

Bulldog High School Academic Tournament XXII (2013): *Praxis*? We Talkin' Bout *Praxis*, Man
By Yale Student Academic Competitions
Edited by Matt Jackson and Ashvin Srivatsa, with Kevin Koai and Spencer Weinreich
Special Thanks to John Lawrence and Mike Cheyne

Round Thirteen Tossups

1. This book describes reason as addition and subtraction of thoughts, and defines two forms of endeavor called appetite and aversion, within its first twelve chapters. Its third part argues that scriptural interpretation is key in a Christian commonwealth. This work originated the “body politic” metaphor, and its title figure emerges when the people “authorize” a figure to be the “author” of all their actions by covenant. This book argues that the “right of nature,” by which anyone can do anything, causes a “war of all against all” in which life is “solitary, poor, nasty, brutish, and short.” For 10 points, name this work arguing for an absolute sovereign, by Thomas Hobbes.

ANSWER: Leviathan; *Or, the Matter, Forme, and Power of a Commonwealth Ecclesiastical and Civill* <MJ>

2. Omens of this man’s arrival include a swarm of bees clumping on a sacred laurel tree and his eventual wife’s hair catching fire. In one battle, he kills Lausus, making the tyrant Mezentius weep; he later stabs his main foe upon seeing the dead soldier Pallas’s belt. This son of Creusa once carried his crippled father on his back. This rival of Turnus heeded Mercury’s appeals to duty and caused his lover’s suicide by fleeing Carthage. This fighter in the Trojan War was advised to flee the burning city of Troy by his mother Venus. For 10 points, name this ancestor of the Romans and lover of Dido, the subject of a twelve-book epic by Vergil.

ANSWER: Aeneas <DL>

3. The space of all operations that correspond to these motions is called SO(3). Phasors can be interpreted as vectors undergoing this motion. Gradients of scalar fields do not do this, as evidenced by the vanishment of the curl operator on those vector fields. Any motion of this type can be decomposed into three orthogonal uniaxial motions, perhaps using Euler angles, or by specifying the yaw, pitch, and roll. In spherical coordinates, these motions correspond to those in which the radius coordinate is unchanged. Where this motion exists, angular momentum is nonzero. For 10 points, name this type of motion in which a body moves about an axis but not along it.

ANSWER: rotation [accept circulation; or word forms; do not accept “circular motion”] <AS>

4. This character’s wife asks, “What has a man to do with fear?” In another work, a stranger asks him to stand up and leave the “holy ground” where he sits to wait to die. He is relieved when the death of Merope’s husband Polybus is reported to him by a messenger from Corinth. This man curses his two sons at Colonus, and his feet were bound in infancy by Laius according to a play in which he fears that Creon is bribing Tiresias during a plague. His daughters by Jocasta, Ismene and Antigone, mourn his death. For 10 points, name this title king of two Sophocles plays, who blinds himself when he realizes his wife is his mother.

ANSWER: Oedipus [or Oidipous; or Oedipus Rex; or Oidipous Tyrannos] <JW>

5. In VSEPR (“vesper”) theory, there are this many lone pairs on the central atom in trigonal bipyramidal molecules. Each element in group 2 of the periodic table has this number of valence-shell p-orbital electrons. In natural units, this is the dipole moment of a homonuclear diatomic molecule. When an element undergoes beta decay, its mass number changes by this much. To the nearest integer, this is the pH of one-molar nitric acid. By extrapolating Charles’s law and locating the x-intercept on the Kelvin scale, one can find this temperature, which cannot be reached by any physical apparatus. For 10 points, give this number, also the number of neutrons in the lightest isotope of hydrogen.

