

Harvard Fall Tournament XI

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And with thanks to Harvard College, MIT Quiz Bowl, and various playtesters



Round 8

Tossups

1. **This painter depicted his fourteen year-old girlfriend lying face down in front of a figure in all black in his *Spirit of the Dead Watching*. He was inspired by Japanese woodcuts in a work depicting a crowd of women in white hats observing the title event. One of this artist's paintings is meant to be read from (*) right to left to answer the three title questions. This artist showed Jacob wrestling an angel in *Vision After the Sermon*, and he painted the crucifixion in 19th century France in his *Yellow Christ*. For 10 points, name this French-born painter of *Where Do We Come From? What Are We? Where Are We Going?* who spent a lot of time in Tahiti.**

ANSWER: (Eugène Henri) Paul Gauguin

2. **A mass message during this event called for people to resist a “narrow cadre” by taking “to the streets.” The TRT building was seized during this event and used to declare a “Peace at Home Council.” This event was carried out by a group previously targeted by (*) “Ergenekon” court case, and it was followed by a crackdown on the Gülen movement by members of the AKP, or Justice and Development Party. This event began as two bridges over the Bosphorus were forcibly closed, and it attempted to replace President Erdoğan [“air-duh-wan”]. For 10 points, describe this 2016 attempt by the military to take control of a government based in Ankara.**

ANSWER: the 2016 attempted coup in Turkey (accept descriptions, as long as the words coup and Turkey are mentioned)

3. **A line literally translated as “I remember a wonderful moment” opens a love poem this man wrote to Anna Petrovna Kern. This author wrote fairy tales about a “Golden Cockerel,” a “Tsar Sultan,” and the lovers *Ruslan and Ludmilla*. In one of his poems, Parasha dies in a (*) flood of the Neva, leading her lover Evgenii to go insane and wander Saint Petersburg before cursing the title statue. One of this author's books was written in a namesake “stanza” and describes the title character reluctantly killing Lensky in a duel. For 10 points, name this Russian poet, the author of “The Bronze Horseman” and the verse novel *Eugene Onegin*.**

ANSWER: Alexander Pushkin

4. **According to Ibn Nuhaas, this practice is synonymous with “the word of justice in front of the oppressive sultan.” This practice is commonly performed *fi sabilillah*. The most important form of this practice is targeted at the *nafs*, or soul, and is termed its (*) “greater” variant, although this concept also has a “lesser” form directed at others. Some scholars have proposed another division of this religious concept into “of the heart” and “by the sword.” People who engage in this action are referred to as *mujahid*, and its name comes from the Arabic for “struggle.” For 10 points, name this concept from Islam often controversially translated as “holy war.”**

ANSWER: jihad

5. **Description acceptable. Coulter’s variant of this technique relies on his namesake principle that particles produce a change in impedance proportional to their volume. Modern forms of this technique might combine flow cytometry or image analysis with (*) fluorescent markers.** Staining with Trypan blue is often used for this technique with hemo-cyto-meters, which are glass slides with namesake rectangular “chambers” used to perform it. A simple way to perform this type of action evenly distributes entities in a petri dish and proportionally multiplies the number in one section. For 10 points, describe this action that literally just quantifies the number of cells.

ANSWER: **cell counting** (accept just “**counting** them after “number of cells” is read; accept obvious synonyms as long as **cell** is mentioned; accept specific types of cells, including **bacteria counting**)

6. **A temple complex built by this ruler at Beit el-Wali claims he defeated a Nubian force without any assistance from his soldiers. This ruler’s sheltering of Mursili III angered Mursili’s successor, Hattusili III, and he engaged in a battle in which the enemy had to swim across the (*) Orontes River.** This son of Seti completed the hypostyle hall at Karnak, commissioned a giant statue of himself at Abu Simbel, and signed the world’s first peace treaty with the Hittites following a huge chariot battle at Kadesh. This ruler was known in the Western world as Ozymandias. For 10 points, name this Egyptian pharaoh honored as “the Great.”

