

**Bulldog High School Academic Tournament XXII (2013): *Praxis?* We Talkin' Bout *Praxis*, Man**  
**By Yale Student Academic Competitions (Michael Garn, Jacob Geiger, Ben Horowitz, Matt Jackson, Kevin Koai, Daniel Lee, Grace Liu, Isaac Park, Basil Smitham, Sam Spaulding, Ashvin Srivatsa, David Steinberg, Anthony Tokman, Jacob Wasserman, Spencer Weinreich)**  
**Edited by Matt Jackson and Ashvin Srivatsa, with Kevin Koai and Spencer Weinreich**  
**Special Thanks to John Lawrence and Mike Cheyne**

**Round One Tossups**

1. This city's Scandinavian immigrants live near canal locks in the Ballard neighborhood. This city is connected to Bremerton and Bainbridge Island by ferry, and its Industrial districts lie along the Duwamish river. Drivers in this city can cross east on the Evergreen Point Floating Bridge to its suburb of Bellevue. This home of the Pike Place market and Pioneer Square is the seat of King County, and visitors can ascend a structure, built for the 1962 World's Fair, whose circular observation deck offers views of Puget Sound. For 10 points, name this home of the Space Needle, the largest city in Washington State.

ANSWER: Seattle, Washington <MJ>

2. This man consigned metaphysics to the realm of *unsinnig*, or propositions that don't picture anything and have no Fregean sense. This man, who used the term "family resemblances" to describe overlapping word meanings, was a hero to the Vienna Circle. He feuded with G.E. Moore and argued for the impossibility of private languages in *Philosophical Investigations*. This thinker bookended one treatise with claims that "the world is everything that is the case" and "What we cannot speak about, we must pass over in silence." For 10 points, identify this 20th century Austrian philosopher of language who wrote *Tractatus Logico-Philosophicus*.

ANSWER: Ludwig Wittgenstein <SSp>

3. A brown porphyry sculptural artwork from this nation depicts four crowned men holding their sheathed swords and huddling. A statue from this society shows sphinxes on the shoulders of a breastplate, which itself depicts a messenger receiving a staff topped by an eagle. This non-Jewish nation showed a parade carrying a menorah on an arch and made a frieze that spirals up one ruler's namesake column. These creators of the Prima Porta statue made a temple with a coffered concrete dome and a center hole open to the sky called an *oculus*. For 10 points name this civilization which made *The Four Tetrarchs*, Trajan's Column, and the Pantheon.

ANSWER: Ancient Rome [or Romans; or Imperium Romanum; or SPQR; or Senatus Populusque Romanus; accept clear knowledge equivalents mentioning ancient Rome or its Empire; do not accept or prompt on "Roman Republic"] <BS>

4. When this compound reacts with chloroethane in the Williamson synthesis, a symmetrical ether is formed. The oxidation state of one atom in it increases by 4 when it is oxidized to acetic acid. When used in the laboratory, it is often denatured by the addition of a related 1-carbon compound. As part of a mixture containing 4.4% water, it forms an azeotrope. Sugarcane and corn are the main sources of this compound when used as a fuel additive, and E10 is a common mixture containing it. Members of genus *Saccharomyces* produce this and CO<sub>2</sub> as a byproduct of sugar fermentation. For 10 points, name this 2-carbon alcohol with formula CH<sub>3</sub>CH<sub>2</sub>OH that causes inebriation.

ANSWER: ethanol [or ethyl alcohol; prompt on "alcohol"; prompt on "drinking alcohol"] <AS>

5. This text claims that "an undistinguished destruction of all ages, sexes and conditions" is the "known rule of warfare" of "Indian savages." A clause beginning "He has waged cruel war against human nature itself" was struck from this text, though eighteen remaining clauses start with "He has" in a list of grievances that were left unaddressed after the Olive Branch Petition. A mutual pledge of lives, fortunes, and "Sacred Honor" ends this

document, which begins “When in the course of human events...” and was agreed to by 55 men in Philadelphia. For 10 points, name this document stating that “all men are created equal,” which was signed on July 4, 1776.