ANSWER: zero [or obvious equivalents like none, etc.; accept absolute zero] <AS>

6. “Loveday” was an attempt to stop this conflict, during which the Act of Accord was enacted. Jane Shore was a mistress of one of its participants. Its engagement at Lose-Coat Field was lost by a duke of Clarence, and three suns seemed to appear in the sky during its Battle of Mortimer’s Cross. Richard Neville was nicknamed “Warwick the Kingmaker” during this conflict, in which Margaret of Anjou led forces at Tewkesbury. Edward IV died during a lull in this war, which ended when Henry VII won at Bosworth Field and started the Tudor house. For 10 points, name this 1400s civil conflict between the Houses of York and Lancaster, who were each represented by a flower.

ANSWER: War[s] of the Roses <JW>

7. Immediately after this event, three men discovered in a railroad boxcar became known as the “tramps.” A recording of this event was made by Alexander Zapruder. A man arrested in connection with this event was stopped by officer J.D. Tippit, who he killed; that man was killed by clubowner Jack Ruby two days later and bought a Carcano rifle before this event. The Warren commission debunked the significance of a “grassy knoll” to this event near Dealey Plaza, in which Governor John Connolly was also injured in a Dallas motorcade. For 10 points, name this November 22, 1963 event in which Lee Harvey Oswald shot and killed a Democratic United States President.

ANSWER: assassination of John Fitzgerald Kennedy [accept killing, murder, shooting, etc. for “assassination;” accept JFK for John Fitzgerald Kennedy; prompt “Kennedy assassination”; do not accept “RFK” or “assassination of Robert Kennedy”] <MJ>

8. This artist’s *Andromeda, Bent in Half* depicts a supine woman lying on her stomach a rock, like his larger *The Danaid*. Stanford University has a copy of one monument by this man in which a noose sits around the neck of one merchant. His sculpture groups include three hunched figures pointing downwards and six heroic merchants in *The Three Shades* and *The Burghers of Calais*, respectively. This man sculpted two seated figures embracing in *The Kiss*, within his unfinished *Gates of Hell*. For 10 points, name this French sculptor who showed a seated, Dante-inspired man with his chin on one hand in *The Thinker*.

ANSWER: Auguste Rodin <MJ>

9. One orchestral piece by this composer was inspired by a tale of a creature that traps drowning people in teacups. Another work is titled after a device that brings Dornička back to life. Those works are *The Water Goblin* and *The Golden Spinning Wheel*. The *Largo* movement of his best-known symphony features a melody for English horn in D-flat major that was adapted into the song “Goin’ Home.” His time in Spillville, Iowa inspired one of his best-known chamber works, and he attempted to incorporate spirituals and Native American music in his Ninth Symphony. For 10 points, name this Czech composer of the “American” String Quartet and the “New World” Symphony.

ANSWER: Antonín Dvořák <KK>

10. One legend about this man says that he didn’t understand the use of spiders, mosquitoes, or insanity until all three helped save his life; in particular, he was forced to feign madness before Achish, king of Gath. A feud among this man’s sons began after his daughter Tamar was raped by her half-brother Amnon, and he survived the rebellion of his long-haired son Absalom. This man had Uriah killed in battle after committing adultery with Bathsheba. This man’s closest friend was Jonathan, the son of his predecessor Saul. For 10 points, name this King of Israel who, as a youth, used a stone to defeat Goliath.

ANSWER: King David <DS>

11. One legal reaction to this event was the Statute of Laborers. According to Gabriele de’ Mussi, it grew significantly after Janibeg’s Siege of Caffa in Crimea. Masks with bird beaks were worn by professionals trying to stop this event, which occurred after the Great Famine, and during it rioters attacked Jews in Cologne for allegedly poisoning wells. It caused the peak of travelling Flagellant orders and a scarcity of labor that weakened feudalism.

The catapulting of corpses by the Golden Horde worsened this crisis, which was spread by *Yersinia pestis* on ships and Silk Road rats' fleas. For 10 points, what 1300s epidemic killed over a third of Europe's people?

