Tossups

1. **This man blamed Jane Fonda for a heart attack in a *Wall Street Journal* piece called "I was the only victim of Three-Mile Island." He had a proposal to create an artificial harbor at Port Hope, Alaska in Project Chariot. He won the first Ig Nobel Prize for Peace because of his work developing what he called a "Super." This man is the second namesake of an effect which breaks the degeneracy of coordination complexes by elongating (*)** one axis. He controversially testified that he opposed extending a Top-Secret clearance during Oppenheimer's security hearings. This leader of Operation Plowshares, a program for the peaceful use of nuclear weapons, was a supporter of SDI. He co-names a fission-fusion nuclear bomb design with Polish physicist Ulam. For 10 points, name this Hungarian-American physicist and "Father of the Hydrogen Bomb."
ANSWER: Edward **Teller** [or **Teller** *Ede*]

2. **The central figure of this painting assumes a pose that is derived from the artist's earlier works *Miracle of the Jealous Husband* and *The Martyrdom of Saint Lawrence*. In the left background, a group of nymphs can be seen on land in front of some cliffs, and at the bottom of this work, a monstrous, brown sea creature opens its mouth at the central figure. Of the two flying putti in the top left of this work, both hold bows but only the one on the left holds arrows, and the title character looks up at those putti. The title figure** (*) grips a red robe in one hand while lying on an orange robe. In the bottom left, another putto rides a fish near the tail of a white animal that appears to be looking at the viewer; that animal is a bull. For 10 points, name this painting of an abduction scene by Titian.
ANSWER: The **Rape of Europa**

3. **This leader spent eight months in the British Museum after a much publicized incident in which he was freed in London with James Cantlie's help. An autobiography of a man who devoted his life to this leader is called "*My Thirty-Three Years' Dream*" and was written by Miyazaki Torazo. He convened a conference at Penang to gain funding With the help of Mikhail Borodin, this leader opened the (*)** Whampoa Military Academy. This leader proposed the Five-Power Constitution and included people's livelihood, nationalism, and democracy in his Three Principles of the People. Song Jiaoren, a protégé of this leader, was killed on the orders of his successor, Yuan Shikai, who had forced the abdication of the Qing Dynasty. For 10 points, name this Kuomintang leader revered on both sides of the Taiwan Strait for serving as the first president of the Republic of China.
ANSWER: Dr. **Sun** Yat-sen [or Dr. **Sun** Zhongshan; or **Sun** Wen; or **Sun** Yixian; or **Sun** Zaizhi; or **Sun** Rixin; or **Nakayama** Sho; or basically anything that says **Sun**, there's an article on Wikipedia with 10 252 bytes on his name; prompt on "*Guofu*", "*Geming Xiangxingzhe*", and "*Xiansheng*"]

4. **In order to ease tensions after an argument in this novel, one character learns how another man once gave a ring engraved with a sphinx to his lover and, after that lover died, received the same ring with a cross drawn over the sphinx. Two characters in this novel are offered a ride home in a carriage, during which they ask the driver if he beats his wife and if his wife beats him. One character in this novel used to love the fickle (*)** Princess R and later wounds his leg in a duel after seeing another man kiss a housekeeper. Another character in this novel dies after an autopsy on a corpse that has typhus; as he dies, he is kissed by his beloved Madame Odintsova. This novel ends with both Katya and Fenichka getting married. For 10 points, name this novel about Arkady Kirsanov and the nihilist Bazarov, written by Ivan Turgenev.
ANSWER: **Fathers and Sons** [or **Otcy i Deti**]

5. **Historians such as Hans Naumann attributed a renaissance to this man and his successors. He married his heir to a niece of John I Tzimiskes called Theophano. Soon after this ruler's ascension, he fought wars against the Dukes of Bavaria and Franconia, both of whom were called Eberhard. He allied with Louis IV to beat Hugh the Great of Paris.He spared Conrad the Red, who later made a crucial cavalry counterattack against an attack on his baggage train. He subjugated Berengar of Ivrea to rescue the kidnapped (*)** Adelaide, whom he married, making him King of Lombardy. This ruler inherited the Duchy of Saxony upon the death of his father, Henry the Fowler. He relieved a siege of Augsburg by beating a Magyar army at the Battle of Lechfeld. For 10 points, name this ruler crowned by Pope John XII in 962 as the first ruler of the Holy Roman Empire.
ANSWER: **Otto the Great** [or **Otto I**; or *Otto der Grosse*; or **Otto II of Saxony**; prompt on "Otto"]