ANSWER: **Declaration of Independence** [of the United States of America] <MJ>

6. One corpse outside this place was covered by a black cloud as Sleep and Death carried it away. Snorri Sturluson argued that the Norse gods were just people from here. A king of this place, who tricked Heracles out of magic horses, was Laomedon. Podarces changed his name before becoming king of this city, which the Scamander River flowed around as Memnon and Sarpedon defended it. A nine-layer settlement at Hissarlik was identified as this home of Hecuba after Heinrich Schliemann excavated it. For 10 points, name this city in modern-day Turkey ruled by Priam, whose champion Hector defended it in a decade-long war shown in the *Iliad*.

ANSWER: **Troy** [or **Ilium**; or **Ilion**] <SSp>

7. One character of this surname is taught that the only god is Death, to whom the only proper response is “Not today.” Brandon the Builder is an ancestor of a family of this surname, whose patriarch must swing the sword every time he executes a man. The children in this family, including Sansa and Arya, each receive a wolf pup. Joffrey Baratheon has a Hand of the King with this surname beheaded, surprising his Lannister mother; that man of this surname, Ned, fears that “winter is coming.” For 10 points, name these rulers of Winterfell in *Game of Thrones*, who share this name with a “genius billionaire playboy philanthropist” in the Iron Man suit named Tony.

ANSWER: **Stark** family <MJ>

8. One partial differential equation of this type is the wave equation, which can be written “ $u_{xx} - u_{tt} = 0$ ”. Since it has a signature with three pluses and one minus, Minkowski space is a space of this type, in which rotations are performed by the Lorentz transformation. One function that is a mean of a positive and negative exponential is named for this geometric figure. Any open Keplerian orbit with positive specific energy and positive kinetic energy at infinity must have this form, which is characterized by an eccentricity greater than one. For 10 points, the figure produced by “ $y = 1/x$ ” is what type of conic section?

ANSWER: **hyperbola** <AS>

9. This work includes “the Pedant” impersonating another character’s father, and a character who drinks communion wine at his own wedding. A woman’s speech at the end of this play admonishes two others to “dart not scornful glances from those eyes to wound thy lord, thy king, thy governor.” In this play, Hortensio impersonates a Latin teacher. Its characters of Gremio and Tranio engage in a bidding war in Padua to marry Bianca, whose older sister has to wed first and then gets abused by her husband. For 10 points, name this Shakespeare comedy in which Petruchio makes his wild wife Katharine submit to him.

ANSWER: *The* **Taming of the Shrew** <SJW>

10. This leader imprisoned one author of *An Agreement of the People*, John Lilburne. This leader deported a tower full of men to Barbados who yielded during the Drogheda massacre, and overruled a 1290 Edict of Expulsion to let Jews back in his country. This leader agreed with Henry Ireton at the Putney debates. This opponent of the Levellers banned bear-baiting, theater, and Christmas celebrations. He created Barebone’s Parliament out of the Rump Parliament, sidelining many men he fought for in the New Model Army. For 10 points, name this Puritan who led after Charles I was beheaded, the Lord Protector who won the English Civil War.

ANSWER: Oliver **Cromwell** <MJ>

11. Prominent members of this group who took part in the Six Gallery Reading include Gary Snyder and Wally Hedrick. One member published “I am Waiting” and “Junkman’s Obbligato” in his collection *A Coney Island of the Mind* after founding the City Lights bookstore. Another poet of this movement penned the lines “Holy the Fifth International!” and “Moloch! Solitude! Filth! Ugliness!” in a poem dedicated to Carl Solomon, which begins “I saw

the best minds of my generation destroyed by madness.” For 10 points, identify this anti-establishment movement, which included Lawrence Ferlinghetti, Jack Kerouac, and the poet of *Howl*, Allen Ginsberg.