ANSWER: **Ramesses II** (or **Ramesses the Great** before the end; prompt on **Ramesses**; prompt on **Ozymandias** before read)

7. **A standard reference item used for processing these items is named after Playboy model Lena Soderberg. A type of anisotropic diffusion used on these items can result in a “smoothing” named for Gauss. DeepMask is a piece of software that “segments” these items using feature detection while avoiding (*) noise.** These items can be stored in rasterized formats, like TIFF, or in vector formats, such as the SVG filetype, which allows these items to scale well when undergoing dimension changes. These files are usually stored as grids of pixels of different colors. For 10 points, name these files that might be of formats like JPEG or PNG.

ANSWER: **image** (accept any obvious synonym, like **pictures**; prompt on **files**; accept any image type, like **JPEG** or **PNG**; prompt on just **data**; *Ed’s note: feature detection and noise applies to all data, but DeepMask is specifically Facebook’s algorithm for identifying images*)

8. **Two answers required. Charles Francis Adams’ most famous diplomatic feat was preventing an alliance between these two countries. In the Battle of Cherbourg, the *Kearsage* sank a ship one of these nations had built for the other. Two diplomats from one of these countries named James Mason and (*) John Slidell were arrested aboard a ship of the other in the *Trent* Affair.** One of these countries sought to gain the support of the other by leveraging its large cotton production, but that strategy failed because the latter controlled India. For 10 points, name these two countries, against which the U.S. separately fought the Civil War and the War of 1812.

ANSWER: the **United Kingdom** and the **Confederate States** of America (prompt on partial answer; accept **UK** and **Great Britain** for **United Kingdom**; accept **Confederacy** and **CSA** for **Confederate States**)

9. **Two competing design systems behind these institutions in America were the Auburn and Pennsylvania, the latter being used at an “Eastern State” one of them in Philadelphia. A 1971 hostage crisis at one of these places ended when state police were used by (*) Nelson Rockefeller.** Touring these institutions was the original goal of Alexis de Tocqueville’s trip that produced *Democracy in America*. The Attica riot took place at one of them, and in 1962, three people used an inflatable raft in a one-of-a-kind incident to leave one of them. For 10 points, name these institutions, one of which housed people like Al Capone on the island of Alcatraz.

ANSWER: **prisons** (or **jails**; or **penitentiaries**; or any obvious synonyms; accept Eastern State **Penitentiary** or Attica **Correctional Facility** or Alcatraz Federal **Penitentiary**; prompt on **island** after “1962” is read)

10. **One of these creatures tries to shear Arthur's beard to patch a cloak and was named Rhitta Gawr. One of these creatures named Ysbaddaden assigns the task of hunting the boar Twrch Trwyth ["turk truth"] for Culhwch ["cul-hook"] to marry Olwen. The head of one of these beings was used to protect (*) Britain, and Finn McCool built their namesake "Causeway." Bran the Blessed was one of these beings, and many Cornish myths describes one person robbing and killing several of these beings, including one who threatens to grind bones into bread and says "Fee Fi Fo Fum." For 10 points, name these beings, one of which Jack kills after he climbs a beanstalk.**

ANSWER: giants

11. **Chris Robinson claims to have acted as a character with this profession in a 1980s Vicks commercial. A popular rumor connects a product with this job in its name to prune juice, and players roleplay as this profession in a Milton Bradley game involving "Cavity Sam," a (*) red lightbulb, and tweezers. This is the only job listed among the seven dwarves, and a Marvel superhero is named after this job and the word "Strange." One stock phrase notes that "I'm not that kind of [this person]," and another asks if one of these people is "in the house." For 10 points, name this title conferred by earning either a PHD or an MD.**

ANSWER: doctor (accept anything related to the medical profession, including subdisciplines; accept PHD or MD; accept "I'm not a doctor, but I play one on TV" or Dr. Pepper or Operation or Doc or Doctor Strange or "I'm not that kind of doctor" or "Is a doctor in the house?")

