1. **This word accompanied "Myth" and "Faith" in the title of a recent Stanford exhibition of mannerist prints. Giorgio Vasari painted a helmeted woman with one arm outstretched and the other draped around an ostrich in a work titled (this word) "of Justice." A cherubic Hercules clutches a globe in a painting whose title contains the adjectival form of this word, which describes a portrait of (*)** Charles V by Parmigianino. An anguished woman tears hair at left in one painting with this word in its title, and one of the title figures clutches his mother's bare breast. For 10 points, name this word that titles a Agnolo Bronzino painting that is also known as "Venus, Cupid, Folly, and Time," and that refers to a type of metaphor.
ANSWER: **allegory** [or word forms like **allegorical**, or any of the full titles: "**Myth, Allegory, and Faith**," ***Allegory of Justice**, **Allegorical Portrait of Charles V**, **Allegory of Venus and Cupid**] <AWD, Painting>

2. **The peptidase P·C·S·K·9 targets one receptor for this molecule whose absorption in the small intestine is also reduced by the drug ezetimibe ["eh-ZET-i-mibe"]. One intermediate in the biosynthesis of this molecule is formed when geranyl transferase catalyzes the condensation of I·P·P into DMAPP [D-"map"]. That pathway for the synthesis of this molecule begins with the conversion of acetyl-Co·A to mev·al·onate, and is the target of drugs inhibiting (*)** H·M·G-Co·A reductase. A·p·o·B-100 is the primary transporter for this molecule in the body. Excess ingestion of this compound by M-2 macrophages leads to the formation of foam cells, which are a common symptom of one disease resulting from the accumulation of this substance. Incorporation of this molecule into cell membranes is vital for maintaining fluidity across temperature ranges. For 10 points, name this important lipid carried in the body by HDL and LDL.
ANSWER: **cholesterol** [or **LDL**s or **HDL**s; prompt on general answers like "lipids" or "plaques" due to the atherosclerosis clue] <RH, Biology>

3. **During the Napoleonic Wars, this country besieged and occupied the territory of French Guiana. Jean-Andoche Junot invaded this country, then negotiated a retreat from it in the Convention of Sintra. The oldest continuously active treaty in the world is a treaty of friendship signed by this country and the Kingdom of (*)** England. An attempted regicide in this country was dealt with by the execution of the entire Távora family. After a 1580 succession crisis, this country was unified with an eastern neighbor due to the decline of the House of Aviz. This country's capital city was completely destroyed by a tsunami and earthquake in 1755. For 10 points, name this Iberian country whose royals included Prince Henry the Navigator.
ANSWER: **Portugal** <VC, European History>

4. **A running theme in one of this author's novel series is the day November 25th, 1970, on which another author died. One novel in that series by this author sees "The Boss" tell its protagonist, whose girlfriend has magical ears, about an animal with a star shaped birthmark on its head. That trilogy by this author which revolves around "The Rat" includes the novels *Hear the Wind Sing* and (*)** *Pinball, 1973*. The protagonist of one of this author's novels releases a firefly from his rooftop that he had received from his roommate, the geography major Storm Trooper. That novel by this author revolves around Toru Watanabe's love triangle with the depressive Naoko and the vivacious Midori, and is named after a Beatles song. For 10 points, name this author of *A Wild Sheep Chase* and *Norwegian Wood.*
ANSWER: Haruki **Murakami** <CH, World/Other Lit>

5. **Before getting primaried out by Joshua Lee, a blind ex-Populist senator with this surname co-sponsored a resolution advising Americans against travelling on ships which could be sunk by U-boats. A man with this surname was the first sitting Congressman to appear on C-SPAN. The Southern Manifesto was repudiated by both senators from Tennessee, Estes (*)** Kefauver and a man with this surname. Because he introduced the High Performance Computing Act of 1991, a person with this surname was credited with "creating the internet." Supporters of this man may have accidentally voted for Pat Buchanan in 2000 because of Florida's butterfly ballot. For 10 points, give this surname of politicians such as the author of *An Inconvenient Truth*, Bill Clinton's Vice President.
ANSWER: **Gore** [or Thomas **Gore**; or Al **Gore** Sr.; or Al **Gore** Jr.] <VC, American History>