6. **In one paper, this man outlined adherence to "Cartesianism" as a major problem of philosophy because it's impossible to begin philosophy with complete doubt. This man listed feeling, reaction and meditation as "Firstness", "Secondness", and "Thirdness". One work by this man outlined the method of tenacity and method of authority as ways of settling opinions, and also outlined the (*)** "guiding principle of inference". Another work by this thinker, which was part of his series *Illustrations of the Logic of Science*, discusses the example of adding accelerations together using a parallelogram and contrasts distinct and confused conceptions. For 10 points, name this author of "The Fixation of Belief" and "How to Make Our Ideas Clear", an early American pragmatist.
ANSWER: Charles Sanders **Peirce**

7. **In one essay, this author contrasted Albert Schweitzer's usage of the term "junior brother" with another man's refusal to go beyond "distant kinship." That essay begins by recounting how an adult was surprised to hear that a certain place had literature or history. This author also wrote about a boy who converts to Christianity and changes his name to Isaac, which earns him a beating from his father; that novel also tells of a (*)** tortoise that grows wings and feasts with birds. This author of the essay collection *Hopes and Impediments* wrote a novel in which the main character's mother begs him not to marry the osu Clara, so he gets Clara an abortion when she gets pregnant. In this author's most famous work, an oracle declares that the villagers must kill Ikemefuna. For 10 points, name this author of "An Image of Africa," *No Longer at Ease*, and *Things Fall Apart*.
ANSWER: Chinua **Achebe** [or Albert Chinualumogu **Achebe**]

8. **Because this quantity is very small, the Dyson series is accurate in the billionths after two terms. Dividing this quantity by two pi gives the one-loop correction to the electron's magnetic dipole moment. At zero angular momentum, the energy shift between the 2-S-one-half and 2-P-one-half levels of the hydrogen atom caused by vacuum coupling is proportional to the fifth power of this quantity. This quantity is equal to the ratio of the speed of the electron in the relativistic Bohr model to the speed of light. Around the 10 to the 283 kilo-electron-volt scale, this quantity (*)** diverges according to QED. This quantity, which is the coupling constant for the electromagnetic interaction, blows up at the Landau pole, was introduced by Arnold Sommerfeld and is equal to approximately one over 137. For 10 points, name this constant symbolized alpha.
ANSWER: **fine-structure** constant [or **alpha** before mentioned]

9. **This work gives examples of its central principle by examining India's industrial managing agencies, as well as the high rates charged by local moneylenders as opposed to the rates charged by central banks; that section is followed by one on "Counteracting Institutions." This essay shows that, even with an initial positive demand at prices up to 3/2 mu, eventually mu goes to zero. The author declares that the "even exchange rate" is what allows for a (*)** "modified reappearance" of Gresham's Law in the situation proposed in this paper, which suggests that, when quality is judged by a market statistic, sellers are encouraged to be dishonest. For 10 points, identify this paper on the consequences of information asymmetry by George Akerlof, which discusses the trade of used cars.