ANSWER: **Black Death** [or **Black Plague**; or **bubonic plague**; or **Great Plague**; or **Great Pestilence**; or **Great Mortality**; or **pneumonic Plague**; or **septicemic plague**; prompt on "plague"; prompt on "*Yersinia pestis*" or "*Y. pestis*" before mentioned; prompt on "*Pasteurella pestis*" or "*P. pestis*"] <JW>

12. This organism was the subject of a 1971 paper showing that genes could directly influence behavior via circadian cycles. Its oocytes are polarized by *bicoid* and other maternal-effect genes, thus establishing an antero-posterior axis. The discovery of distal-less and other highly-conserved Hox genes in this organism showed that segmentation was controlled by homeotic genes. In his experiments with these organisms, Thomas Hunt Morgan proposed the crossing-over mechanism and also demonstrated the existence of sex-linked genes by showing that only male ones could be white-eyed. For 10 points, name this short-lived arthropod, a common model organism in genetic studies.

ANSWER: **Drosophila** melanogaster [or **D. melanogaster**; or the common **fruit fly**] <AS>

13. Adrienne Rich took one of this man's titles for a poem beginning "My swirling wants. Your frozen lips," and Cleanth Brooks took the title of *The Well-Wrought Urn* from a poem where this man imagines "build[ing] in sonnets pretty rooms" after death. He told a lover "For God's sake, hold your tongue" in "The Canonization," and imagined a creature which "suck'd [him] first, and now sucks thee" in "The Flea." This author depicted a compass in "A Valediction: Forbidding Mourning," claimed that "No man is an island," and wrote "Death, be not proud." For 10 points, name this metaphysical poet, the English author of *Meditations* and the Holy Sonnets.

ANSWER: John **Donne** <MJ>

14. This baseball team's former stars have included the eccentric pitcher Mark Fidrych, who was known as the "Bird." Its worst season came when it was managed by former star Alan Trammell. In 2010, a pitcher for this team, Armando Galarraga, threw the so-called "almost perfect game." In 2003, this team lost an American League record 119 games. It won one pennant on a walk-off home run by Magglio Ordonez. In the 2012 season, this team's third baseman won the Triple Crown. For 10 points, name this baseball team which won the American League pennant in 2012, has such stars as Miguel Cabrera and Justin Verlander, and plays in the Motor City.

ANSWER: **Detroit Tigers** [accept either underlined part alone] <Mike Cheyne>

15. With Lagrange, this man names a differential equation whose solutions are stationary for some functional; that equation appears in the calculus of variations. He is alphabetically the first of two co-namers of a constant that measures the difference between the harmonic series and the natural log. He names the first-order Runge-Kutta method, the simplest method for integrating ODEs. One quantity named for him is an invariant that equals 2 for all convex polyhedra. He devised his namesake cycles while studying the bridges of Königsberg. His identity states that "e to the i pi equals negative one". For 10 points, name this Swiss mathematician for whom the constant *e* is named.

ANSWER: Leonhard **Euler** [pronounced "oiler", but accept any reasonable pronunciation] <BH>

16. In one short story by this author, a Suicide Hostess is abducted by Billy the Poet. A collection titled for this author's story "Welcome to the Monkey House" also featured a world where all talents are equalized in "Harrison Bergeron". One of his characters fantasizes about waking up naked next to Montana Wildhack; he wrote of that ophthalmologist from Ilium, New York being abducted by aliens from planet Tralfamadore and becoming "unstuck in time." This author devised ice-nine, which can freeze the whole world, and Kilgore Trout appears throughout his work. For 10 points, name this American author of *Cat's Cradle* and *Slaughterhouse Five*.

ANSWER: Kurt **Vonnegut** Jr. <DL>

17. The left panel of one of this artist's works shows Saint Peter looking down at a book held by a red-clad Saint John the Evangelist, while the other panel shows Saint Mark behind Saint Paul. This artist of *The Four Apostles* showed a heavily-armored African animal in his woodcut *Rhinoceros*. He showed a man riding on horseback between a goat-faced figure and a figure that personifies death, and another of his woodcuts shows an hourglass and a rhombodendron above a winged figure pensively holding a compass. For 10 points, name this artist of *Knight, Death, and the Devil* and *Melancholia I*, a German artist of the early 16th century.

