulers like the tyrant king Vortigern for inviting in the Saxons and sealing the doom of the nation in his work *De Excidio Britanniae*, or *On the Ruin of Britain*.
ANSWER: **Gildas** [or St. **Gildas** Bandonicus or **Gildas** the Wise or **Gildas** Sapiens]

2. This operation for a general observable A can be computed by sandwiching A between the wavefunction and its complex conjugate and integrating the result. For 10 points each:
[10] Name this operation in quantum mechanics which gives the average result of measurements of a given observable performed on particles in the exact same quantum state.
ANSWER: **expectation value** or **expected value** or **EV**
[10] In the ground state quantum harmonic oscillator, the expectation values of these two operators both equal h-bar times omega divided by 4. In the QHO, one of them is proportional to position squared, while the other is proportional to the Laplacian.
ANSWER: **kinetic energy** and **potential energy** [accept answers in either order, accept **T** or **K** in place of "kinetic energy," accept **U** or **V** in place of "potential energy"]
[10] For an operator A, and a mixed state represented by a density matrix rho, give the formula for the expectation value of A.
ANSWER: the **trace of rho times A** [accept equivalent expressions for times like "the **trace of the product of rho and A**" or "the **trace of rho A**," but do NOT accept any answer with "A times rho" or "A rho" or "the product of A and rho," do NOT accept or prompt on partial answers]

3. One essay in this volume describes a masterplan for Yokohama that uses a continuous and formless method of planning that resembles the title "programmatic lava." For 10 points each:
[10] Name this book, which contains essays such as "Islam after Einstein" and the poem "Learning Japanese." Bruce Mau partly designed this book, whose entries are arranged chronologically within the title categories.
ANSWER: *S,M,L,XL* [accept *Small, Medium, Large, Extra-Large*]
[10] *S,M,L,XL* was written by this theorist, who called Manhattan the "twentieth century's Rosetta Stone" in his book *Delirious New York*. His firm OMA designed the Seattle Central Library.
ANSWER: Rem **Koolhaas** [or Remment Lucas **Koolhaas**]
[10] Koolhaas designed the McCormick Tribune Campus Center, which is topped by a huge tubular metal train tunnel, for this American university. Its S.R. Crown Hall, like much of the rest of its campus, was designed by Ludwig Mies van der Rohe.
ANSWER: **IIT** [or **Illinois Institute of Technology**; accept **Illinois Tech**]

4. Identify the following works of Ralph Vaughan Williams, for 10 points each:
[10] The pentatonic scale figures heavily into the solo passages of this composition for violin and orchestra, in which the cadenzas depict the flutterings of the title avian. It was based on a George Meredith poem.
ANSWER: The *Lark Ascending*
[10] Text from John Bright's "Angel of Death" speech and the Walt Whitman poems "Beat! Beat! Drums", "Reconciliation", and "Dirge for Two Veterans" appear in four of the six movements of this 1936 cantata.
ANSWER: *Dona nobis pacem*
[10] A duet between an oboe and the solo viola opens this 1925 composition that also features a wordless choir. Its six movements are each headed by a quotation from the *Song of Solomon*.
ANSWER: *Flos Campi*

5. Answer the following about Carroll John Daly, a writer who created amusingly named characters such as Detective Satan Hall and "Three-Gun Terry", for 10 points each.
[10] John Sutherland credits Carroll John Daly's story "The False Burton Combs" with pioneering this style of detective fiction, which refers to detectives who are tough, like a certain type of cooked foodstuff.
ANSWER: **hardboiled** [or **hard-boil**ed]
[10] In a letter to Carroll John Daly, this author stated that "yours was the … only style of writing that ever influenced me in any way." His detective Mike Hammer stars in such books as *I, the Jury* and *Kiss Me Deadly*.
ANSWER: Mickey **Spillane** [or Frank Morrison **Spillane**]
[10] Carroll John Daly's stories were often published in this pulp magazine. Like *The Parisienne* and *Saucy Stories*, It was started by George Jean Nathan and H. L. Mencken to help fund the publishing of *The Smart Set*.
ANSWER: *Black Mask*