ANSWER: "The **Market for Lemons**: Quality Uncertainty and the Market Mechanism"

10. **In the catalytic cycle of Wilkinson's catalyst, the product is evolved after a reductive form of this type of reaction. When performed in a cyclohexane ring, one type of this reaction can be performed on a pair of substituents in the axial position. One type of this reaction is performed using potassium tert-butoxide and has a deuterium isotope effect greater than one. One type of this reaction uses an initial step of exhaustive methylation and generates (*)** the less-substituted product, though most types of this reaction generate the most substituted product according to Zaitsev's rule. Another type of this reaction competes with SN1 and results from the deprotonation of a carbocation, creating an alkene, while another requires an antiperiplanar configuration. For 10 points, name this type of reaction whose mechanisms include E1 and E2, in which a group is kicked off a molecule.
ANSWER: **elimination** [accept **E1** before mentioned; accept **E2** before mentioned]

11. **The size distribution of the elements of this process is given by the Marshall-Palmer law, and the Z-R relation is used to correlate the severity of this phenomenon with radar reflectivity. Along with temperature, the amount of this phenomenon is used to distinguish groups A through E in the Koppen (*)** classification system. This phenomenon can be caused by adiabatic cooling of anabatic wind to below its dew point. Mountains create a "shadow" in which this phenomenon doesn't occur, and this phenomenon occurs quite heavily during a monsoon. For 10 points, name this weather phenomenon in which water vapor condenses into liquid droplets and falls on the ground.
ANSWER: **rain** [accept **precipitation**]

12. **The premiere of this piece in a theater prompted a critical letter from "Philalethes" to be published in the** *Universal Spectator*. **This piece's first section is a** *grave* **sinfonia that repeats a dotted quarter – eighth motif; that section is followed by two recitatives for tenor. This piece is separated into three parts, the second of which concludes with a section that repeats, "for ever and ever." The instrumental (*)** *Pifa* section begins the fourth of twelve "scenes" in this work. The text of this work, which includes "Ev'ry valley shall be exalted," was collected by Charles Jennens from the Book of Common Prayer and the King James Bible. For 10 points, name this oratorio by Handel, which includes the "Hallelujah" chorus.
ANSWER: *Messiah*

13. **One condition of this organ is characterized by Michaelis-Gutmann bodies and foamy histiocytes on section; that condition is Malakoplakia. Markers of tumors of this organ include NMP22 and factor H-related protein, and cancer of it is caused by Schistosoma haematobium and arylamines. The compound acrolein, a byproduct of cyclophosphamide, causes hemorrhage and cancer in this organ. A Mitrofanoff procedure is used to bypass the function of this organ in patients in which it becomes neurogenic. A congenital defect involving exstrophy of this organ is commonly found alongside (*)** epispadias. This organ, whose lining has transitional epithelium, contracts via the detrusor muscle. This organ is filled by a pair of ureters, which originate from the kidney. For 10 points, name this organ, found in the lower abdomen, that stores urine.
ANSWER: **bladder**

14. **Outrage over this scandal led to the election of Jared Irwin, and Senator James Jackson resigned due to it. The legislation at the center of this scandal was passed by George Mathews, and his successors used glass prisms to burn copies of it. This scandal led to the creation of a lottery system in which single men received one entry and veterans and married men got two. Several companies at the center of this scandal were offshoots of the Combined Society. This scandal, which occurred at the same time as a similar incident in Pine Barrens, led to a Supreme Court case that held a state can't (*)** void contracts even if the contract was entered into via bribery; that case was *Fletcher v. Peck*. This scandal occurred after state legislators were offered discounted tracts. For 10 points, name this early US scandal involving Georgia politicians buying land.

ANSWER: **Yazoo Land Fraud**s [accept reasonable equivalents mentioning **Yazoo**]

15. **In one scene of this opera, a man tells of how he found his page with a girl under the kitchen table; while saying this, he lifts a dress from a chair and finds his page. In a later scene, that page jumps out of a window and breaks Antonio's flowerpots. This opera begins with the title character measuring space for a bed and singing "Cinque, dieci, venti." A lawyer in this work vows to exact revenge on a man who caused him to lose his beloved in the aria, (*)** "La Vendetta"; his plan involves forcing the marriage of Marcellina on the title character, despite his engagement to Susanna. This was the first of its composer's operas to have a libretto written by Lorenzo Da Ponte, and this opera continues the story of Count Almaviva. For 10 points, name this opera by Mozart based on a play by Beaumarchais.
ANSWER: *The **Marriage of Figaro**, or The Day of Madness* [or *Le **nozze di Figaro**, ossia la folle giornata*]