ANSWER: Albrecht Durer [or Albert Durer] <BS>

18. Eric Boswell and Charlene Lamb recently resigned from this organization, whose chief has pledged to recuse himself from matters involving the Heinz Company. In January, employees of this organization headquartered in Foggy Bottom presented a football helmet to their boss, who suffered from double vision. Its former highest officer, who retired the same day one of its facilities in Turkey was bombed, suffered a blood clot before testifying to Congress over the attack on this organization's Benghazi consulate. For 10 points, Susan Rice was passed over to head what department, in which John Kerry replaced Hillary Clinton as a diplomacy-oriented Cabinet secretary?

ANSWER: United States Department of State [or U.S. State Department; or Department of State of the United States of America; accept equivalents] <JW>

19. One book from this nation includes characters nicknamed "Cicada Shell" and "The Minister of the Left." A collaborative poetic form from this country, usually written by at least three people, was adapted by the author of *The Seashell Game* and the travel diary *Narrow Road to the Interior* to make a new form. This home country of the *renga* is the setting for the court gossip of the *Pillow Book* and a blank chapter entitled "Vanished Into the Clouds." Lady Aoi dies bearing the child of the title womanizing prince in a text from here often called the first novel. For 10 points, name this home country of Basho, Lady Murasaki Shikibu, *The Tale of Genji*, and haikus.

ANSWER: Japan [or Nippon-koku; or Nihon-koku] <SJW>

20. An illiterate ruler of this empire, which lost the War of Twenty-Seven Years, employed the Nine Jewels and had a court who pretended to follow his personal syncretic faith. Revolts against it were led by Khushal, a Pashtun poet, and the Suri Dynasty. It also fought the Maratha Confederacy of Shivaji and the Lodi Dynasty. Its rulers built the Red Fort, and Nadir Shah took its Peacock Throne, once used by Aurangzeb. This empire was a shell by the time of the Sepoy Mutiny and began at the first battle of Panipat. A domed mausoleum at Agra was constructed by its emperor Shah Jahan. Ruled by Akbar and Babur, this is, for 10 points, what Muslim Indian empire that built the Taj Mahal?

ANSWER: Mughal empire [or Mughals; or Mogul empire/dynasty; or the Moguls; prompt on "Gurkani," "Gurkani Dynasty," or equivalents; prompt on "Timurid," "Timurid Dynasty," or equivalents] <JW>

[STOP HERE]

[You have reached the end of the round. Do not continue reading unless the game is tied or a tossup was thrown out earlier in the round.]

21. In one play by this man, a servant says of her mistress, "She is alive. And dead," after she makes a bargain on behalf of her doomed husband. In another play by this man, a princess is married off to a peasant, and recognizes her long-lost brother in a parody of an older playwright's recognition scene that involved footprints and locks of hair. This author of *Alcestis* and *Electra* included a golden chariot as the escape method for one of his title characters, a witch who sends a poison robe to Glaucus before her spousal rage leads her to kill her children. For 10 points, name this Ancient Greek tragedian of *Medea* and *The Bacchae*, who wrote after Aeschylus and Sophocles.

ANSWER: Euripides <SJW>

Bonuses

1. He used texts by Walt Whitman for his first symphony, *A Sea Symphony*, and he based another work on a Phrygian-mode psalm tune by an earlier composer. For 10 points each:

[10] Name this English composer of *Fantasia on a Theme by Thomas Tallis*, who also wrote the song cycle *Songs of Travel* and the *Sinfonia antartica*.

ANSWER: Ralph Vaughan Williams

[10] Vaughan Williams also wrote a fantasia on this English folk tune whose title character was “all my joy” and “my delight.” This tune is sometimes sung as a Christmas carol to the words “What child is this?”

ANSWER: “Greensleeves”

[10] Vaughan Williams also composed *The Lark Ascending*, which contains a solo part for this instrument. Itzhak Perlman and Joshua Bell play this instrument, as did Niccolò Paganini.

