

1. In one religion in this country, funerals are sometimes held years after death so that families can throw a lavish enough ceremony to help the decedent reach an afterlife called *•Puya*. It's not Ethiopia, a religious tradition in this country traces itself back to a group of nine semi-historical apostles. A Muslim movement in this country, which struck out at perceived superstitions, was founded by Ahmad Dahlan and called Muhammadiyah. The Toraja practice the animist *•aluk* faith in this country. A tradition in this country includes feasts called (*) slametans and is divided into abangan and santri variants. Monotheism is the first of five principles in this country's official founding philosophy of Pancasila. For 10 points, name this most populous Muslim country, which was discussed by Clifford Geertz in *Islam Observed* and *The Religion of Java*.

ANSWER: Indonesia

2. A description of these events compares them to looking at a stretch of the Rocky Mountains in contrast to the incorrect metaphor of beads on a string. After the first of these events, a character is thrown into the deep end of a YMCA swimming pool by his father. One of these events changes a film so that it shows factory women working night and day to disassemble cylinders and ship their contents to remote areas where they are buried in the ground. The first of them occurs in a forest in (*) Luxembourg in 1944. These events explain the disjointed nature of the novel they appear in, as the protagonist is jerked from a plane crash in Vermont to his childhood in Ilium, New York and to the planet of Tralfamadore. For 10 points, name these temporal occurrences experienced by Billy Pilgrim in *Slaughterhouse-Five*.

ANSWER: Billy Pilgrim becoming unstuck in time

3. On the sketch for one of these works, the composer wrote *•A weeping willow or acacia tree on my brother's grave* even though his brothers were alive at the time. The opening Allegro movement of the first of these works begins with two loud chords followed by a bar of silence. The commissioner of these works also established a private ensemble led by Ignaz Schuppanzigh. The first two of these works both include a *•th me russe*, or Russian theme. These works are often recorded together with their composer's Opus (*) 74 and Opus 95, which are nicknamed Harp and Serioso, and they make up their composer's Opus 59. For 10 points, name this set of three string quartets by Beethoven, commissioned by a Russian count.

ANSWER: Ludwig van Beethoven's Razumovsky string quartets [prompt on: Ludwig van Beethoven's Middle Period string quartets; before Opus 59 is mentioned, accept: Ludwig van Beethoven's Opus 59]

4. Using the C2C12 myoblast line, it was established that Q-Sulf 1's 6-O-endosulfatase activity is responsible for the decreased binding activity between these proteins and heparan sulfate proteoglycans. Important inhibitors of these proteins include Cerebrus, SFRPs (*•s-FRIPs*), and Dkk (*•D-k-k*) proteins. They bind to a receptor complex containing the LRP5/6 protein to disrupt the APC/Axin/GSK3 complex that degrades beta-catenin, which their (*) canonical pathway is dependent on. These glycoproteins bind to a cysteine-rich domain of the Frizzled receptor, creating a signal that's transduced to Dishevelled, inside a cell. For 10 points, name this important set of signaling molecules that is named for the segment polarity gene *wingless* and its vertebrate homolog, *integrated*.

ANSWER: Wnt proteins [prompt on: Wg]

5. **This city's cosmopolitan culture is attested by the discovery of the oldest synagogue ever found outside of Israel. Important structures found in this city included the well-preserved Warehouses of Epagathus and Epaphroditus and the Square of the Corporations. According to legend, Ancus Marcius built this city as a fortress due to its proximity to salt marshes. A Cilician raid on this city in 68 BC terrified the Roman people into passing the *Lex Gabinia* over the Senate's wishes. Trajan added a walled-in, hexagonal basin to an expansion project to this city started by (*) Claudius in 42 AD in response to famine. The Latin word for mouth provided the name for this city, where ships brought in half a million tons of wheat annually to be transferred onto ox-borne barges up the Tiber. For 10 points, name this port that handled the trade of ancient Rome.**

ANSWER: Ostia Antica

6. **In this film's artfully done sex scene, a man drags a spur down a woman's back, over her buttocks, and down her leg. A man submitting progress reports by payphone in this film uses a knife to punch in the numbers. In this film's opening scene, a man rubs out a cigarette with his red cowboy boots. A story about someone betting a bartender \$300 that he could piss in a cup across the room is told by (*) Quentin Tarantino in his cameo in this film. Two friends of its protagonist have guitar cases that function as machine guns and RPGs. Its opening credits play over a flashback of a band performing *Canción del Mariachi*, which progresses to the title character being shot through the hand. For 10 points, name this Robert Rodriguez film headlined by Salma Hayek and Antonio Banderas, who's visiting vengeance on the drug lord Bucho, who turns out to be his brother.**