16. **One feature at the site of this battle was discussed in a 1980 paper by Paul W. Wallace; that paper discredited starting locations for that feature here such as the Damasta Spur, the Chalkomata Spring, and the Asopos Gorge. That feature at this battle was determined to have started at Vardates and was abandoned by 1000 Phocians seeking to defend their homeland when they caught sight of troops led by Hydarnes. That feature at this battle allowed the victors to (*)** outflank a nearby defending army that was entirely withdrawn except for a rearguard that included 700 Thespians. At this battle, Ephialtes, a traitorous resident of Trachis, revealed a hidden goat path in the mountains to forces under a frustrated Xerxes II. For 10 points, name this battle which was fought at the same time as Artemisium, where the namesake gates were the site of a last stand by the Spartan King Leonidas.
ANSWER: Battle of **Thermopylae** [or the Hot Gates of **Thermopylae**; prompt on **Hot Gates**; prompt on **Malis**]

17. **Some men in this play discuss a woman's "Wiesbaden" affair and her source of income while that woman is hiding in the same room; her prospective husband responds to these inquisitions with, "she's explained that." This play opens with the main character arranging roses in a blue bowl right before she tells a man to stop paying her compliments because she is slightly Puritan. (*)** Dumby and Cecil Graham are turned out of a club right before the climactic scene. The main character breaks the lock on a bank book and sees many payments made to a woman whom she suspects of having an affair with her husband; that other woman takes the blame for an illicit visit to a man when she claims to have brought the title object to Lord Darlington's home. For 10 points, name this play in which Mrs. Erlynne never tells her daughter of their relationship, written by Oscar Wilde.
ANSWER: ***Lady Windermere's Fan***

18. **An angel supposedly rubbed this man's head with a ruby until his hair fell out. This man spent forty days on Mount Safah weeping, after which Jibril taught him how to perform ritual ablution. This figure was given the title Safiullah and was the first person given the designation of prophet. Abu Hurira narrates a Hadith in Bukhari 543 stating that this figure was 60 cubits tall, and this man spent 957 years on (*)** Earth and 43 years in heaven. Iblis refused to bow to this figure, resulting in his banishment. This figure was born after Allah stated "Be" to a collection of clay and dust. For 10 points, name this figure whose wife Hawwa was created from his rib and who was expelled from paradise after Shaitan tempted them with the fruit of the forbidden tree, the first man in Islam.
ANSWER: **Adem** [or **Adam**]

19. **One of this man's children restored the walls of Megara after killing the Cythaeronion lion so that he could marry Euachme. This man won a contest against a figure who had affixed the previous losers' severed heads to the columns of his palace. The constellation Auriga was created after this man pushed another off of a cliff; that charioteer had previously helped this man win a race against Oenomaus and was named (*)** Myrtilus. This man's children included two brothers who agreed to transfer a kingdom when the sun moved

backwards in the sky, and threw their half-brother Chrysippus into a well. This father of Thyestes and Atreus and husband of Hippodamia received an ivory prosthetic after Demeter accidentally ate his shoulder. For 10 points, name this son of Tantalus who was cut up and served to the gods at a banquet, the namesake of a Grecian peninsula.
ANSWER: **Pelops**

20. **This poem describes the "similitudes of the past, and those of the future" and the "glories strung like beads on my smallest sights and hearings" as part of a "well-join'd scheme." Later, the speaker states, "The dark threw patches down upon me" and details the "cheating look, the frivolous word, the adulterous wish, not wanting" after saying, "I am he who knew what it was to be (*)** evil." The speaker declares, "distance avails not, and place avails not" after asking, "What is the count of the scores or hundreds of years between us?" This poem ends describing how we "descend upon you and all things" and how "you furnish your parts toward the soul." It describes "crowds of men and women attired in the usual costumes" and begins with the exclamation, "Flood-tide below me!" For 10 points, name this Whitman poem about a boat ride in New York.
ANSWER: "**Crossing Brooklyn Ferry**"