6. **One of this author's novels fictitiously places the death of Catullus in 44 BCE. That novel, an existentialist depiction of the assassination of Julius Caesar, was this author's novel *The Ides of March*. This author wrote a novel which centers around the Convent of Santa María Rosa de la Rosas and the actress Camila Perichole, who sees her adopted Uncle Pio and son Jaime die in this novel at the same time as the brother of a man who loved her, Esteban. That novel by this author is based on a book which is (*)** burned along with its writer, a monk, by the Inquisition. For 10 points, name this author who depicted Brother Juniper's investigation into the deaths of five people after the collapse of the title structure in *The Bridge of San Luis Rey*.
ANSWER: Thornton **Wilder** <CH, American Lit>

7. **This quantity is shown to be Lorentz invariant in a formula in which it is expressed as "charge squared" times "acceleration squared" over 6-pi-epsilon times the "speed of light cubed". This quantity also appears in the numerator of a dimensionless number relating the resistance and inertial forces that is sometimes named for Newton. The ratio of a load's real value for this property and an AC circuit's apparent value for this property are given by its namesake (*)** "factor". For an exposed surface, this quantity equals the integral of the Poynting vector. Rotationally, this quantity equals the dot product of torque and angular velocity, and in a circuit it equals the "current squared" times resistance. For 10 points, name this quantity equal to the amount of work per unit time whose SI unit is the Watt.
ANSWER: **power** [prompt on "P"] (first line refers to the Larmor formula, second clue is the Newton Number) <RH, Physics>

8. **One building designed by this architect includes two "ghost structures" in the shape of homes that were created from steel tubes. This architect also designed a house with a massive window resembling a sailboat and a large number nine next to its front door. In addition to designing Philadelphia's Franklin Court, this architect of the Lieb House also designed the massive, fluted limestone façade for a certain museum. This architect created a house with an exposed chimney, a wrap-around staircase, and a gently sloping roof for his mother. This architect of the (*)** *Vanna House* also designed the Seattle Art Museum and the Sainsbury Wing of the National Gallery. For 10 points, name this postmodern architect, the author of the book *Learning from Las Vegas*, who was also known for quipping that "less is a bore".
ANSWER: Robert **Venturi** [accept mentions of his wife Denise Scott Brown as well, as long as **Venturi** is given] <RH, Other Art>

9. **The highest ecclesiastical authority of this movement is the Governing Body Commission, which meets once a year. Adherents to this movement settled in Marshall County, West Virginia, where they built the Palace of Gold. The world's largest vegetarian hunger relief program is this group's namesake "Food For Life" charity. This group is popularly known by a name which derives from the first two words of the (*)** Maha Mantra. Initiates to this movement are required to abstain from non-procreative sex and intoxication, which did not prevent this movement achieving massive popularity in the Western counterculture of the 1960s. For 10 points, name this Hindu sect founded in New York City whose members practice bhakti yoga and venerate an incarnation of Lord Vishnu.
ANSWER: **Hare Krishna**s [or **International Society for Krishna Consciousness**; or **ISKCON**] <VC, Religion>

10. **An advisor to this ruler imagined interstate relations by representing territory in the center of a circular mandala. That advisor to this ruler wrote the *Arthashastra* and was named Chanakya. This ruler possibly influenced the outcome of the 301 BCE Battle of Ipsus, thanks to a peace offering he made to his father-in-law. An important source in the history of this ruler is the *Indica* of Megasthenes, who served as an ambassador of the** (*) Seleucid Empire in this man's court. This man conquered the Nanda Empire, which made him the ruler of most of the Indian subcontinent. This man starved himself to death in a Jain ritual, leaving his empire for Bindusara and his grandson Ashoka. For 10 points, name this founder of the Mauryan Dynasty.
ANSWER: **Chandragupta** Maurya [or **Sandrocottus**] <JO, World History>