ANSWER: Desperado

7. **These things are equivalent to the homomorphism of a module defined over a field, rather than a ring. Because these functions preserve the origin, they are subset of affine functions where the translation is zero. The space of all of these things whose codomain is a scalar field defines the dual space of their domain. These things are (*) invertible, being both surjective and injective, if their domain and codomain have the same dimension. The dimension of an input vector space is equal to the sums of the dimensions of the kernel and range of these things. For 10 points, name these additive and homogeneous functions that are defined between two vector spaces.**

ANSWER: linear mapping [or: linear transformation; prompt on: linear operator , linear function , linear functional , affine transformation , module homomorphism]

8. **A character in a play by this author pretends to have a presentiment that there will be an earthquake or a violent explosion to try to convince his wife to go to Paris with him. In that play, a couple uses the word •Sollocks when they want to put a stop to one of their violent arguments. That play by this author is about Amanda and Elyot, a divorced couple who coincidentally get (*) rooms next to each other on their honeymoons with their new spouses. In another of his plays, Ruth dies in a car crash when her husband's car is sabotaged by his first wife. In that play, the maid Edith accidentally causes Charles's first wife, Elvira, to materialize during a seance led by Madame Arcati. For 10 points, name this playwright of *Private Lives* and *Blithe Spirit*.**

ANSWER: No | Coward

9. **Attempts to conquer this city were often repelled by its stronghold of San Felipe de Barajas. After Lima and Mexico City, this city founded by Pedro de Heredia was the third in the New World to house a Holy Office of the Spanish Inquisition. This city was successfully defended by the one-eyed, one-armed, and one-legged admiral Blas de Lezo against Edward Vernon's forces, who had previously emerged victorious at Portobello during the War of (*) Jenkins Ear. This city was the chief port of the Viceroyalty of New Granada. After the fall of the First Republic of Venezuela, Simon Bolivar wrote a manifesto in this city that kicked off his Admirable Campaign. For 10 points, name this city on the Caribbean coast of Colombia, which was named after a city led by Hasdrubal and Hannibal.**

ANSWER: Cartagena de Indias

10. **George Bernard Shaw's preface to *The Dark Lady of the Sonnets* recounts an argument between Frank Harris and the subject of one of these events. A book about the subject of these events became the basis for a libel suit against Arthur Ransome. The first of these events involved a man who devised a set of rules used in professional boxing and left a note at the Albemarle Club directed at a •posing (*) sodomite. The subject of one of these proceedings was asked to describe the love that dare not speak its name. The subject of these proceedings was later arrested for gross indecency and imprisoned at Reading Gaol. For 10 points, identify these events, one of which upheld an accusation made by the Marquess of Queensberry against the author of *De Profundis*.**

ANSWER: trials of Oscar Wilde [or: obvious equivalents, Wilde v. Queensberry. Regina v. Wilde]

11. **In a painting of one of these events, the title figure's head is missing because the painting was damaged in a fire. In that painting, a man on the left holds a bowl-shaped object next to an extremely foreshortened man reminiscent of Mantegna's *Dead Christ*. In that painting, one of these events is led by a man named Deijman. On the left side of another painting of one of these events is a group of seven (*) observers, one of whom holds a piece of paper while turning his head towards the viewer. A man named Aris Kindt appears in that painting of one of these events, in which a large textbook is open in the bottom right and the title figure probes at the musculature of a dead man's arm. For 10 points, name this type of event depicted in a Rembrandt painting featuring Dr. Nicolaes Tulp.**

ANSWER: anatomy lessons [prompt on: dissections]

12. **This myth system explains that the war god Tu invented agriculture by uprooting the sweet potato and fernroot gods by their hair. According to this myth system, the forest god moulded red clay into the first woman, who fled to become goddess of the underworld after learning that her husband was her father; that death goddess has obsidian teeth lining her (*) vagina, which snaps a hero crawling through her body in half. In this culture's creation myth, the children of the Earth and the Sky conspire to push their parents apart with their feet to allow light into the world. For 10 points, name this myth system whose creation myth details the separation of Papa and Rangi, whose grandchild was the famous trickster god, Maui.**

ANSWER: Polynesian mythology [or: Maori mythology, Hawaiian mythology]