TB. **This event coincided with the execution of Richard Wayne Snell, the leader of The Covenant, the Sword, and the Arm of the Lord, who had planned a 1983 event similar to this one. Richard Paul Marsh presided over the trial of the perpetrator, who used the alias "Robert Kling". The Gates of Time, the Survivor Tree, and a series of empty chairs comprise the memorial of this event. Michael and Lori (*)** Fortier were charged as co-conspirators in this event. Charles Porter took an iconic photograph of this event showing a fireman holding a child. This event was planned to coincide with the second anniversary of the Siege of Waco, and the perpetrator used a Ryder truck filled with nitrate fertilizer. For 10 points, name this terrorist attack that destroyed the Alfred P. Murrah Federal Building, by Terry Nichols and Tim McVeigh.
ANSWER: **Oklahoma City Bombing** [prompt on partial answer, accept answers like the **Bombing of the Murrah Building**]

Bonuses

1. The land for its construction was originally negotiated as part of the Hay-Herran treaty, though, since that treaty was never ratified in Colombia, the United States engineered an independence movement. For 10 points each:
[10] Name this massive engineering project in a Central American nation, which was handed over to that nation in 1999. It was originally built so that ships wouldn't have to sail all the way around the Drake Passage.
ANSWER: **Panama Canal** [prompt on "canal"]
[10] The French originally tried to build the Panama Canal in the 1880s but were horribly stymied by mosquito-borne diseases. That effort was headed by this man who also developed the Suez canal.
ANSWER: Ferdinand de **Lesseps**
[10] This de facto ruler of Panama during the 1970s signed the treaties with Carter that handed over the Panama Canal to Panama. Hilariously, he was drunk during the actual signing of those treaties.
ANSWER: Omar Efrain **Torrijos** Herrera

2. The degree of ionization of these substances is given by the Saha equation, and Alfven waves propagate through these substances. For 10 points each:
[10] Name this phase of matter, which is the state of 99% of the baryonic matter in the universe. It essentially consists of an ionized gas.
ANSWER: **plasma**
[10] This important characteristic of a plasma is the distance across which a charge can influence a plasma. Outside of a sphere of this radius, the field of a charged particle in a plasma is screened.
ANSWER: **Debye** length
[10] Bohm and Gross derived this type of relation for plasma waves with wavelength much greater than the Debye length. This type of relation sets the frequency as some function of the wavenumber.
ANSWER: **dispersion** relation

3. After Sunni Ali Ber was swept away by a waterfall, this ruler deposed his young son to take power. For 10 points,
[10] Name this ruler whose reign saw the Songhai Empire grow to its greatest height.
ANSWER: **Askia** Mohammad I [or **Askia** the Great; or **Muhammad Toure**]
[10] Judar Pasha led Moroccan forces to victory over the Songhai Empire at this 1591 battle over the salt fields of Tagaza and then sacked the three major Songhai cities, leading to its collapse.
ANSWER: Battle of **Tondibi**
[10] The Songhai Empire was established after a revolt against this other West African empire once led by Mansa Musa whose cities included Timbuktu.
ANSWER: **Mali** Empire [or *Manden* Kurufaba]

4. The title figure of one work by this author represents happiness and is sought out by Mytyl and Tyltyl. For 10 points each:
[10] Name this Belgian playwright of *The Blue Bird* as well as another play that inspired many composers, *Pelleas and Melisande*.
ANSWER: Maurice Polydore Marie Bernard **Maeterlinck**
[10] Maeterlinck wrote a one-act play about people with this condition. Saramago wrote a novel about this condition which does not affect the doctor's wife.
ANSWER: **blind**ness
[10] Maeterlinck also wrote this play in which the blind grandfather thinks he hears the title figure, though others deny that figure's presence. Later, the Sister of Mercy reveals that the mother died after giving birth.
ANSWER: *Intruder*