11. **For one form of this process, the angular velocity may be calculated as one over the speed of light-squared times gamma-squared over gamma-plus-one times the cross product of the vectors "a" and "v". Another type of this phenomenon for an electron in an EM field may be modelled by the Bargmann-Michel-Telegdi equation. General relativity resolved a discrepancy in this process for** (*) Mercury's perihelion. Multiple forms of this process are thought to be responsible for Milankovitch cycles, and when torque is present, this process is referred to as "gyroscopic". When this process is perturbed, a bobbing motion called nutation occurs. For 10 points, name this process in which the direction of a rotating object's axis changes.
ANSWER: **precession** [or Thomas **precession**; or Larmor **precession**; or de Sitter **precession**] <RH, Other Science>

12. **A poem by this author notes that "Nor law, nor duty bade me fight," but rather "A lonely impulse of delight." That poem, which like the one before it in the same collection, was inspired by the death of this author's friend Lady Augusta Gregory's son, sees its protagonist say that his "country is Kiltartan Cross." In another poem by this author, the title figures "Unwearied still, lover by lover…(*)** paddle in the cold;" that poem features "nine-and-fifty" of the title birds. In another of this author's poems, "The ceremony of innocence is drowned" and "the center cannot hold" as a "rough beast…Slouches towards Bethlehem to be born." For 10 points, name this author of "An Irish Airman Foresees His Death," "The Wild Swans at Coole," and "The Second Coming."
ANSWER: W. B. **Yeats** [or William Butler **Yeats**] <CH, British Lit>

13. **To promote this food item, Antoine Parmentier would post guards around his garden, then instruct the guards to accept any bribes from peasants and allow them to be stolen. Following European contact, the Maori replaced their kumara plants with these food items. The American colonies first received these food items in a shipment from Nathaniel Butler, the Governor of Bermuda. People who fled a** (*) disaster caused by lack of this food item travelled in "coffin ships." A famine caused by a blight on this food item was alleviated after Robert Peel repealed the "Corn Laws." For 10 points, name this food item that was responsible for a great famine during the 1840s in Ireland.
ANSWER: **potato**es <JO, Misc./Other History>

14. **In one role, this actress played an insane college basketball coach whose various antics include attacking a professor with a stun gun, throwing toasters at her players, and driving a golf cart through practice. In another appearance, this actress played a Delaware Congresswoman who steals a police cruiser after assaulting a TV reporter. Both of those scenes featured this actress as the recurring character Sheila Kelly. In a different role, this actress begins speaking by chewing a massive amount of** (*) gum, and frequently uses props like a *Moana* doll and a stuffed moose. In that role, this actress twice threatened a New York Times reporter named Glenn Thrush, and angrily drove a motorized podium through the audience. For 10 points, name this former *Gilmore Girls* actress who recently portrayed White House press secretary Sean Spicer in two *SNL* appearances.
ANSWER: Melissa **McCarthy** <RH, Trash.Other>

15. **In 2009, this place was explored by amateur search-and-rescue enthusiast Tom Mahood, who discovered the remains of some German tourists that had gotten lost and died here. The federally recognized Timbisha Shoshone tribe claims this place as their home. During the Wisconsin glaciation, this place was the location of Lake (*)** Manly. Visitors to this location often stay at the historic living area of Stovepipe Wells and might visit the visitor center at this location's Furnace Creek. Twenty-mule teams were used to haul borax out of this place before it was designated as a National Park. For 10 points, name this extremely arid California location that is the hottest and lowest place in the Continental United States.
ANSWER: **Death Valley** [or **Death Valley** National Park] <VC, Geography>