6. This term was coined by Cabinet Minister Allan Highet at a National Party conference in 1977. For 10 points each:
[10] Name this economic policy adopted in New Zealand by Prime Minister Rob Muldoon, which caused the country to run up large deficits by borrowing overseas money for expensive projects like the Clyde Dam.
ANSWER: **Think Big** policy
[10] Rob Muldoon was accused of violating the Gleneagles Agreement by allowing this event to proceed, leading to incidents like the Molesworth Street protest.
ANSWER: the **tour** of the **South African rugby squad** [or the **Springbok Tour**; accept any descriptive answer which implies that "**South African rugby** players are being allowed to come to New Zealand"]
[10] During the Molesworth riot, protesters held up photographs of this South African massacre. It took place in 1960 during a demonstration at a police station near Vereeniging against pass laws, resulting in bloodshed not matched until the Soweto uprising sixteen years later.
ANSWER: **Sharpeville** Massacre

7. Artificial "nourishment" is used when this concept indicates that a beach has a negative value or "deficit" of a namesake substance. For 10 points each:
[10] Name this concept, which is used to keep an account of the "sources" and "sinks" of a beach.
ANSWER: **sediment**ary **budget** [accept **sand budget**; prompt on budget]
[10] Sand is often deposited on a beach by this process, which uses a combination of wind and swash to create a zig-zag distribution of sand.
ANSWER: **longshore drift** [prompt on drift]
[10] These beachy components, which are juttings of sand into water, are formed primarily through longshore drift. When they attach to an island, they become known as a tombolo.
ANSWER: sand**spit**

8. In the preface to this novel, a character states that he is proud to think "that his Puppets have given satisfaction to the very best company in this empire." For 10 points each:
[10] Identify this book, which begins with the preface "Before the Curtain," in which the "Manager of the Performance" presents the story of a place full of "making love and jilting, laughing and the contrary."
ANSWER: *Vanity Fair: A Novel without a Hero*
[10] In *Vanity Fair*, Thackeray contrasts this heroine with the kind Amelia Sedley. She marries Rawdon Crawley and collects life insurance money to retire in Bath with her friends.
ANSWER: **Rebecca Sharp** [or **Becky** Sharp]
[10] Becky Sharp has an affair with this character, for whom she plays Clytemnestra in a charade. Since this character's son is insane, he is worried that his grandchildren will also be threatened with hereditary madness.
ANSWER: Marquis of **Steyne** [or Lord **Steyne**]

9. A 1911 book by this name, by Hanns Heinz Ewers, concerns a title female birthed when the mad Professor Jakob ten Brinken impregnates a prostitute in his lab. For 10 points each:
[10] Name this German word, which refers to a type of mandrake plant said in the Middle Ages to grow from men hanged on the gallows, when their blood or semen drips down and impregnates the ground. This plant then develops into a humanoid form, which represents the last bit of humanity in the hanged man.
ANSWER: **Alraune**
[10] Unfortunately, the Alraune is not discussed in this man's essay *The Metamorphosis of Plants*, in which he used 123 numbered drawings by Linnaeus to argue that plant organs developed from the leaf, inspired by his own discovery of the intermaxillary bone.
ANSWER: Johann Wolfgang von **Goethe**
[10] When this man's eyelids hit the ground, the first tea plants sprang forth, so that Chinese people could stay awake during zazen. This Buddhist monk is known as the first patriarch, and is credited with bringing Zen Buddhism to China.
ANSWER: **Bodhidharma**

10. For 10 points each, answer the following about the Japanese underworld.
[10] Izanami dies and is sent to the underworld after she gives birth to this *kami* of fire. This *kami* very quickly joins her there too, since Izanagi immediately kills him.
ANSWER: **Kagutsuchi** [of **Homusubi**]
[10] This legendary hero, supposedly of the *kofun* era, once ventured to *Tokoyo,* the Japanese underworld, to retrieve immortality-granting *tachibana* fruits for his emperor Suinin. Upon returning, this hero died and was thereafter worshipped as the *kami* of sweets.
ANSWER: **Tajimamori**
[10] This "Record of Ancient Matters" contains both of those stories about the underworld. Basil Hall's translation of this text, a companion to the *Nihon Shoki*, is why Susano'o is sometimes called "His Swift Impetuous Male Augustness."
ANSWER: *Kojiki*