ANSWER: violin <KK>

2. This thermodynamic potential is defined under isothermal and isobaric conditions. For 10 points each:

[10] Name this thermodynamic potential, which is derived from the internal energy by adding pressure times volume and subtracting temperature times entropy.

ANSWER: Gibbs (free) energy [accept free energy; accept free enthalpy; do not accept “Helmholtz free energy” or “enthalpy” or “energy”]

[10] A chemical reaction is said to lack this property if the change in Gibbs free energy associated with it is positive. One example of a reaction lacking this property is the conversion of graphite into diamond at STP.

ANSWER: spontaneous [or obvious English equivalents; or exergonic or word forms; do not accept “exothermic”]

[10] Diamond has this value on the Mohs scale, because it is the hardest object on the scale. This is also the number of carbon atoms in a molecule of decane.

ANSWER: ten <AS>

3. The *Just Judges*, a panel of this work, has been missing since its theft in 1934. For 10 points each:

[10] Name this polyptych, whose upper-central panel shows a red-robed, triple-crowned figure who might be Christ or God the Father. Below that, groups of men and angels kneel before a white animal representing Christ.

ANSWER: The Ghent Altarpiece [or Adoration of the Mystic Lamb, or Het Lam Gods]

[10] This Flemish artist and his brother Hubert painted the *Ghent Altarpiece*. He painted a fur-coated merchant holding his green-clad wife’s hand in *The Arnolfini Wedding*.

ANSWER: Jan van Eyck [or Johannes de Eyck]

[10] When closed, the upper register of the *Ghent Altarpiece* depicts this scene also central to Campin’s *Merode altarpiece*. In another version of this scene by van Eyck, seven rays of light stream in from a window at the top left.

ANSWER: The Annunciation to the Virgin Mary <BS>

4. Despite proclaiming that “Empire means peace,” this man pursued an aggressive foreign policy which recaptured the Papal States for Pope Pius IX. For 10 points each:

[10] Name this French leader who also tried to install Maximilian I as Emperor of Mexico. His reign ended with a defeat at the hands of the Prussians at the Battle of Sedan.

ANSWER: Napoleon III [or Louis-Napoleon Bonaparte; do not prompt “Napoleon” or “Bonaparte”]

[10] Napoleon III commissioned a large-scale renovation of this city. Years earlier, on the 18th of Brumaire, Napoleon I overthrew the Directory in this city.

ANSWER: Paris

[10] This Prefect of the Seine oversaw the renovation of Paris. He broadened the streets to make them less barricade-prone and modernized the sewer system.

ANSWER: Baron Georges-Eugène Haussmann <GL>

5. Upon hearing a suggestion that windmills will keep a group of African turtles cool, one member of this profession screams, “Windmills do not work that way! Good night!” For 10 points each:

[10] Name this profession of the human-hating Morbo on *Futurama*, as well as a Will Ferrell character whose apartment smells of rich mahogany, Ron Burgundy.

ANSWER: news **anchor** [or **anchorman**; accept equivalents]

[10] This NBC comedy about the local government of Pawnee, Indiana features the news anchor Perd Hapley, who says things like “There you have it, where it is the thing Leslie Knope just said about this situation.”

ANSWER: **Parks and Recreation**

[10] In the *Simpsons* episode “Deep Space Homer,” this news anchor mistakenly believes that Homer’s space shuttle has been taken over by giant space ants, saying “I, for one, welcome our new insect overlords.”

ANSWER: **Kent Brockman** [accept either] <KK>

6. In the first story of this collection, “The Sisters,” a young boy views the dead body of his mentor, Father Flynn. For 10 points each:

[10] Name this short story collection. Falling snow ends the last story in this collection, “The Dead,” in which Gabriel Conroy learns about his wife’s youthful sweetheart.

ANSWER: **Dubliners**

[10] This author of *Dubliners* also set his massive novel *Ulysses* in his hometown of Dublin.