16. **This character once spent three weeks shut up making Christmas decorations, after which the cat got in and destroyed all the work. This character is told that a house that "depends on loans…is not beautiful because it is not free" after being called a "skylark" and a "squirrel." This figure is told that husbands love their wives even more after forgiving them; that occurs after** (*) Krogstad returns a bond that this character had forged a signature on to pay for a trip to Italy. At the end of the work she appears in, this character tells her husband that she has been treated like an object to play with, an allusion to the work's title, and then slams the door. For 10 points, name this wife of Torvald who is the protagonist of Henrik Ibsen's *A Doll's House*.
ANSWER: **Nora** Helmer <CH, Euro Lit>

17. **This man's display of the Northwest Coast Indian Hall at the American Museum of Natural History reflects his philosophy of organizing artifacts by cultural area. This anthropologist organized an expedition sponsored by industrialist Morris Jesup that investigated the peoples of the North Pacific. This man dismissed concerns about racial purity as "imaginary" in a discussion of** (*) miscegenation toward the end of a book that questions the conception of the white race as culturally and physically superior. This anthropologist discussed a ceremony for the distribution of property known as the potlatch in his writings on the Kwakiutl ["quack-ee-YOO-tull"]. For 10 points, name this author of *The Mind of Primitive Man*, a Columbia professor known as the "Father of American Anthropology."
ANSWER: Franz **Boas** <GG, Social Science>

18. **In Gnostic tradition, Yaldabaoth was often pictured with a serpent's body and the face of one of these animals. A knight named Yvain ["ee-VAHN"] teams up with one of these animals to defeat a dragon in a medieval legend. This animal made up the main body of a creature which also included a goat's neck and a serpentine tail, the** (*) chimera. After having sex in a temple, Hippomenes and Atalanta were both turned into these animals. Because he removed a thorn from the paw of one of these animals, Androcles was later saved from being eaten. A very powerful one of these animals was strangled to death and had its invulnerable skin turned into armor. For 10 points, name these big cats, one of which was slain outside of Nemea in the first of the Twelve Labors of Heracles.
ANSWER: **lion**s <VC, Myth>

19. **A mixture of glycogen, ammonium acetate, and this compound are added to precipitate DNA from aqueous solutions. Size fractionation columns need to be washed in a buffer solution before use because they are commonly stored in a twenty-percent solution of this compound. This compound's proton NMR spectrum shows a triplet at 1.2 ppm, a singlet at 2.6ppm, and a quadruplet at 3.7 ppm. It's not (*)** water, but slides are rinsed with this compound until running clear after adding iodine in the Gram's stain procedure. A 70% concentration of this compound is the standard for sterilizing lab equipment. This compound can only be purified to roughly 96% by standard distillation techniques, since it forms a positive azeotrope with water. For 10 points, name this two-carbon alcohol.
ANSWER: **ethanol** [or ethyl **alcohol** or **EtOH**; accept any percent amount **ethanol**, such as 100% or 70% ethanol] <RH, Chemistry>

20. **The first movement of Béla Bartók's *Music for String, Percussion, and Celesta* is in this musical form. Buxtehude's nineteen preludes each include one to three sections in this form. Themes in this type of work can be inverted, retrograde, or retrograde inverted. The last movement of Beethoven's String Quartet No. 13 was originally published as a (*)** "grosse" work of this type, and the last movement of Mozart's "Jupiter" symphony ends with a fully-invertible one of these works for five parts. These works are often paired with preludes. J.S. Bach was legendarily able to improvise a six-voice work of this type, but died before he was able to complete, for 10 points, a musical composition titled for "The Art of" this musical form.
ANSWER: **fugue** [prompt on "counterpoint"] <AWD, Music>

1. Celebrate the contributions of women in mathematics, for 10 points each:
[10] In 2014, Iranian Maryam Mirzakhani became the first woman to ever win this highest prize for mathematicians under the age of 40 for her work on the geometry of Riemannian spaces. This award is comparable to a Nobel Prize.
ANSWER: **Fields** Medal
[10] Mathematician and physicist Emmy Noether's eponymous theorem says that there is a corresponding one of these laws for any physical system whose Lagrangian function has continuous symmetry. These laws describe how a certain quantity does not change in a system.
ANSWER: **conservation** laws [accept specific examples, such as **energy**, linear **momentum**, etc.]
[10] Euler, Lagrange, and this female mathematician name the only examples of rigid bodies, such as tops, whose precession is integrable. This student of Karl Weierstrass also co-names a theory of partial differential equations with Cauchy.
ANSWER: Sofia (Sonya) **Kovalevskaya** [or **Kowalevski**] <AWD, Other Science>