11. This paradox, which is named for a physicist, concerns a box that has either nothing or one million dollars in it and an open box that is guaranteed to have one thousand dollars in it. For 10 points each:
[10] Name this paradox, in which a "predictor" guesses the player's choice and always puts one million dollars in the closed box if he predicts the player will go for only one box. The predictor will put zero dollars in the closed box if the player goes for both boxes.
ANSWER: **Newcomb**'s Paradox
[10] This philosopher presented Newcomb's Paradox in an essay in his book *Socratic Puzzles* which shows that using either the principle of dominance or the principle of expected utility will lead to differing choices.
ANSWER: Robert **Nozick**
[10] Newcomb's Paradox is basically a conundrum about the "logical" form of this doctrine, which holds that all events are predetermined. In a philosophical novel by Denis Diderot, a character named Jacques holds this philosophy.
ANSWER: **fatal**ism [accept **fatalist** or *Jacques the Fatalist*]

12. Walter Reppe used a Nickel(II) catalyst to perform this type of reaction, as well as an even more insane procedure which forms cyclo-octa-tetra-ene in a single step. For 10 points each:
[10] Name this reaction used to prepare benzene derivatives, which is called a [2+2+2] cycloaddition despite being metal-catalyzed and not actually pericyclic.
ANSWER: **alkyne trimerization**
[10] This class of actually-pericyclic reactions involves ring closures in which a new sigma bond is formed as a pi bond is lost, or ring openings where a new pi bond is formed as a sigma bond is cleaved.
ANSWER: **electrocyclic** reactions
[10] Pericyclic reactions can be classified as "thermal" or of this type, which indicates that the reaction is catalyzed by light.
ANSWER: **photochemical** reactions

13. Lord Byron's translations of this author's longest poem began "In the beginning was the Word next God; god was the Word, the Word no less was He"" For 10 points each:
[10] Name this court poet to Lorenzo de Medici, who wrote an incredibly long epic poem in which a giant named Morgante is converted to Christianity.
ANSWER: Luigi **Pulci**
[10] Luigi Pulci's character of Morgante travels with this knight, whose fury titles a poem about him by Ludovico Ariosto.
ANSWER: **Orlando**
[10] In *Orlando Furioso*, this character travels to the moon after Orlando loses his wits. While at the moon, this character finds many jars that contain lost things including the lost brains of many people.
ANSWER: **Astolpho** [or **Astolfo**]

14. This thinker's final book *Stranger and Friend: The Way of an Anthropologist* analyzes proper fieldwork procedure and observation methods. For 10 points each:
[10] Name this anthropologist whose time spent in the Copperbelt region of Northern Rhodesia resulted in the book *Copper Town*, but who may be best known for a 1950 study about how the film industry has altered human values, entitled *Hollywood the Dream Factory*.
ANSWER: Hortense **Powdermaker**
[10] Powdermaker was inspired to make her trip to Africa after reading Bronislaw Malinowski's introduction to this 1938 study of the Kikuyu people, which was written by future president Jomo Kenyatta.
ANSWER: *Facing Mount Kenya*
[10] The transition from collective memory to photography and then to film was discussed by Powdermaker, echoing the work of this sociologist who wrote *The Mass Ornament* and a psychological history of German film "From Caligari to Hitler."
ANSWER: Siegfried **Kracauer**

15. This politician, who rose to prominence as director of the national bank, drafted a private letter to Joachim von Ribbentrop in which he promised not to reach a separate peace with Russia. For 10 points each:
[10] Name this prime minister of Finland who resigned and was replaced by Carl Mannerheim in 1944.
ANSWER: Risto **Ryti** [Risto Heikki **Ryti**]
[10] Ryti was prime minister during the later part of this conflict, which included a battle at Raate Road, and was followed by the Continuation War.
ANSWER: **Winter** War [or **Talvisota**]
[10] Ryti opposed this fascist movement of Finland, which used a blue shield emblem featuring a person riding a bear holding a stick. Named for a town in western Finland, this movement led by General Wallenius dominated the government in 1931, causing it to outlaw communism.
ANSWER: **Lapua** Movement [or **Lapuan** Movement or **Lapuan** lilke, or **Lappororelsen**]