ANSWER: James Augustine Aloysius **Joyce**

[10] In this story from *Dubliners*, a young boy goes to the title bazaar late at night on behalf of his sweetheart, Mangan’s sister.

ANSWER: “**Araby**” <SJW>

7. In this novel, the title character turns to affairs with Léon and Rodolphe to escape the boredom of her marriage to Charles. For ten points each:

[10] Name this novel set in rural France, in which black liquid oozes from the title woman’s mouth after she kills herself with arsenic.

ANSWER: **Madame Bovary**

[10] This French author of *The Temptation of St. Anthony* described Frederic Moreau in his novel *Sentimental Education* after *Madame Bovary* propelled him to fame.

ANSWER: Gustave **Flaubert**

[10] At the end of *Madame Bovary*, this pompous alchemist receives the Legion of Honor award.

ANSWER: Monsieur **Homais** <DS>

8. The Hubble tuning-fork diagram classifies these things as elliptical, lenticular, or spiral. For 10 points each:

[10] Name these large, gravitationally-bound systems which could contain up to a hundred trillion stars. You may be surprised to learn that you are inside one of these at this very moment.

ANSWER: **galaxy**

[10] Our galaxy is currently part of this group of galaxies, which also includes Andromeda and the Magellanic Clouds. It lies within the Virgo supercluster.

ANSWER: **Local** Group

[10] On an even larger scale, these are the largest structures known to exist in the universe. They consist of multiple superclusters, and are separated by voids.

ANSWER: galactic **filaments** [or great **walls**; accept **hyperclusters**] <BH>

9. This man awarded himself titles such as “King of Scotland” and “Conqueror of the British Empire,” but died in exile in Saudi Arabia after being ousted by Nyerere’s Tanzania. For 10 points each,

[10] Name this Ugandan dictator, rumored to be a cannibal, who seized power in a coup that deposed Milton Obote.

ANSWER: Idi **Amin** Dada

[10] This country carried out the Entebbe raid on a Ugandan airport to rescue an hijacked airplane. It also signed the Camp David accords to give the Sinai peninsula back to nearby Egypt.

ANSWER: State of **Israel** [or Medinat **Yisrael**]

[10] Amin carried out this 1972 edict against many of his people after claiming God told him to in a dream. It targeted approximately 90,000 people who were blamed for tax fraud.

ANSWER: 1972 **expulsion** of South **Asians** from Uganda [accept answers specifically mentioning **Indians**, **Pakistanis**, and/or **Gujaratis**; do not accept or prompt the expulsion of any other specific type of Asian] <SJW>

10. The accuracy of “strict” ones depends on Kimura’s neutral theory of evolution. For 10 points each:

[10] Give this term that describes nucleic acid or amino acid sequences that can be compared across organisms in order to estimate times at which genetic divergence occurred.

ANSWER: **molecular clocks** [or **evolutionary clocks**; prompt on “clocks”]

[10] One often-studied molecular clock is cytochrome c, which is found in this organelle as part of an electron transport chain, along with coenzyme Q. They are necessary for aerobic respiration to occur.

ANSWER: **mitochondria** [or **mitochondrion**]

[10] According to this theory, mitochondria and chloroplasts were once free-living organisms that eventually entered a symbiotic relationship with the ancestors of eukaryotic cells.

ANSWER: **endosymbiotic** theory [or **endosymbiosis**; or word forms] <AS>

11. This novel’s heroine is courted by Lord Warburton and Caspar Goodwood, but eventually goes to Europe and enters into a stifling marriage with Gilbert Osmond. For 10 points each:

[10] Name this novel about Isabel Archer, a young woman who is manipulated by Madame Merle after she inherits a fortune from Mr. Touchett.

ANSWER: *The **Portrait of a Lady***

[10] This author of *The Portrait of a Lady* put another American woman in Europe in his *Daisy Miller*. His other books include the ghost story *The Turn of the Screw*.

ANSWER: Henry **James**

[10] In this Henry James novel, Catherine Sloper is emotionally abused by her distant father and her fiancé. She ultimately rejects Morris Townsend, choosing instead to live as a spinster.