2. Answer the following about the Italian Risorgimento. For 10 points each:
[10] This "Hero of Two Worlds" and leader of the Redshirts led the Expedition of the Thousand, which helped to carry out the Risorgimento.
ANSWER: Giuseppe **Garibaldi**
[10] This politician founded the newspaper *Il Risorgimento* to argue for Italian independence. This Prime Minister of Piedmont-Sardinia became the first Prime Minister of a unified Italy.
ANSWER: Count **Cavour** [or Camillo **Benso**, Count of Cavour; or Camillo Benso, count di **Cavour**]
[10] During the struggle for Italian independence, this slogan was used first in Naples, and later throughout Italy, to express support for the King of Sardinia. It was partially named for an Italian opera composer.
ANSWER: **Viva Verdi** [or **Viva Vittorio Emanuele Re D'Italia**; or **Long Live Victor Emmanuel King of Italy**] <JO, European History>

3. The Cantonese servant Lee describes how a group of Chinese scholars discovered the true story of Cain and Abel in this novel. For 10 points each:
[10] Name this novel about Cal and Aron Trask, who represent Cain and Abel, respectively.
ANSWER: *East of Eden*
[10] *East of Eden* is a novel by this American author who also wrote about the Joad family's trip to California in another novel.
ANSWER: John Ernst **Steinbeck**, Jr.
[10] Steinbeck was born in this valley which is also the setting of *East of Eden* as well as several of his other works.
ANSWER: **Salinas** Valley <CH, American Lit>

4. Answer the following about the steadily improving history of American distance running. For 10 points each,
[10] At the time of his death in a car accident in 1975, this former runner for the University of Oregon held every American record between the distances of 2,000 meters and 10,000 meters. His life is dramatized in the 1998 film *Without Limits*.
ANSWER: Steve **Prefontaine**
[10] This other former runner for the University of Oregon recently made history at the Rio Olympics in 2016 by becoming the first American to win gold in the 1500 meters since 1908, doing so while essentially leading from start to finish.
ANSWER: Matthew **Centrowitz**
[10] Another notable result from the 2016 Olympic Games was Oregon's Galen Rupp receiving a bronze medal in this event, the first medal in this event by an American since 2004. Other famous instances of this extremely long-distance race occur annually in many large cities, such as New York and Boston.
ANSWER: the **marathon** [accept any specific marathons, eg. Boston **Marathon**, Olympic **marathon**, etc.] <RH, Trash/Other>

5. Answer some questions about trains in musical works, for 10 points each:
[10] This French composer and member of Les Six ["lay seeks"] wrote *Pacific 231* for orchestra. He originally conceived of *Pacific 231* as a "mathematical acceleration of rhythm," only titling the piece after it was written.
ANSWER: Arthur **Honegger**
[10] Minimalist composer Steve Reich took trains "from New York to Los Angeles" to visit his divorced parents, and included train sounds in this work for string quartet and pre-recorded tape about World War Two.
ANSWER: ***Different Trains***
[10] This composer's *Le Chemin de Fer* [le shuh-MON duh "FAIR"] is a very fast piano study that evokes the motion of a train, with the repeated left hand bass notes depicting a motor. This composer also wrote piano pieces for *The Months* and *The Four Ages*.
ANSWER: Charles-Henri-Valentin **Alkan** <AWD, Music>