12. **This work adapts material from the Songs of the Suffering Servant in its longest section, "He was despised." Word painting occurs in this work when the word "mountain" is sung on a high note in the section "Ev'ry valley shall be exalted," and a purely instrumental section of this work called the (*) *Pifa* is one of two that does not contain lyrics written by Charles Jennens. The composer of this work reportedly "saw the face of God" while writing one part in which the audience customarily stands and which includes the line "he shall reign for ever and ever." For 10 points, name this oratorio by George Frederic Handel, which includes the "Hallelujah" chorus.**

ANSWER: Messiah

13. **This king was accused of improperly seducing Matilda by a man who later served as the "Marshal of the Army of God and Holy Church." Robert Fitzwalter rebelled against this man as part of a group of 25 nobles, and Innocent III excommunicated him because he refused to recognize (*) Stephen Langton as Archbishop of Canterbury. This king gained his nickname from his paltry inheritance compared to his brothers, and his defeat by the French at Bouvines forced him to meet with a group of barons at Runnymede in 1215. For 10 points, name this British king who was forced to sign the Magna Carta.**

ANSWER: King John Lackland

14. **One of these objects now nicknamed "Lich" was notably discovered with three first-of-their-kind planets near it in 1989. These objects travel with higher velocities than their progenitors by a namesake "kick," and those recycled through accretion can be termed "millisecond." (*) "Glitches" may occur in these objects due to "starquakes," and the first binary one was discovered by Hulse and Taylor. These objects were called "Little Green Men" by their discoverers Jocelyn Bell and Anthony Hewish, and they cause a blinking "lighthouse" effect. For 10 points, name these rapidly rotating neutron stars that periodically emit radiation.**

ANSWER: pulsars (prompt on neutron stars before it's read; accept millisecond pulsar before "Crab Nebula" is read)

15. **These creatures are split into types like “tree-trimming” and “sitting” in Maxine Hong Kingston’s *The Woman Warrior*, which is subtitled for a “Girlhood Among [them].” Oswald Althing asks to be shot at the end of a Henrik Ibsen play (*) named for them, and one of these beings kills the boy Miles in Henry James’ *The Turn of the Screw*. In a book divided into “staves” and ending with dinner at the Cratchit home, Jacob Marley warns his business partner about being visited by three of these creatures. For 10 points, name these supernatural creatures that haunt Ebenezer Scrooge in Charles Dickens’ *A Christmas Carol*.**

ANSWER: **ghosts** (accept ***Gengangere*** after “Oswald;” prompt on “spirits” or “revenants”)

16. **For the characteristic impedance of a lossless transmission line, this value is multiplied by “j omega” in the denominator of the square root. For a circuit, the impedance is equal to the reciprocal of the complex unit times angular frequency times this value. This value is proportional to the reciprocal of the log of the ratio of the (*) shell diameters for a coaxial cable. This value is proportional to plate area and inversely proportional to distance in its namesake parallel-plate device, and its product with voltage is the charge. For 10 points, name this quantity that describes the ability of a namesake circuit element to store charge.**

ANSWER: **capacitance** (accept **capacitor**; prompt on uppercase C)

17. **Description acceptable. The concept of “transworld depravity” is used in a “defense” of this idea by Alvin Plantinga. The arguments from contingency and degree are among the “Five Ways” concerning this statement by (*) Thomas Aquinas, and Russell’s teapot shifts the burden of proof for it. St. Anselm conceived of the ontological argument for this statement, and there exist teleological arguments for it. Believing in this statement and being wrong is infinitely better than the alternative according to Pascal’s wager, and one argument for it asserts there must have been some “first” being. For 10 points, name this general statement that atheists do not agree with.**