ANSWER: The **Beat** Generation [or **Beat** movement; or **Beat** poets; or **beatniks**] <SJW>

12. This composer wrote two sonatas and a quintet in B minor for the clarinetist Richard Mühlfeld, and he dedicated his violin concerto in D major to Joseph Joachim. He based the passacaglia finale of his fourth and final symphony on a cantata movement by Bach, and he used texts from the Luther Bible rather than the usual Latin liturgy for his principal sacred work. He quoted the song “Gaudeamus igitur” in a piece he wrote after getting an honorary doctorate from the University of Breslau, and his first symphony is sometimes known as “Beethoven’s tenth.” For 10 points, name this German composer of four symphonies, *A German Requiem*, the *Academic Festival Overture*, and a famous lullaby.

ANSWER: Johannes **Brahms** <KK>

13. The 1278insTATC mutation is the most common cause of this disease, and is thought to have originated circa 800 AD in central Europe. That mutation causes the accumulation of sialylated glycosphingolipids in the brain, owing to a defect in hexosaminidase A, as contrasted with Sandhoff disease, in which hexosaminidase B is also affected. Thus, people with this disease are unable to properly hydrolyze gangliosides in their lysosomes. It presents with a characteristic red macula and usually leads to death by age 4. For 10 points, name this incurable genetic disease that is common in Ashkenazi Jews.

ANSWER: **Tay-Sachs** disease [or **GM2 gangliosidosis**; prompt on “gangliosidosis”] <DL>

14. One character in this novel punctuates her speech with “whatitsname;” that character in this novel marries her doctor husband after he examines her through a perforated bed sheet. This novel’s protagonist is abandoned by his sister, the Brass Monkey, and gets sterilized by the Widow. Surgery to relieve nasal congestion deprives this novel’s narrator of his telepathy, which he had used to contact Parvati the Witch and Shiva. Saleem Sinai narrates this novel. For 10 points, name this novel whose namesake group of 1001 people receives magic powers after being born at the instant of India’s independence, by Salman Rushdie.

ANSWER: ***Midnight’s Children*** <SJW>

15. This quantity is believed to have been very low shortly following the Great Oxygenation Event, since atmospheric methane was mostly oxidized away. The Atlantic Multidecadal Oscillation is an oscillation in it. Radiative forcing is the mechanism by which solar activity affects this quantity, as it did during the Maunder Minimum. The clathrate gun hypothesis suggests a mechanism that could cause a sudden increase in it, as may have happened at the P-Tr boundary. The so-called hockey-stick graph demonstrates that this quantity has sharply risen since the 1800s. For 10 points, name this quantity that has increased alongside atmospheric CO2 levels via human activity, causing climate change.

ANSWER: the average **temperature** of the **Earth** [or obvious equivalents, like average **global temperature**; accept **temperature anomaly**; accept more specific answers like **ocean temperature**; prompt on partial answer] <AS>

16. A cartel providing this good was run by Ernest and Harry Oppenheimer, who controlled the “Big Hole.” Foday Sankoh’s Revolutionary United Front, or R.U.F, traded this substance to dictator Charles Taylor while arming children to fight a government in Freetown. A 2000 meeting about certifying this material was held in Kimberley, where a supply of it had made Cape Colony rich under Cecil Rhodes. For 10 points, name this material sold by the De Beers Company, whose lucrative trade and mining fueled Sierra Leone’s civil conflict.

ANSWER: **diamonds** [or blood **diamonds**; or conflict **diamonds**] <MJ>

17. This man wrote a novella about twins who feel each other’s pain, *The Corsican Brothers*, as well as a historical novel about a gardening competition in Holland, *The Black Tulip*. One of this man’s trilogies centers on a Gascon

youth who loves Constance and includes *Twenty Years After*. Felton is convinced to kill the Duke of Buckingham in another novel of his which features a king's brother in prison, called the Man in the Iron Mask. His characters include Milady de Winter, an agent of Cardinal Richelieu. For 10 points, name this French author, who created Aramis, Athos, Porthos, and D'Artagnan in *The Three Musketeers*.