6. The WKB approximation allows the one-dimensional, time-independent version of this equation to be rewritten. For 10 points each,
[10] Name this fundamental equation of quantum mechanics whose time-independent version is stated as "H-psi" equals "E-psi".
ANSWER: **Schrodinger** equation
[10] According to the Copenhagen interpretation of quantum mechanics, particles will follow the Schrodinger equation, except during this process, in which "observation" results in the central function reducing to a single eigenstate. This process and continuous evolution are the two processes by which quantum systems evolve in time.
ANSWER: **wavefunction collapse** [prompt on "collapse"]
[10] The Schrodinger equation may also be generalized for spin one-half particles with a relativistic equation named for this scientist. This scientist also co-names a set of statistics describing particle distributions with Enrico Fermi.
ANSWER: Paul **Dirac** [or **Dirac** equation or Fermi-**Dirac** statistics] <RH, Physics>

7. Answer some questions about the hero Ajax, and not the less important one. For 10 points each:
[10] Ajax fought this Trojan hero in a duel but, since neither managed to kill the other, they merely exchanged gifts. Later this hero was slain by Achilles, who dragged this hero's body around in a chariot.
ANSWER: **Hector**
[10] This hero, the son of Menoetius, killed Sarpedon before he was himself killed by Hector. A prayer from Ajax was instrumental in clearing the field and retrieving this man's body.
ANSWER: **Patroclus**
[10] The Belvedere Torso is accepted to be a depiction of Ajax about to commit suicide after shaming himself through this action. Because he was driven to insanity after losing the armor of Achilles, Ajax did this instead of committing murder.
ANSWER: **killing livestock** [or obvious equivalents involving Ajax **slaughtering animals**, including specific animals or synonyms for "killing"] <VC, Myth>

8. Trailok, a king of this kingdom, became the first "king of the White Elephants." For 10 points each:

[10] Name this kingdom, which defeated Burma's Taungoo dynasty. This kingdom was defeated by the Thonburi kingdom, which itself was later supplanted by the Chakri dynasty.
ANSWER: **Ayutthaya** ["eye-ooh-TIE-uh"] [or Krung **Tai**; or **Tai** Country]
[10] The Ayutthaya kingdom was a predecessor of this modern-day country. This country's king Mongkut employed Anna Leonowens of *The King and I* fame.
ANSWER: **Thailand** [or **Siam**; or Kingdom of **Thailand**; or Ratcha Anachak **Thai**]
[10] Under the Chakri dynasty, Thailand has been ruled by many kings with this name. This is the name of the current king of Thailand, and of a king who was opposed by the "Promoters."
ANSWER: **Rama** [number does not matter, so accept **Rama I** through **Rama IX**] <JO, Misc./Other History>

9. This novel takes its name from a line from Derek Walcott's poem "The Swamp." For 10 points each:
[10] Name this novel in which the barmaid Wanja sleeps with the Mau Mau Rebellion hero Abdulla. In this novel, Munira commits arson against Wanja's brothel.
ANSWER: ***Petals of Blood***
[10] *Petals of Blood* is by this Kenyan author of *A Grain of Wheat*.
ANSWER: **Ngũgĩ** ["GOOG-ee"] wa Thiong'o
[10] In his collection *Decolonising the Mind*, Ngũgĩ declared that he was going to stop using this language of Kenya's colonisers. Chinua Achebe has described how he intentionally wrote *Things Fall Apart* in this language.
ANSWER: **English** <CH, World/Other Lit>

10. Maimonides ["my-MON-ih-dees"] said that the highest "degree" of this was received by only Moses, because Numbers 13:8 says Moses spoke "mouth to mouth" with God. For 10 points each:
[10] Name these revelations from God, sometimes about the future, given to certain people in the Old Testament.
ANSWER: **prophecies** [or **prophecy** or **prophet**s]
[10] In the Talmud, this woman prophesied that her mother would give birth to a son who would save Israel. This sister of Moses watched him float in a reed basket until Pharaoh's daughter saw and adopted him.
ANSWER: **Miriam**
[10] Maimonides wrote about the differing philosophical and Scriptural views on prophecy in this book, intended for those in the 12th century who were already concerned or confused about religious and scientific conflicts.
ANSWER: The ***Guide for the Perplexed*** <AWD, Religion>