ANSWER: **existence of God** (accept anything that describes an argument/proof for the existence of a higher being; prompt on just **God**, I guess; prompt on statements like “religion is right” or “believing in religion”; anti-prompt [ask for less specific] on ontological or teleological argument)

18. **One scene in this film overlays the sound of a rumbling subway with a meal at Louis [sic] restaurant. As cinematographer, Gordon Willis popularized a “yellow” tint and purposeful underexposure with this film. Climactic scenes in this film set on court steps, a massage table, and in a (*) revolving door are interspersed with a baptism, and this film ends with the title character shutting the door on his wife Kay. Marlon Brando starred in this film as a character succeeded by Al Pacino’s character as head of the Corleone family. For 10 points, name this film directed by Francis Ford Coppola about the title mafia boss.**

ANSWER: ***The Godfather*** (do not accept *The Godfather Part I*, *The Godfather Part II*, or *The Godfather Part III*)

19. **One character in this book expresses his gratitude that he does not have to kill the sun, moon, or stars. Its protagonist is visited by a warbler shortly before experiencing painful cramps in his left hand. This book ends with its protagonist dreaming of (*) lions on a beach, and its beginning mentions how the title fan of “the great DiMaggio” had gone 84 days without succeeding at his profession. After being followed by sharks, this novel’s main character only manages to bring home the skeleton of a great marlin. For 10 points, name this Ernest Hemingway novella about Santiago the fisherman.**

ANSWER: ***The Old Man and the Sea***

20. The narrator of one of this author's poems calls the title figure "squidgy-nosed" and "Lazarushian-leather." Another of his poems describes having "all men count with you, but none too much," and meeting with the "two imposters" (*) "Triumph and Disaster." After the narrator of one his poems is saved by an Indian *bhisti*, or water-bearer, he calls him a "better man," and he advised a certain group of people to "send forth the best ye breed" in an overtly imperialist poem. For 10 points, name this British author of poems like "Gunga Din," "The White Man's Burden," and "If--".

ANSWER: (Joseph) Rudyard **Kipling**

21. A namesake park in Kelleys Island, Ohio, provides an excellent example of the "scratches" created by these things. These objects sometimes feature large columns called seracs. Lake Agassiz was formed by the action of these entities before being drained by a series of events known as (*) jökulhlaups. Their mass balance depends on the ratio of the rates of accumulation and ablation. When two of these objects are near each other, they can create sharply ridged arêtes which rise up between U-shaped valleys. These entities create piles of debris known as moraines, and erosion caused by them creates fjords. For 10 points, name these massive, slow-moving sheets of ice.

ANSWER: **glaciers**

Bonuses

1. The Stella Prize and the Miles Franklin Award were both named for the same person from this country. For 10 points each:

[10] Name this modern day country. It's home to books like *Oscar and Lucinda* and *Voss*, by Peter Carey and Patrick White, respectively.

ANSWER: Commonwealth of **Australia**

[10] Fellow Australian writer Thomas Keneally wrote a book titled for this man's *Ark*. This industrialist employed a namesake list of Jews to rescue them from the Holocaust.

ANSWER: Oskar **Schindler** (*Ed's note: do not accept or prompt on "Max Schindler"*)

[10] Peter Carey also wrote *The Chemistry of Tears*, whose protagonist works in one of these places. Orhan Pamuk wrote a book about one of these "of Innocence," and *Foucault's Pendulum* is narrated from one of them.

ANSWER: **museum** (accept specific types)

2. For 10 points each, answer some questions about the source of genetic variation:

[10] These permanent alterations to an organism's genome can be either somatic or gametic. They can be induced by chemicals, such as alkylating agents.

ANSWER: **mutations**

[10] Synonymous mutations are a consequence of this redundant property of the genetic code, in which different sequences code for the same thing. This term is also used to describe atomic orbitals that have the same energy.