ANSWER: Alexandre Dumas, pere [or Dumas Davy de la Pailleterie] <SJW>

18. Leonard Barrett wrote a study of this religion; one of its foundational texts states that "Gross Beauty is the Queen in Hell" and is called *The Promise Key*. Women are called "queens" in this faith, whose practitioners follow the largely vegetarian "I-tal" diet and use drums in *nyabingi* sessions. These people refer to civilizations which cause "downpression" as Babylon, and use the name "Jah" for God. Its "reasoning sessions" often involve a sacred herb which they call ganja. For 10 points, name this religion which reveres an Ethiopian emperor as God and is hugely outnumbered by Christians in its home of Jamaica.

ANSWER: Rastafarianism [or Rastas; or Rastafari movement] <SSp>

19. A stone bench in this painting has a small owl image carved into it, and an inkpot and a scroll in this painting sit on the floor next to a bare foot. Three men on the left go up a staircase on this canvas, whose tallest object is a stand for an incense lamp in front of a stone wall. A man in a red robe covers his eyes as he hands a cup backwards in this painting, in which the title bearded figure points upward as his followers surround a prison bed. For 10 points, name this history painting by Jacques-Louis David of a Greek philosopher drinking hemlock.

ANSWER: *The* Death of Socrates [or *Le* mort de Socrate] <MJ>

20. In this country, Klement Gottwald was installed by the Victorious February coup after a previous leader was found dead in his pajamas. This country's "normalization" era began after a university student set himself on fire, and many of its dissidents signed Charter 77 under the rule of Gustav Husak. Tanks rolled into this country to enforce the new Brezhnev doctrine, ending freedoms that came to it with "socialism with a human face" under Alexander Dubcek in 1968. For 10 points, name this Eastern bloc country which split in two after the Velvet Revolution led by Vaclav Havel, and briefly liberalized during Prague Spring.

ANSWER: Czechoslovakia [do not accept "Czech Republic" or "Slovakia" at any point] <MJ>

**[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. This man wrote of the optimism accompanying twenty-one continuous years without world war in his message to the Tricontinental. This leader of the Nancahuazú guerrilla unit declared "Shoot, coward; you are only going to kill a man" to the man who predictably shot him in Bolivia. This author of the Motorcycle Diaries was immortalized in an Alberto Korda photograph and left the leader who he helped to overthrow Fulgencio Batista. For 10 points, name this Argentine-born Marxist, a revolutionary and second-in-command of Fidel Castro.

ANSWER: Ernesto "Che" Guevara <MJ>

## Bonuses

1. This nation defeated Louis II of Hungary at the swampy battle of Mohacs, and paid parents to abduct Christian boys from Europe for its military. For 10 points each:

[10] Name this Asia-based empire that subjugated the Balkans after winning the 1389 Battle of Kosovo, and besieged Vienna twice with its elite janissary corps.

ANSWER: the **Ottoman** empire [or Devlet-i 'Aliyye-yi '**Osmaniyye**]

[10] This brutal prince of Wallachia led the Night Attack against Ottomans in Europe, though his brother Radu the Handsome converted and defected. He got a nickname for killing his victims with pikes.

ANSWER: **Vlad III** Tepes [or **Vlad Tepes**; or **Vlad** the **Impaler**; or **Vlad Dracula**; prompt "Dracula" alone]

[10] This sultan and rumored lover of Radu the Handsome presided over the Ottoman conquest of Constantinople in 1453. His armies thereby ended the Byzantine empire.

ANSWER: **Mehmet II** [or **Mehmet the Conqueror**; or **Mehmet el-Fatih**; accept "Mehmed" for "Mehmet"] <MJ>

2. This artist depicted Saint Stephen and Saint Augustine descending from heaven to bury the Count of Orgaz in one painting. For 10 points each:

[10] Name this Cretan-born Spanish artist, who painted the *Disrobing of Christ* for the cathedral of Toledo, a city of which he later painted a *View*.