ANSWER: ***Washington Square*** <GL>

12. Name these relatives of Odin, for 10 points each.

[10] This god of light, the son of Odin, had a funeral after which everyone in the universe cried except for Loki. He was slain by his brother.

ANSWER: **Baldur** [or **Baldr**]

[10] This goddess sits on a throne next to Odin as his wife and the queen of Asgard.

ANSWER: **Frigga** [DO NOT ACCEPT “Freya” or “Freyja”]

[10] Name either or both of Odin’s two brothers, who helped him slay the giant Ymir and take Ymir’s body apart to form the cosmos.

ANSWER: **Vili** AND/OR **Ve** <SSp/MJ>

13. This nation is home to the ancient port town of Merca, and its highest peak is Mount Shimbiris. For 10 points each:

[10] Name this coastal African country. In its current anarchic condition, it is home to the breakaway government of Puntland, which cannot deal with the country’s massive pirate problem on its own.

ANSWER: Federal Republic of **Somalia** [or *Jamhuuriyadda Federaalka **Soomaaliya***; or *Jumhūriyyat **as-Sūmāl** al-Fiderāliyya*]

[10] This capital city Somalia is where the events of *Black Hawk Down* took place.

ANSWER: Mogadishu

[10] Parts of Mogadishu were controlled until 2011 by this militant group, an offshoot of the Islamic Courts Union. It still controls large swaths of the south of Somalia.

ANSWER: Al-Shabaab [or Harakat al-Shabaab al-Mujahideen; or Xarakada Mujaahidiinta Alshabaab] <BH>

14. Three Tenebrae services are held in the days before this religious observance, in which up to seven Old Testament readings precede an epistle and the “Alleluia Gospel.” For 10 points each:

[10] Name this Catholic Mass in which baptisms and confirmations occur before the Eucharist. It includes the lighting of a candle with an alpha and an omega inscribed in it.

ANSWER: Easter vigil [prompt “Holy Saturday;” DO NOT accept or prompt “Easter” alone]

[10] The Easter vigil, actually on the night before Easter, ends this solemn part of the Christian liturgical year which starts forty days prior to Easter on Ash Wednesday.

ANSWER: Lent [or Lententide; or Lenten season]

[10] This holiday, fifty days after Easter, celebrates the descent of the Holy Spirit as tongues of fire on the Apostles.

ANSWER: Pentecost [or Whitsunday] <MPG/MJ>

15. Answer these questions about the 1876 election of Rutherford B. Hayes, for 10 points each.

[10] Hayes lost the popular vote to this New York governor, a Bourbon Democrat who battled the Canal Ring and Tammany Hall. His supporters let Hayes have disputed electoral votes via the Compromise of 1877.

ANSWER: Samuel Jones Tilden

[10] Hayes agreed to remove troops from the South to end this time period, during which the former Confederacy rejoined the Union. Many “carpetbaggers” headed south during this post-Civil War era.

ANSWER: Reconstruction Era

[10] One disputed state was this home of Wade Hampton’s Red Shirts and racist agitator “Pitchfork Ben” Tillman. During the Revolutionary War, Francis Marion used guerrilla tactics here.

ANSWER: South Carolina <JW>

16. In one of this author’s novels, the historian Felipe Montero accepts a live-in position with the old Consuelo Llorente and falls in love with her young niece *Aura*. For 10 points each:

[10] Name this Mexican author of *The Old Gringo*, who depicted a tycoon’s deathbed memories in *The Death of Artemio Cruz*.

ANSWER: Carlos Fuentes Macías

[10] This other Mexican author penned nine essays about his home country in *The Labyrinth of Solitude*. The Aztec calendar inspired his poem “Sun Stone.”

ANSWER: Octavio Paz Lozano

[10] *The Old Gringo* was inspired by this American author’s disappearance in Mexico. His Civil War stories include “An Occurrence at Owl Creek Bridge” and he poured his sarcasm into *The Devil’s Dictionary*.