ANSWER: **degeneracy** (accept word forms)

[10] This technique uses Southern blots to identify mutations at restriction sites, since different fragment lengths will be produced after digestion. This technique was formerly used in paternity testing and genetic fingerprinting.

ANSWER: **restriction fragment length polymorphism** (or **RFLP**)

3. This scientist essentially founded atomic-molecular theory. For 10 points each:

[10] Name this Italian scientist whose namesake law states that equal volumes of gases have the same number of molecules at the same temperature and pressure. In other words, his law states that V is proportional to n .

ANSWER: Amedeo **Avogadro**

[10] Avogadro's famous "number" is approximately 6.02×10^{23} , and relates the number of atoms in this SI unit of measurement. Despite its name, it has nothing to do with animals.

ANSWER: **moles**

[10] This value is defined as the ideal gas constant divided by Avogadro's number and is approximately 1.38 times 10^{-23} Joules per Kelvin.

ANSWER: **Boltzmann** constant (prompt on "lowercase k ")

4. [*Note to moderator: Do not reveal the alternate answer to the first part!*]

This symphony's second movement "On the Beach at Night, Alone" contains a marching bass line inspired by its composer's teacher Hubert Parry. For 10 points each:

[10] Name this symphony which calls for both an orchestra and a chorus, the latter of which sings adaptations of Walt Whitman poems.

ANSWER: A **Sea Symphony** (accept, **but do not reveal** Ralph **Vaughan Williams'** Symphony No. **1**)

[10] *A Sea Symphony* is a work of this English composer, whose other works include the *Fantasia on a Theme of Thomas Tallis*.

ANSWER: Ralph ["rayf"] **Vaughan Williams** (prompt on partial answer)

[10] Vaughan Williams used the key of F minor to write by far the most famous concerto for this instrument. This is the lowest and largest brass instrument in a modern orchestra.

ANSWER: **tuba**

5. “Lula” Silva was narrowly prevented from being appointed Chief of Staff in this country just as he was being prosecuted for corruption. For 10 points each:

[10] Name this country in which Michel Temer took over as president after this country impeached its president Dilma Rousseff.

ANSWER: Federative Republic of **Brazil** (or **Brasil**)

[10] Most of the corruption charges against Lula and Rousseff stemmed from this widespread investigation of kickbacks at the state-owned oil company Petrobras. Judge Sergio Moro has been heavily praised for prosecuting the cases in this operation.

ANSWER: Operation **Car Wash** (or Operação **Lava Jato**)

[10] Brazil impeached Dilma Rousseff in the midst of a separate crisis over this mosquito-transmitted disease, which has been implicated in numerous microcephaly cases. It appeared in Miami in July 2016.

ANSWER: **Zika** fever or virus

6. Reading can take you places--even ones in other times! For 10 points each:

[10] This Scottish author is frequently credited as the inventor of the modern historical novel for his authorship of his Waverly novels, which include *Ivanhoe*, *Rob Roy*, and *Waverly* itself.

ANSWER: Sir Walter **Scott**

[10] The best known work of Robert Graves is an apparent autobiography by this Roman emperor, whom Graves depicts as kind and bookish before reluctantly succeeding Caligula as emperor.

ANSWER: **Claudius** (accept *I*, **Claudius** or **Claudius the God**)

[10] Patrick O’Brian’s Aubrey-Martin series of nautical historical novels begins with this one. The title position is held by Jack Aubrey, who takes over leading the HMS *Sophie*.

ANSWER: **Master and Commander**

7. The lowest levels of this organization, the “Brothers” and the “Recommended,” were not told of its chief goal, and its leadership was known as the “Invisible Authority.” For 10 points each:

[10] Name this secret, Freemason-like revolutionary organization whose most prominent leader was Alexander Ypsilantis.

ANSWER: **Filiki Eteria** (or the **Society of Friends**)

[10] The Filiki Eteria fought for the independence of this country from the Ottomas. A major setback in that war of independence was the Ottoman capture of the Acropolis in this country’s capital.