ANSWER: **El Greco** [or Doménikos **Theotokópoulos**]

[10] El Greco was influenced by this post-Renaissance artistic style, which often portrayed figures with elongated proportions, such as Parmagionino's *Madonna of the Long Neck*.

ANSWER: **Mannerism** [or **Mannerist** school; **maniera**]

[10] This Italian, who painted the Genoan admiral Andrea Doria as Neptune in one painting, was another prominent mannerist. He depicted a lot of entwined arms in *Venus, Cupid, Folly and Time*.

ANSWER: Il **Bronzino** [or Agnolo **Bronzino**; or Agnolo **di Cosimo**] <BS>

3. Fritz Zwicky theorized that this substance could explain the unusual-looking rotation curves of spiral galaxies.

For 10 points each:

[10] Name this substance which is believed to make up 84% of all matter. It is named for the way in which it doesn't interact with electromagnetic phenomena.

ANSWER: **dark matter** [do not accept "dark energy"]

[10] The so-called "third peak" in this thing's power spectrum allows the effects of dark matter and ordinary matter to be distinguished. It appeared 400,000 years after the Big Bang, when matter underwent recombination.

ANSWER: **cosmic microwave background** radiation [or **cosmic background radiation**; or **microwave background radiation**; or **CMBR**; or **CBR**; or **MBR**; prompt on partial answer]

[10] The cosmic microwave background is the most perfect one of these things ever measured, as demonstrated by its ultra-close fit to Planck's law. Ideally, these things absorb all radiation that strikes them.

ANSWER: **black body** <AS/BH>

4. This explorer of Muslim descent brought back ivory, ostriches, zebras, and a giraffe, among other things. For 10 points each:

[10] Name this Chinese court eunuch and admiral, who traveled as far as Africa while leading seven voyages across the Indian Ocean.

ANSWER: **Zheng He** [or **Cheng Ho**; or **Ma He**]

[10] This dynasty's Yongle emperor ordered Zheng He's voyages; it then smashed up China's ship-building facilities. The Hongwu emperor started this dynasty, which used phoenix designs on its namesake porcelain.

ANSWER: Ming Dynasty

[10] These people attacked the Ming Dynasty 1644, causing its collapse. Their men wore their hair in a queue, and they were called Jurchen until Nurhachi unified them in the early 1600s.

ANSWER: Manchus [or Manchurians] <AT>

5. He wrote four ballades for piano inspired by the poetry of his countryman Adam Mickiewicz. For 10 points each:

[10] Name this Polish pianist and composer who wrote the “Heroic” Polonaise, the “Minute” Waltz, the “Revolutionary” Etude, and the Fantaisie-Impromptu.

ANSWER: Frederic Chopin

[10] Chopin wrote 21 pieces in this genre typified by a lyrical right-hand melody over an arpeggiated accompaniment. Chopin's primary model for these night-evoking piano pieces was the Irish composer John Field.

ANSWER: nocturne

[10] Chopin composed 69 of these pieces based on a Polish folk dance. They are in a lively triple meter and typically feature an accented second or third beat.

ANSWER: mazurka <KK>

6. The “structural” type of this phenomenon impairs citizens’ basic needs, and Max Weber defined the state as an entity with a monopoly on this phenomenon. For 10 points each:

[10] Name this phenomenon, which has declined over time according to data in the 2011 book *The Better Angels of Our Nature*. It usually involves physical contact with another member of one’s species.

ANSWER: violence [accept warfare, combat, force, harming people, wounding others, or other synonyms; prompt “killing”]

[10] This Harvard psychologist argued that worldwide violence has declined in *The Better Angels of Our Nature*. His other books include *How the Mind Works* and *The Blank Slate*.