5. This sculptor created a naked, winged man holding a tambourine amidst frolicking nudes in *La Danse*. For 10 points each:
[10] Name this French neoclassical sculptor who also created a version of Count Ugolino who chews on his fingers while one of his sons grasps his legs.
ANSWER: Jean-Baptiste **Carpeaux**
[10] This large work by Rodin features another version of Count Ugolino. It also includes *The Kiss* and *The Thinker*.
ANSWER: *The **Gates of Hell*** [or La ***Porte de l'Enfer***]
[10] This six-foot tall work by Rodin shows a life-sized man with his right hand on his head. It was originally criticized for being cast from a real model.
ANSWER: *The **Age of Bronze*** [or *The **Bronze Age*** or *L'**Age d'airain***]

6. These constructs can be found by solving the Schrodinger equation for a hydrogen-like atom, and they are often easily characterized by their number of radial and angular nodes. For 10 points each:
[10] Name these probabilistic representations of electron density. Atomic ones notably exist in s, p, d, and f varieties, and an easy way to find molecular ones is to take linear combinations of atomic ones.
ANSWER: **orbital**s
[10] This is the number of electrons that can be held in an f orbital.
ANSWER: **14**
[10] This is the type of bond formed by the overlap of two d orbitals. One of these bonds, along with one sigma and two pi bonds, are present in a quadruple bond.
ANSWER: **delta** bond

7. This idea was originally formulated in terms of perfect and imperfect duties, the former of which states that a maxim should be generalizable without generating a contradiction. For 10 points each:
[10] Name this doctrine of deontological ethics, by which a person acts as if their actions were the basis of a universal law.
ANSWER: **Categorical Imperative**
[10] The categorical imperative was introduced by this German philosopher in his *Groundwork for the Metaphysics of Morals*.
ANSWER: Immanuel **Kant**
[10] Kant created this thought experiment in his *Groundwork*, in which a polity consists solely of rational people who follow the categorical imperative.
ANSWER: **Kingdom of Ends**

8. In the first of these works, the English horn melody in the second movement is strongly reminiscent of the English horn melody from Dvorak's Symphony From the New World. For 10 points each:
[10] Name these works by a certain composer that include the first one in D minor as well as an unfinished one that had planned sections titled "Past," "Present," and "Future" and is called the "Universe" one of these works.
ANSWER: **Symphonies by Charles Ives** [prompt on partial answer]
[10] The sections "Putnam's Camp" and "The Housatonic at Stockbridge" appear in this Ives composition, which depicts a certain region of America.
ANSWER: *Three Places in New England*
[10] This other Ives work is one of the "Two Contemplations." It quotes popular early twentieth century songs like "Washington Post March" and "Hello! Ma Baby."
ANSWER: *Central Park in the Dark*

9. This poem asks, "Are limbs, so dear-achieved, are sides, Full-nerved – still warm – too hard to stir?" after the speaker commands, "Move him into the sun – Gently its touch awoke him once." For 10 points each:
[10] Name this poem which ends with the question, "O what made fatuous sunbeams toil To break earth's sleep at all?"
ANSWER: "**Futility**"
[10] This other poem by the author of "Futility" describes how in boys' eyes "Shall shine the holy glimmers of goodbyes" and begins, "What passing-bells for these who die as cattle?"
ANSWER: "**Anthem for Doomed Youth**"
[10] "Futility" and "Anthem for Doomed Youth" were both written by this author of "Dulce et Decorum est."
ANSWER: Wilfred Edward Salter **Owen**

10. This problem may result in states being trapped in an arms race in which they spend more on defense while not gaining a relative advantage. For 10 points each:
[10] Name this problem in which one state increasing its security may cause other states to become frightened and increase their military capabilities, which makes the first state less safe than before.
ANSWER: the **security dilemma**
[10] The security dilemma is a favorite of Realist international scholars who believe that the international stage is defined by this term. When this term is applied to domestic politics, it means a lack of government.
ANSWER: **anarchy** [or the **anarchic** state; or **anarchic** environment]
[10] Proponents of Liberalism in IR argue that realist theories on war especially do not apply between states that have this form of government, though notable counterexamples include the participants in the Kargil War.
ANSWER: **democracy**