11. This man agreed to go to jail in exchange for building the prison, which was nicknamed "the Cathedral." For 10 points each:
[10] Name this leader of the Medellin drug cartel, a notorious cocaine runner.
ANSWER: Pablo **Escobar** [or Pablo Emilio **Escobar** Gaviria]
[10] Escobar's Medellin cartel was based in this country. Kidnappings by FARC decreased while this country was led by Alvaro Uribe from Bogota.
ANSWER: **Colombia** [or Republic of **Colombia**; or Republica de **Colombia**]
[10] This three word phrase represented Escobar's dealings with the government. It essentially means you can either accept a bribe or be shot.
ANSWER: **Plata o Plomo** [or **Silver or Lead**] <JO, World History>

12. The Pinckney family was a family of early American politicians from this state. For 10 points each:
[10] Name this state. During the American Revolution, this state was home to the largest mass surrender of Americans, after Benjamin Lincoln surrendered the city of Charleston to Henry Clinton.
ANSWER: **South Carolina**
[10] This British cavalry commander was nicknamed "the Butcher" due to allegations that he massacred surrendering Americans at the Battle of Waxhaws in South Carolina.
ANSWER: Banastre **Tarleton**
[10] Tarleton's forces were virtually destroyed by an American army led by Daniel Morgan at this January 1781 battle, which took place near a meadow used for cattle to graze in.
ANSWER: Battle of **Cowpens** <JO, American History>

13. Musicologist Barry Kernfeld claims that this jazz musician seems to have never repeated a solo. For 10 points each:

[10] Name this musician featured on an album self-titled "With Strings" who is credited with co-founding be-bop with Dizzy Gillespie.
ANSWER: Charlie **Parker** [prompt on "**Bird**" or "Yard**bird**"]
[10] Charlie Parker played this single-reed instrument, as did Ornette Coleman, Kenny G, and John Coltrane,
ANSWER: **saxophone** [accept any specific type of saxophone]
[10] John Coltrane briefly used multiphonics, the unusual sounding of multiple pitches at a time, on the song "Acknowledgement," one of four tracks on this album. Coltrane chanted this album's name, overdubbing himself afterwards, near the end of "Acknowledgement."
ANSWER: *A Love Supreme* <AWD, Other Art>

14. This play's set is shaped like a human skull. For 10 points each:
[10] Name this play in which the legless Nagg and Nell live in ashbins while their son Hamm abuses his servant, Clov. This work's title is an allusion to chess.
ANSWER: *Endgame*
[10] *Endgame* is a play by this Irish playwright of *Waiting for Godot*.
ANSWER: Samuel Barclay **Beckett**
[10] Both *Endgame* and *Waiting for Godot* are works in this genre of drama which features characters trapped by the meaninglessness of human life. Martin Esslin coined the name of this genre.
ANSWER: Theatre of the **Absurd** [or **Absurd**ism] <CH, Euro Lit>

15. This bi-lobed protein contains a Ruv·C domain and an HNH nuclease domain that contribute to its best-known function. For 10 points each,
[10] Name this endonuclease protein that creates a double-stranded DNA break in foreign DNA after being moved to a protospacer motif by a piece of guide RNA.
ANSWER: **cas9**
[10] cas9 is the RNA-guided nuclease protein at the center of this prokaryote-derived method of precise genome editing that has rapidly grown in popularity in recent years.
ANSWER: **CRISPR**/cas9 type II adaptive immunity system
[10] Another genome-editing mechanism can be constructed by creating artificial restriction enzymes from a DNA cleavage domain and one of these protein motifs, which contains two cysteine and two histidine residues.
ANSWER: **zinc finger** <RH, Biology>