ANSWER: Steven Pinker

[10] Pinker titled another book for the *Instinct* of this faculty, which children cannot acquire after a “critical period” in early childhood. Its aspects include syntax, semantics, and speech.

ANSWER: language [do not accept any other answers] <SSp>

7. In one drawing, this man depicted two hands bursting out of a sheet of paper which are each holding pens to draw the other one. For 10 points each:

[10] Name this Dutch artist, whose paradoxical and recursive scenes include a staircase whose bottom connects to its top.

ANSWER: M.C. Escher [or Maurits Cornelius Escher]

[10] One man of this surname used Escher art to exemplify “strange loops” in his book *Godel, Escher, Bach*. A historian of this surname collected short presidential bios in *The American Political Tradition*.

ANSWER: Hofstadter [accept Richard Hofstadter or Douglas Hofstadter]

[10] Two figures, an animal and a Greek mythical warrior, engage in dialogues in the book *Godel, Escher, Bach*. Name both. In Zeno’s paradox, the animal gets a head-start in a footrace and the Greek can never catch up.

ANSWER: Achilles AND Mr. Tortoise [accept turtle in place of “tortoise”] <MJ>

8. Answer these questions about Christopher Marlowe, for 10 points each.

[10] In one tragedy, Marlowe told the story of this scholar, who sells his soul to Lucifer in exchange for 24 years with Mephistopheles as his servant. He meets Helen of Troy and Alexander the Great.

ANSWER: Doctor Faustus

[10] In another play, Marlowe depicted the downfall of this English king and his lover, Piers Gaveston, at the hands of this monarch’s wife Isabella and *her* lover, Mortimer.

ANSWER: Edward II

[10] Marlowe also wrote a poem spoken by a “passionate” member of this profession, who says “Come live with me and be my love.” Walter Raleigh wrote a dismissive “Nymph’s Reply” to this figure.

ANSWER: **shepherd** [or **pastor**; accept anything indicating a person who takes care of sheep] <SJW>

9. This band sung about a landmine victim in “One,” and their song “Nothing Else Matters” was covered by a girls’ choir for the trailers to *Zero Dark Thirty*. For 10 points each:

[10] Name this metal band of drummer Lars Ulrich, which Dave Mustaine left to found Megadeth. They released their hit “Enter Sandman” after *Master of Puppets* and *...and Justice for All*.

ANSWER: **Metallica**

[10] This man enters the field to the tune of Metallica’s “Enter Sandman” at Yankee Stadium. This relief pitcher for the New York Yankees since 1997 is often used as a “closer.”

ANSWER: Mariano **Rivera**

[10] This 2008 Metallica album completes the “Unforgiven” trilogy with a song about a sailor. Its includes “The Day That Never Comes” and “My Apocalypse,” and its cover shows a coffin surrounded by iron fillings.

ANSWER: **Death Magnetic** <MJ>

10. Confusingly, this goddess is sometimes worshipped as Kali, or is considered the gentle aspect of great Devi, or an embodiment of the feminine power Shakti. For 10 points each:

[10] Name this goddess who replaced her beheaded son Ganesh’s head with an elephant head. She is the second wife of Shiva.

ANSWER: **Parvati**

[10] This other goddess, beloved by merchants, was the embodiment of riches and prosperity. The consort of Vishnu is given an offering during Diwali.

ANSWER: **Lakshmi** [or **Laxmi**]

[10] The swan-riding Saraswati is this Hindu god’s consort. This creator god of the universe is much less worshipped than his fellow Trimurti members Vishnu and Shiva.

ANSWER: **Brahma** [DO NOT accept “Brahman” or “Brahmin”] <SSp>

11. This book features Phoebe, a country girl who helps her cousin Hepzibah run her shop and who falls in love with the daguerreotypist Holgrave. For 10 points each:

[10] Name this novel, which opens by describing the feud between the Pyncheon and Mawle families over the land on which the title structure is built.