ANSWER: Ambrose Gwinnett Bierce <AT>

17. This *imperator* noted that all Gaul is divided into three parts and used the third person to describe his own victories in *Commentaries on the Gallic Wars*. For 10 points each:

[10] Name this Roman who crossed the Rubicon and became *dictator perpetuus* before Brutus’s conspiracy assassinated him on the Ides of March in 44 BCE.

ANSWER: Gaius Julius Caesar [prompt on “Caesar”]

[10] As a teenager, Caesar fled this earlier *dictator*, a hero of the Social War and rival of Gaius Marius. He killed thousands of enemies before abdicating in 79 BCE.

ANSWER: Lucius Cornelius Sulla Felix [or Sylla]

[10] Cassuvellanus resisted Caesar's invasion of this future province in 54 BCE. Commanders such as Agricola had to use ships to reach this home of Boudicca, which Aulus Plautius finally took for Claudius.

ANSWER: **Britain** [or **Britannia**; do not accept "England"] <MJ>

18. Back in the day, these devices contained mercury, but today, alcohol is preferred for safety reasons. For 10 points each:

[10] Name these devices that measure a certain property that is directly related to kinetic energy.

ANSWER: **thermometers**

[10] Primary thermometers can be based on the Johnson-Nyquist type of this phenomenon. Generally speaking, this phenomenon is a random fluctuation over an underlying signal. Another variety of it is described as "shot".

ANSWER: **noise**

[10] Noise with a flat spectral power density is described by this adjective. This adjective also describes a type of dwarf star that is not fusing but is still luminous.

ANSWER: **white** [accept **white noise**; accept **white dwarf**] <AS>

19. Answer these questions about typography, for 10 points each.

[10] The discipline of typography emerged due to this machine, which inspired Christoph Plantin and John Garamond to design typefaces. It was designed by Johannes Gutenberg.

ANSWER: **printing press**

[10] Typefaces such as Helvetica and Tahoma have this property, meaning that their edges are plain and devoid of decorative lines at the end of strokes.

ANSWER: **sans-serif**

[10] This property, the amount of space in between horizontal lines of type, is named for the material used to create that space on old printing presses.

ANSWER: **leading** [LEDD-ing] <MJ>

20. For 10 points, name these researchers who used the associative learning procedure called conditioning.

[10] This physiologist helped define classical conditioning with his work measuring the salivary response among dogs to the announcement of food by a tuning fork.

ANSWER: Ivan Petrovich **Pavlov**

[10] This behaviorist trainer of missile-guiding pigeons argued against "autonomous man" in *Beyond Freedom and Dignity*, and described a society shaped by his work in operant conditioning in *Walden Two*.

ANSWER: Burrhus Frederick [B.F.] **Skinner**

[10] Skinner's work built on this Columbia psychologist, who found in his work with puzzle-solving cats that rewarded behavior is likely to recur via his "law of effect."

ANSWER: Edward Lee "Ted" **Thorndike** <MJ>

21. According to VSEPR ("vesper") theory, a molecule with 2 non-central atoms and three lone pairs on the central atom will adopt this structure. For 10 points each:

[10] Name this molecular structure. Xenon difluoride is one such molecule with the aforementioned configuration

ANSWER: **linear** [generously accept anything that specifies that the atoms are in a **line**]

[10] To synthesize xenon difluoride, one can mix xenon and fluorine gases, and then either heat it, run electricity through it, or perform this action. Vitamin D3 can also be synthesized from 7-dehydrocholesterol by doing this.

ANSWER: shining **light** on it [or obvious equivalents; or **irradiating** it; accept any answer that involves **adding light** or **adding** (electromagnetic) **radiation**; accept more specific answers that specify "ultraviolet" or "visible" light]

[10] Fluorine and oxygen are useful for making noble gas compounds because they have high values of this property, with fluorine having a value of roughly 4. It measures the tendency for electrons to be drawn towards a given atom.

ANSWER: (Pauling) **electronegativity** <AS>