ANSWER: Kingdom of **Greece** (or the First **Hellenic** Republic; or **Hellas**; *Ed’s note: fun fact: the hex code for the blue in Greece’s flag is literally #1453AD*)

[10] After achieving independence, Greece was ruled by a series of kings, including one of this name who died of a monkey bite. A tsar of this name emancipated the serfs and was killed by a group known as the People’s Will.

ANSWER: **Alexander** (accept **Alexander** I; accept **Alexander** II)

8. This man was so obsessed with the monetization of silver that he named one of his sons “Legal Tender.” For 10 points each:

[10] Name this activist and leader of the “Commonwealth in Christ,” who led a namesake “army” to Washington, D.C. before being arrested for trespassing on the Capitol lawn.

ANSWER: Jacob (Sechler) **Coxey**, Sr.) (accept **Coxey**’s Army)

[10] Coxey’s Army formed during this man’s presidency, the only Democratic administration between 1870 and 1912. He was taunted over rumors of an illegitimate child with the slogan “Ma, Ma, where’s my Pa?”

ANSWER: (Stephen) Grover **Cleveland**

[10] Supporters of Coxey’s Army led by William Hogan hijacked one of these vehicles trying to get to Washington. The transcontinental type of this transportation was completed at Promontory Point, Utah.

ANSWER: **railroad** (or **trains**)

9. Gustave Caillebotte wears a straw hat and a sleeveless white shirt in the foreground of this painting, which also includes a depiction of the painter’s wife Aline Charigot playing with a dog. For 10 points each:

[10] Name this work by Pierre-Auguste Renoir showing the title gathering on a balcony in a suburb of Paris.

ANSWER: *The **Luncheon of the Boating Party*** (or *Le **déjeuner des canotiers***)

[10] Renoir’s *Luncheon of the Boating Party* is a work from this movement. A depiction of a sunrise at Le Havre gives its title to this movement and was painted by another member, Claude Monet.

ANSWER: **Impressionism** (accept word forms)

[10] This other Impressionist was painted *With a Bouquet of Violets* by her brother-in-law Édouard Manet. Her own works include a depiction of her sister Edma watching a sleeping baby, titled *The Cradle*.

ANSWER: Berthe (Marie Pauline) **Morisot**

10. Subtypes of this disorder include the “Pure-O” type and excoriation, or skin-picking. For 10 points each:

[10] Name this psychological disorder characterized by a debilitating focus on the completion of “rituals.” It can be measured on the Yale-Brown scale.

ANSWER: **obsessive-compulsive** disorder (or **OCD**)

[10] The DSM-V includes this specific behavior among the obsessive-compulsive related disorders. It entails the compulsive inability to throw anything away, and usually leads to unsanitary living conditions a lot less entertaining in real life than reality TV shows make it seem.

ANSWER: compulsive **hoarding** (accept word forms)

[10] After therapy, the most common treatment for OCD is a class of drugs named for their ability to “selectively” inhibit the reuptake of this molecule. Popular antidepressants that increase the level of this molecule include Celexa and Prozac.

ANSWER: **serotonin** (accept selective **serotonin** reuptake inhibitors; prompt on **SSRIs**)

11. This character concludes his title book by saying, “we must cultivate our garden.” For 10 points each:

[10] Name this character who experiences continental war, a shipwreck, and the Lisbon Earthquake, all despite his tutor Pangloss’s unerring cheeriness.

ANSWER: **Candide**

[10] *Candide* was written as a satire of Leibniz’s theory of optimism by this Frenchman. An apocryphal story relates how, on being asked to renounce Satan on his deathbed, he quipped, “Now is not the time for making new enemies.”

ANSWER: **Voltaire** (or François-Marie **Arouet**)

[10] At one point, Candide and his manservant Cacambo discovers two women being chased by these creatures. Candide shoots them, but is shocked to discover the women and creatures were lovers.