ANSWER: *The* **House of the Seven Gables**

[10] *The House of the Seven Gables* is by this Puritan-descended American author of *The Scarlet Letter*.

ANSWER: Nathaniel **Hawthorne**

[10] In this Hawthorne short story, Aylmer becomes obsessed with perfecting the appearance of his wife Georgiana.

ANSWER: “The **Birth-Mark**” <SJW>

12. These reactions are typically carried out in non-neutral solution. For 10 points each:

[10] Name this class of reactions, in which electrons are transferred from one element to another. They may be written as a pair of half-reactions.

ANSWER: **oxidation-reduction** reactions [or **reduction-oxidation** reactions; or **redox** reactions; do not prompt on or accept just “oxidation reactions” or “reduction reactions”]

[10] By convention, the electrode potential of the reduction half-reaction that produces this substance is set at 0.

ANSWER: **hydrogen** gas [or **molecular hydrogen**; or **diatomic hydrogen**; or **H<sub>2</sub>**; do not prompt on or accept “hydrogen ion” or “H<sup>+</sup>”]

[10] In an electrochemical cell, the reduction reaction occurs at this electrode. In physics, this name is given to a device that emits electrons into a cavity, thus giving rise to the name of a certain kind of “tube”.

ANSWER: cathode <MG/AS>

13. This former patent office clerk carted her own supplies to the front lines of Civil War battlefields to tend to wounded soldiers. For 10 points each:

[10] Name this woman who later founded and led the American Red Cross.

ANSWER: Clara Barton [or Clarissa Harlowe Barton]

[10] Barton got the nickname “Angel of the Battlefield” at this September 1862 battle. Lincoln issued a preliminary emancipation proclamation after this Maryland battle, the bloodiest single-day battle in US history.

ANSWER: Battle of Antietam [or Battle of Sharpsburg]

[10] This superintendent of Army nurses during the Civil War was previously an advocate for the mentally ill, campaigning for mental asylums to be established separate from prisons.

ANSWER: Dorothea Lynde Dix <MJ>

14. This novel’s characters include Mrs. Moore, who meets Dr. Aziz in a mosque at night while visiting Chandrapore, and her son, the magistrate Ronny Heaslop. For 10 points each:

[10] Identify this novel, in which Dr. Aziz is accused of sexually assaulting Adela Quested in the Marabar Caves.

ANSWER: A Passage to India

[10] A *Passage to India* was written by this British author of *A Room With a View*, who contrasted the Schlegel and Wilcox families in *Howards End*.

ANSWER: Edward Morgan Forster

[10] In this Forster novel, the title character discovers his homosexuality, has a love affair with Clive Durham, and eventually elopes with the gamekeeper Alec Scudder.

ANSWER: Maurice <SJW>

15. This god was a rival of Tezcatlipoca and a twin of the dog-headed Xolotl. For 10 points each:

[10] Name this god who sailed away from modern-day Mexico on a raft of snakes during the era of the fifth sun. He is a feathered serpent.

ANSWER: Quetzalcoatl

[10] Quetzalcoatl is a key god of this Mesoamerican civilization, which also made human sacrifices to the hummingbird god Huitzilopochtli.

ANSWER: Aztecs [or Nahuatl]

[10] This substance was applied to bones in the underworld Mictlan by Quetzalcoatl to recreate humanity for the age of the fifth sun.

ANSWER: his own blood <MJ>

16. The sculpted heads of these animals decorate the Neolithic Catal Huyuk complex in modern-day Turkey. For 10 points each:

[10] Name this animal. Sir Arthur Evans unearthed images of youths leaping over these animals in the palace complex at Knossos.

ANSWER: bulls [accept equivalents that mean male bovines; prompt “cattle;” prompt “cows”]

[10] Evans discovered the bull-leaping fresco on this Mediterranean island, the center of the Minoan civilization.

ANSWER: Crete

[10] This other Bronze Age civilization, in mainland Greece, perished after a Dorian invasion. It used the decipherable Linear B script and produced the Mask of Agamemnon.