11. One politician said that a mad German professor, himself, and this prince were the only three men to understand the Schleswig-Holstein problem. For 10 points each:
[10] Name this prince, who was dead at the time of the aforementioned quote. He was responsible for the organization of the Crystal Palace Exhibition while he was the consort of Queen Victoria.
ANSWER: Prince **Albert** of Saxe-Cobourg and Gotha
[10] That quote is attributed to this British politician. While Foreign Secretary, he negotiated the 1840 London Convention that made Muhammad Ali's position in Egypt hereditary.
ANSWER: Lord **Palmerston** [or The Right Honourable Henry John **Temple**]
[10] Leopold I of Belgium sent this former physician of his to advise his niece Victoria. His medical advice was ignored during the death of Princess Charlotte and he was in charge of Edward VII's education.
ANSWER: Baron **Stockmar** [or Christian **Friedrich** Freiherr von Stockmar]

12. This character writes a poem with the same title as the novel in which he appears; the subtitle to this character's poem is "A Voyage to Maryland." For 10 points each:
[10] Name this character and "Poet Laureate of Maryland" who unfortunately has to marry the syphilitic prostitute Joan Toast.
ANSWER: **Ebenezer** **Cooke** [accept either underlined portion]
[10] Ebenezer Cooke is the protagonist of this novel by John Barth.
ANSWER: The ***Sot-Weed Factor***
[10] John Barth was a writer of this style of literature that made use of metafiction and other experimental elements. This style began in the years following World War II and, as its name suggests, came after a similarly named style.
ANSWER: **postmodern**ism

13. Every Cauchy sequence within a metric space has this property. For 10 points each:

[10] Name this property which, for a series, means that the sum is finite. The harmonic series lacks this property, but the geometric series has it as long as the ratio between successive terms is between negative 1 and 1.
ANSWER: **convergence** [accept word forms]
[10] This test for convergence takes two sequences, a sub n and b sub n, and determines the limit of the ratio of a sub n and b sub n. If the limit is a positive constant, then either both series converge or both diverge.
ANSWER: **limit comparison test** [or **LCT**; prompt on "comparison test", do NOT accept "direct comparison test"]
[10] According to this extension of the comparison test, if a series of complex-valued functions is dominated by some convergent series of positive numbers, then the series of functions converges uniformly.
ANSWER: **Weierstrass** **M-test** [accept either underlined portion]

14. According to Wikipedia, practitioners of this movement operate "Mitzvah tanks" that park in areas with heavy-people traffic and seek Jews by asking passersby the question "Are you Jewish?" For 10 points each:
[10] Name this Hasidic movement headquartered at Crown Heights, New York, that is best-known for its community outreach toward Jews. The name itself is a Hebrew acronym for "Wisdom, Understanding, and Knowledge."
ANSWER: **Chabad**-Lubavitch [or **Habad**; or **Lubavitch**]
[10] This last Rabbi of the Chabad-Lubavitch movement, who passed away in 1994, received visitors biweekly at his 770 Eastern Parkway home and gave out "Sunday Dollars" to be donated to charity.
ANSWER: Rabbi Menachem Mendel **Schneerson** [prompt on the Lubavitcher **Rebbe** or other answers like that]
[10] Chabad institutions often organize sessions for studying this text, which is composed of the first five books of the Tanakh.
ANSWER: **Torah**

15. This man was originally a servant to Cerwiden, and he gained his wisdom after he absorbed the first three drops from a cauldron. For 10 points each:
[10] Identify this bard whose name means "shining brow," but whose original name was Gwion Bach.
ANSWER: **Taliesin**
[10] The Book of Taliesin is from this country, whose myths were also compiled by Lady Charlotte Guest in the Mabinogion. That work include the stories of King Pwyll and his son Pryderi.
ANSWER: **Wales** [prompt on the "United Kingdom"; prompt on "Britain"]
[10] This magician from the Mabinogion participated in the Battle of the Trees when his brother Amatheon stole animals from Arawn, the lord of the underworld. He's the uncle of Lleu Llaw Gyffes.
ANSWER: **Gwydion**