ANSWER: **monkeys**

12. After leaving a “farewell letter” to his native country, this man served as a military advisor during the Simba rebellion in the Congo. For 10 points each:

[10] Name this Cuban revolutionary, whom Alberto Korda depicted in an iconic photograph that now graces the T-shirts and dorm walls of college students.

ANSWER: **Che Guevara** (accept either underlined portion; accept Ernesto **Guevara**)

[10] This man, nicknamed the “African Che Guevara,” promoted women’s rights and founded the Pioneers of the Revolution as President of a nation he renamed from Upper Volta to Burkina Faso.

ANSWER: Thomas (Isidore Noël) **Sankara**

[10] Prince Johnson alleged Sankara’s assassination was engineered by Charles Taylor, the then president of this country. This country was founded by former American slaves and is now led by Ellen Johnson Sirleaf.

ANSWER: Republic of **Liberia**

13. For 10 points each, name some things related to religions with a heavy emphasis on the prophets that first founded them:

[10] Joseph Smith founded this American religion after being told by the angel Moroni of a series of golden plates.

ANSWER: **Mormon** Church (or **Mormonism**; or Church of Jesus Christ of **Latter Day Saints** or **LDS** Church)

[10] This Persian religion founded by its namesake prophet believes in a universal battle between Ahura Mazda and Angra Mainyu. Its themes of good and evil inspired many prominent later religions like Christianity.

ANSWER: **Zoroastrianism** (accept **Zoroaster**; accept **Zarathustra**)

[10] This man claimed he was the Mahdi before founding a religion that would later inspire Baha’ullah to found Bahai. His real name was Ali Muhammad Shirazi.

ANSWER: the **Bab** (accept **Babism**; prompt on Ali Muhammad **Shirazi**)

14. This function’s namesake law equates the ratios of the side-lengths to this function of the respective angle. For 10 points each:

[10] Name this function commonly stated in a right triangle as “opposite over hypotenuse.” It’s one of the main trigonometric functions, with cosine and tangent.

ANSWER: **sine** (accept **sinusoidal** or **sine** wave)

[10] This is the sine of sixty degrees, or π over three radians. You can use the image of a 30-60-90 triangle with a hypotenuse of one to help you.

ANSWER: square **root** of **three over two** (basically, accept anything equal to this: $\frac{\sqrt{3}}{2}$)

[10] These entities represent periodic functions by transforming them into sums of sines and cosines. Alternatively, these entities can use any orthonormal complex exponentials, not just sines and cosines.

ANSWER: **Fourier** series

15. This author described the use of perspective in his essay “The Art of Fiction,” which was included in the collection *Partial Portraits*. For 10 points each:

[10] Name this author who described Lambert Strether’s recruitment by his fiancée to go and “rescue” Chad Newsome in *The Ambassadors*.

ANSWER: Henry **James**

[10] *The Ambassadors* takes place largely in this “Old World” city. In the 20th century, members of the “Lost Generation” like Gertrude Stein and F. Scott Fitzgerald would spend considerable time in this European city.

ANSWER: **Paris**, France

[10] James declared *The Ambassadors* his best novel in the preface to this 24-volume edition of his works. James notably did not include *Washington Square* and *The Europeans* when compiling this geographically named edition.

ANSWER: **New York** Edition

16. The energy of an body moving under a gravitational central force is proportional to the square of this value minus 1. For 10 points each:

[10] Name this value. It's the magnitude of the conserved LRL-vector, and it multiplies "cosine theta" in the denominator of an equation giving the distance between two objects.

ANSWER: **eccentricity** (accept word forms)

[10] The eccentricity appears when using this law arguing stating that orbits are elliptical. It's usually paired with other laws formulated by the same scientist about a line sweeping out equal areas, and about the orbital period and semi-major axis.