ANSWER: Mycenae [or Mycenean civilization] <GL>

17. Name these poets who wrote about human cruelty towards animals, for 10 points each.



[10] This poet is “loath to rin an’ chase” a “tim’rous little beastie” in his “To a Mouse.” This author of “A Red, Red Rose” and “Auld Lang Syne” is a national icon in Scotland.

ANSWER: Robert **Burns**

[10] This French Symbolist poet wrote about sailors torturing a bird in “The Albatross.” He hailed a type of boredom called *ennui* in his collection *Les Fleurs du Mal*.

ANSWER: Charles **Baudelaire**

[10] In this Prague native’s “The Panther,” a creature “paces in cramped circles” behind bars. He wrote a series of elegies while living in Duino castle amid bouts of depression.

ANSWER: Rainer Maria **Rilke** <MJ>

18. The union of any number of sets with this property has this property. For 10 points each:

[10] Name this property, which, on the real number line, applies to intervals that do not include their endpoints. Parentheses, rather than square brackets, are used to denote intervals with this property.

ANSWER: **open**

[10] On the real number line, there are two sets that are both open and closed, or “clopen”. Name either of them.

ANSWER: the **empty** set, or the **entire line** [accept either answer; also accept **R**]

[10] This operation is typically defined on open sets. It may be defined as a difference quotient in the limit as the difference goes to zero. It is the inverse operation to integration, which is sometimes called “anti-” this.

ANSWER: **differentiation** [or taking the **derivative**; accept word forms] <BH/AS>

19. In 2012, a frenzy of extraction of this resource’s afflicted the DR-Congo’s Gambara national park, as groups like Joseph Kony’s LRA seek to trade more to China. For 10 points each:

[10] Name this resource obtained by poachers from the hunting of rhinos and African elephants.

ANSWER: **ivory** [or **dentine**]

[10] Many elephants and rhinos get shot in this safari-prone region of grassland in Tanzania and southwestern Kenya, which is also home to the Maasai warriors.

ANSWER: the **Serengeti**

[10] This country grows *tagua*, a vegetable ivory substitute, from the nut of a namesake palm tree along its Napo River. It is also home to the volcanoes Cotopaxi and Chimborazo.

ANSWER: Republic of **Ecuador** [or República del **Ecuador**] <MJ>

20. You are a biologist who wants to amplify some DNA. For 10 points each:

[10] You might use this technique in which DNA is amplified in a thermocycler. A particularly thermostable form of its namesake enzyme, often isolated from *Thermus aquaticus*, is used to replicate the DNA.

ANSWER: **PCR** [or **polymerase chain reaction**]

[10] Once you’ve done your PCR, you can verify that it was successful by performing this technique, in which you load your sample into an agarose matrix, apply an electric field, and examine the banding patterns that result.

ANSWER: **gel electrophoresis** [prompt on “running a gel”; prompt on other partial answers]

[10] To actually be able to see those bands, you’ll want to add this fluorescent staining agent that glows orange under UV light when bound to DNA. It’s carcinogenic, so be careful!

ANSWER: **ethidium bromide** [or **EtBr**] <DL>

21. This man was convinced by the possibility that ESP might be real, and is believed to have committed suicide with a poisoned apple. For 10 points each:

[10] Name this British scientist whose influential article “Computing Machinery and Intelligence” asked the question “Can Computers Think?” in the form of his eponymous “test”. He helped crack the Nazis’ Enigma code.

ANSWER: Alan **Turing**

[10] Turing thereby founded this branch of computer science which includes robotics research, machine learning, and computer vision subfields.

ANSWER: **artificial intelligence** studies [or **AI**]

[10] John Searle put forth this thought experiment to argue that AI is impossible. In it, a man sits inside a room as symbols are fed to him, and he matches the input to correct outputs by using a lookup table without any understanding.

ANSWER: **Chinese room** thought experiment <SSp>