16. This thinker claimed that mixing one's labor with natural resources gives people ownership of them in a viewpoint roundly mocked by Robert Nozick. For 10 points each:
[10] Name this English philosopher who formalized the rights of life, liberty, and property in his *Two Treatises on Government*.
ANSWER: John **Locke**
[10] This text by Locke proposes that, because it is impossible to convert people by force, you might as well keep religious minorities around because doing so is actually beneficial to society.
ANSWER: *A Letter Concerning Toleration*
[10] Locke argued in *A Letter Concerning Toleration* that these people should definitely not be tolerated, since there is no divine force which will compel them to honor any promises that they make.
ANSWER: **atheist**s <VC, Philosophy>

17. This party is currently facing a trial stemming from revelations that its secretary, Luis Bárcenas, had been doling out money from a slush fund to various members. For 10 points each:
[10] Name this conservative party currently led by president Mariano Rajoy. It currently holds the most seats in the parliament of a European country that also houses members of the PSOE and Podemos.
ANSWER: **People's Party** [or **Partido Popular**; or **PP**]
[10] Mariano Rajoy currently serves in this position in Spain, which he has held since 2011. It was established by the Constitution of 1978, under which this office is technically responsible to the monarch.
ANSWER: **Prime Minister** [or **President of the Government**; or **Presidente del gobierno**]
[10] In 2012, King Juan Carlos I came under fire after it was revealed that he broke his hip performing this activity. American dentist Walter Palmer notably engaged in this activity in Hwange National Park in 2015.
ANSWER: **hunting** [accept **poach**ing or **killing** an **elephant** or **killing** a **lion**] <GG, Current Events>

18. One of these works dedicated to Jasper Johns was featured in a 2006 Pace Gallery Exhibition by Robert Irwin. For 10 points each,
[10] Name this series of four massive paintings by Barnett Newman consisting of the three title colors. Two paintings from this series have notably been vandalized since their creation.
ANSWER: *Who's Afraid of Red, Yellow, and Blue*
[10] Barnett Newman's *Who's Afraid of Red, Yellow, and Blue* shares many stylistic elements with the works of this Dutch artist of *Composition in Red, Yellow, and Blue* and *Broadway Boogie-Woogie* from the De Stijl movement.
ANSWER: Piet **Mondrian**
[10] This other artist and author of the "Manifesto of Concrete Art" was the founder of the De Stijl movement. This artist notably feuded with Piet Mondrian over the extremely controversial use of diagonal lines in art.
ANSWER: Theo **van Doesburg** <RH, Painting>

19. This story is followed by the "Miller's Tale," which also describes two men fighting over a woman. For 10 points each:
[10] Name this story about Arcite and Palamon, who fight over Emily.
ANSWER: "The **Knight's Tale**"
[10] "The Knight's Tale" and "The Miller's Tale" appear in this collection of stories by Geoffrey Chaucer about a group of pilgrims traveling to see the remains of St. Thomas a Becket.
ANSWER: *The **Canterbury Tales***
[10] "The Knight's Tale" helped inspire this later play co-written by John Fletcher.
ANSWER: *The **Two Noble Kinsmen*** <CH, British Lit>

20. A constant describing these substances is equal to Boltzmann's constant times Avogadro's number. For 10 points each,
[10] Name these substances, which unlike their real counterparts, are described by the equation PV=nRT.
ANSWER: **ideal gas**es [prompt on "gases"]
[10] One method of characterizing an ideal gas is with an "index", symbolized gamma, and named for this word. That "index" named for this word is the ratio of enthalpy and internal energy. Thermodynamically, this word also describes a type of process that proceeds without heat transfer between the system and the surroundings.
ANSWER: **adiabatic** [or **adiabatic index** or **adiabatic** process; also accept "**heat capacity ratio**", "**ratio of specific heats**", or "**Poisson constant**"; prompt on "isentropic expansion factor"]
[10] This other constant characterizes the number of particles an ideal gas has in a given volume. This constant, named for an Austrian physicist with a reversibility "paradox" from thermodynamics, is calculated as pressure over Boltzmann's constant times temperature.
ANSWER: **Loschmidt**'s constant <RH, Chemistry>