ANSWER: **Kepler's First** Law (prompt on Kepler's Laws)

[10] Kepler formulated his first law by studying the path of this planet using very accurate data about its position collected by Tycho Brahe. Olympus Mons is a massive volcano on this planet.

ANSWER: **Mars**

17. This figure took the sinews of Zeus, requiring Hermes to steal them back. For 10 points each:

[10] Name this fearsome giant who challenged Zeus to be ultimate ruler. Zeus finally defeated him by flattening him with Mount Etna.

ANSWER: **Typhon**

[10] Typhon was birthed directly from this abyss in Hades, where he was later imprisoned as well. Among the poor souls punished here were Sisyphus and Tantalus.

ANSWER: **Tartarus**

[10] With Echidna, Typhon also birthed many monsters, including a "Crommyonian" one of these animals that terrorized the countryside until Theseus killed it.

ANSWER: **sow** (prompt on pig and equivalents, but do not accept or prompt on "boar")

18. Answer the following about the 1979 MLB season, for 10 points each:

[10] This National League team won that year's championship behind the performance of the oldest World Series MVP in history, Willie Stargell.

ANSWER: **Pittsburgh Pirates** (accept either underlined portion)

[10] This California Angels ace led the AL in strikeouts. He also holds the career record for most strikeouts, as well as the record for most no-hitters pitched.

ANSWER: (Lynn) Nolan **Ryan**(, Jr.)

[10] A riot broke out at a White Sox home doubleheader when fans were asked to bring recordings of this genre of music to be blown up on field. No word on whether any of this genre's sparkly glass "balls" were brought as well.

ANSWER: **disco**

19. Answer the following about Japanese crafts, for 10 points each:

[10] This art of Japanese paper folding can be used to create figures such as roses and dragons. Creating one thousand cranes in this art form is supposed to bring good luck.

ANSWER: **origami**

[10] The *kama* and *chawan* are utensils used to serve this food item in a common Japanese ceremony centering around its *matcha* form.

ANSWER: green **tea**

[10] Japanese art forms, such as rock gardens and pottery, often embrace this two-word rhyming Japanese phrase, which signifies an appreciation for the raw and imperfect parts of an artwork.

ANSWER: **wabi-sabi**

20. A Jesuit priest allegedly traveled all the way to Ireland to attend this man's funeral and spit on his grave. For 10 points each:

[10] Name this titan of early Irish politics, the founder of Fianna Fáil. He kept Ireland neutral during WWII as Taoiseach ["tee-shock"] for most of the 1940s.

ANSWER: Éamon **de Valera** (or Edward **de Valera**; or George **de Valero**)

[10] Unlike Patrick Pearse and James Connolly, de Valera was not executed in the wake of this failed 1916 rebellion in Dublin against British rule named for the holiday on which it occurred.

ANSWER: **Easter Rising** (accept synonyms for **Rising** like **Rebellion**)

[10] British diplomat Roger Casement was executed for trying to secure German support for the Rising. Earlier, Casement had exposed the atrocities committed in the Congo Free State by agents of this country's king Leopold II.

ANSWER: Kingdom of **Belgium**

21. For 10 points each, answer some questions about a physical constant that measures the strength of one of the four fundamental forces:

[10] First, give this letter, a constant that appears Isaac Newton's law of universal gravitation. We want the letter and the case!

ANSWER: uppercase **G** (prompt on just "[gee]"; prompt on universal gravitational constant or Newton's constant; accept any reasonable synonym for uppercase, like "big"; do not accept or prompt on little g)

[10] 71 years after Newton first named it, this man actually determined the value of G for the first time in a shed he had in his backyard. This man mistakenly thought that the constant he had measured was the mass of the Earth.

ANSWER: Henry **Cavendish**

[10] Cavendish's experiment involved the use of this device which was invented by Coulomb and John Michell independently. It entails of a spring which exerts a torque opposite the direction it is twisted proportional to the amount it is twisted.

ANSWER: **torsion balance** (prompt on "balance")