16. This group doesn't derive from a single common ancestor and is therefore described as paraphyletic. For 10 points each:
[10] Name this kingdom of mostly unicellular eukaryotic organisms, which includes the apicomplexan parasite *Plasmodium* and red-tide-causing dinoflagellates.
ANSWER: **protists** [or **Protista**]
[10] Members of this genus of ciliate protists are popular model organisms. It was used by Greider and Blackburn in the discovery of telomerase, and its species include thermophila and pyriformis.
ANSWER: **Tetrahymena**
[10] Ciliates like tetrahymena have both micro and macro forms of this organelle. A pollen grain contains both a generative and a tube variety of this organelle.
ANSWER: **nucleus**

17. This work recounts how a Yaksha persuades the title character to journey to Alaka. For 10 points each:

[10] Name this 111-stanza work of Sanskrit poetry, which describes how the title figure helps to communicate between a man and his wife.
ANSWER: The *Cloud Messenger* [or *Meghaduta*]
[10] *The Cloud Messenger* was written by this Sanskrit poet who also wrote the play *The Recognition of Shakuntala*.
ANSWER: **Kalidasa**
[10] In *The Cloud Messenger*, this king and god of wealth exiles the Yaksha, which creates the need for the cloud messenger to journey to his wife.
ANSWER: King **Kubera**

18. This archipelago was the destination of the most observation teams sent to the Indian Ocean to observe the 1874 Transit of Venus. For 10 points each:
[10] Name this archipelago in the Southern Indian Ocean, which lies on a namesake underwater plateau and whose largest island is La Grande Terre.
ANSWER: **Kerguelen** Islands [or **Desolation** Islands; or *Archipel des **Kerguelen***; or *Îles **Kerguelen***]
[10] The Kerguelen Islands are owned by this country, whose other Indian Ocean possessions include Réunion and Mayotte. It also owns Guadeloupe and Martinique as well as a region east of Suriname.
ANSWER: **France** [or Fifth **French** Republic; or *Cinquième République **Française***; or *Vᵉ **République***]
[10] This is France's only special collectivity. This Melanesian region's Kanak people won semi-autonomy via the 1998 Nouméa Accord.
ANSWER: **New Caledonia** [or *Nouvelle-Calédonie*]

19. This city was originally a town called Nyenskans but was built into a city with a baroque style named for its founder. For 10 points each:
[10] Name this city once home to a governmental system called the Twelve Colleges. Important architects who designed this city include Domenic Trezzini and Jean-Baptiste Alexandre le Blond.
ANSWER: St. **Petersburg** [or **Petrograd**; or **Leningrad**]
[10] St. Petersburg became the capital of the Russian Empire under this reforming Russian ruler. He modernized the Russian armed forces, put down the *streltsy* revolts, and made the boyars cut their beards.
ANSWER: Emperor **Peter the Great** [or Tsar **Peter I**; or *Pyotr Alexeyevich I*; or *Pyotrr Velikey*; prompt on "Peter"; prompt on "*Pyotr Alexeyevich*"]
[10] Peter created this meritocratic system that forced nobles to serve and directly tied service to the state to one's noble title. Commoners who deserved it could become hereditary nobles via this system.
ANSWER: **Table of Ranks** [or *Tabel'o rangakh*]

20. An Arnold Bocklin painting of these figures shows them to the right of an assassin who is kneeling over his dead victim. For 10 points each:
[10] Name these figures, one of whom is depicted topless holding a torch and pointing at a stabbed woman in a Bouguereau painting.
ANSWER: the **furies** [or the **eumenides**]
[10] This twentieth century depiction of the furies is a triptych in which the furies are vaguely anthropomorphic. This triptych was later redone with a red background to replace the burnt orange one.
ANSWER: *Three Studies for Figures at the Base of a Crucifixion*
[10] Francis Bacon, the painter of *Three Studies*, also did a study on this other painter's portrait of Pope Innocent X. He may be better known for painting *Las Meninas*.
ANSWER: Diego Rodriguez de Silva y **Velazquez**