16. In this technique, a glass pipette with a very small tip is held next to a membrane and a small amount of suction is added to press a small section of the membrane to the pipette. For 10 points each:
[10] Name this technique which thus can be used to study individual ion channels, since all the ions transported across the channel will flow into the pipette for analysis.
ANSWER: **patch clamp**ing [prompt on "voltage clamping"]
[10] Patch clamping is often used to study these cells, in which voltage-gated ion channels allow for electrical signals to be propagated down the axon in the form of action potentials.
ANSWER: **neuron**s [or **nerve** cells]
[10] In general, the motion of ions under both a concentration gradient and a voltage gradient is described by this equation, which essentially adds an electrophoresis term to Fick's Law. It can be used to derive the Goldman-Hodgkins-Katz equation.
ANSWER: **Nernst-Planck** equation [Do NOT accept or prompt on "Nernst equation"]

17. Edwina Dumm illustrated this author's *Two Gentlemen and a Lady*, a delightful collection of short stories about doggies. For 10 points each:
[10] Name this cantankerous cultural critic, whose other books include *While Rome Burns*, which championed his good friend Harpo Marx and includes his essay about overseas soldiers, "Hands Across the Sea."
ANSWER: Alexander [Humphreys] **Woollcott**
[10] Alexander Woollcott inspired the title character of this play, in which Sheridan Whiteside slips on a patch of ice and causes mayhem for the Stanleys.
ANSWER: *The **Man Who Came to Dinner***
[10] Woollcott was also a member of this literary group, whose other members included Dorothy Parker. It is named for a New York City Hotel.
ANSWER: **Algonquin Round Table**

18. Willie Person Mangum, a Senator from North Carolina, would have become president if this disaster had killed sitting president John Tyler. For 10 points:
[10] Name this 1844 disaster in which a long gun called the Peacemaker on the namesake ship exploded, killing Secretary of State Abel Upshur and others.
ANSWER: USS *Princeton* disaster or incident of 1844
[10] Tyler survived because he was below deck, as was this woman, whose claim to fame may be sitting on the roof of the White House as First Lady and watching the Battle of Bladensburg, then rushing downstairs to save Gilbert Stuart's portrait of George Washington from the ensuing fire.
ANSWER: Dolley **Madison**
[10] This commodore built the Peacemaker gun that blew up in the Princeton disaster, but he was cleared of blame. He's also remembered for replacing John Sloat as the commander of the U.S. Pacific Squadron and using his flagship, the *USS Congress*, to do battle in Alta California.
ANSWER: Robert Field **Stockton**

19. The poet Carl Einstein coined the term for this movement, which he called "heroic." For 10 points each:
[10] Name this phase of an art movement that lasted from around 1909-1911, in which subjects were reduced down to their geometrical components. Its participants painted works like *Portrait of Ambroise Vollard* and *Violin and Palette* during it.
ANSWER: **analytic**al **cubism** [prompt on cubism]
[10] Carl Einstein noted that analytic cubism was practiced by these two artists, and that their individual styles became indistinguishable. During analytic cubism, these two painters would often not sign their paintings, so as to confuse the general public.
ANSWER: Pablo **Picasso** and George **Braque** [accept answers in either order]
[10] This French art dealer was the subject of a portrait by Picasso during his analytic cubist phase. He wrote one of the first books on cubism and was largely responsible for financing Cubist artists.
ANSWER: Daniel-Henry **Kahnweiler**

20. Examples of the "neo-charismatic" types of these movements include the Destiny Church Groningen and the International Christian Fellowship. For 10 points each:
[10] Name this type of religious movement which emphasizes the "born-again" experience. This term is derived from Latin and Greek words that mean "good" and "announce."
ANSWER: **evangelical** movement
[10] John and Carol Arnott basically started the "Toronto Blessing," the largest neo-charismatic evangelical movement in Canada by holding the Catch the Fire Movement in a church near this building, which gave the movement its name.
ANSWER: Toronto **Airport** [accept the **Toronto Airport Christian Fellowship**; accept Toronto Pearson International **Airport** or Lester B. Pearson International **Airport** or **Toronto Pearson**]
[10] In *Counterfeit Revival*, Hank Hanegraaf accused the leaders of the Toronto Airport Christian Fellowship of using the "holy" form of this phenomenon to hypnotize the crowd. In Hinduism, *Hasyayoga* is the act of inducing this phenomenon voluntarily in a person practicing yoga.
ANSWER: **laughter** [accept "Holy **Laughter**"]