13. **Maria de Wilde created an engraving that depicts this man meeting with Maria's father, the collector Jacob de Wilde. This man was provided Sayes Court by William III of England, but then trashed the place during his stay. During his travels, this man was accompanied by men like Franz Lefort and stayed in Zaandam in the Netherlands, where he worked as a (*) shipbuilder. This man adopted the surname Mikhailov to disguise his identity during a tour of Europe that strived to forge alliances against the Ottoman Empire. That tour was interrupted by an uprising of the streltsy in 1698. For 10 points, name this monarch who went incognito during his Grand Embassy, which influenced his decision to levy a beard tax on his nobles.**

ANSWER: Peter the Great [or: Peter I, Pyotr Alekseyevich; before Mikhailov is read, accept: Pyotr Mikhailov]

14. **The protagonist of a work in this genre sews her husband a shirt so low-cut it exposes his nipples, then divorces him for cross-dressing. That work in this genre is about a love triangle involving a woman who dreams that she will marry four times and her last three husbands will die. The title character of another of these works decides to die with his family when his house is set on fire, even though (*) Flosi allows him to leave if he wishes. A lost work in this genre is named after a man named Gaukur. The most famous work in this genre is largely the story of a blood feud sparked by the death of Gunnar Hamundarson. For 10 points, name these works which include the *Laxdaela* one and one about Burnt Njal, which are the major works of medieval Icelandic prose.**

ANSWER: Icelandic sagas

15. The quality of this process for a given set of conditions can be tested with a Hull cell. A common post-LIGA protocol for this process uses a titanium basket containing sulfur-depolarized nickel pellets. Leveling gradually reduces the surface roughness during this process, which is also reduced by using wetting agents to reduce the adherence of hydrogen bubbles. The throwing power affects the uniformity of this process, which is most uniform when a constant (*) current density is maintained over the entire seed layer. Faraday's law is used to calculate the amount of material added in this process. For 10 points, name this process in which an electrolyte containing metal cations has a substrate placed in it as the electrode so that the metal cations form a coating on the substrate.

ANSWER: electroplating [or: electrodeposition, electrochemical deposition, electrolytic depositions, word forms; prompt on: electrolysis , deposition]

16. The photographer Charles Petillon is best known for depicting hundreds of these objects grouped together against ordinary backdrops. In Brooklyn, a Banksy stencilling of one of these objects covered in Band-Aids was defaced in mere hours by •OMAR NYC. Wooden studs extend all the way from the foundation to the roof in a type of framing developed in Chicago and named for these objects. One thousand and one of these objects were created by Yves Klein to mark the opening of a Paris exhibition. Albert (*) Lamorisse filmed a short in which his son Pascal follows a sentient one of these objects around the streets of Paris. For 10 points, name these objects which were imitated in a series of shiny stainless steel monochrome sculptures of dogs that Jeff Koons built his career on.

ANSWER: balloons

17. This politician arranged the posthumous publication of *The Education of Henry Adams*. He drafted a namesake 1890 bill which would have enabled election supervisors to ensure the franchise of blacks in the South. This man chaired the 1902 committee that investigated allegations of war crimes committed during the Philippine insurrection. He led a voting bloc known as the Reservationists, which joined with another bloc called the (*) Irreconcilables to defeat one piece of legislation. As Chairman of the Senate Foreign Relations Committee, this man authored twelve Reservations which would have modified a treaty to preserve the right to declare war. For 10 points, name this Republican senator from Massachusetts who successfully opposed US entry into the League of Nations after World War I.

ANSWER: Henry Cabot Lodge

18. In the limit of nearness to this quantity, Chaplygin's equation can be simplified to the linear PDE $u_{xx} - x u_y = 0$, which is hyperbolic for x less than zero, elliptic for x greater than zero, and called the Euler-Tricomi equation. A flow nears this quantity as it progresses towards the throat of a De Laval nozzle. The Prandtl-Glauert transformation has a (*) singularity at this value. The wavefronts of a travelling object lag behind the object, forming a cone whose edge is a shock wave, when the object is moving faster than this quantity. It can be defined as the square root of quantity specific heat ratio times ideal gas constant times temperature, or as bulk modulus over density. For 10 points, name this quantity that's the speed at which a disturbance propagates through a fluid medium, sometimes known as Mach 1.

ANSWER: speed of sound [or: obvious equivalents; until it is read, accept: Mach 1; prompt on: c]

19. A lawyer in this story defends a plea bargain he struck for one character's son by noting •in the grand scheme of things, such as geology, ten years is not so very long really. That son pawns the TV from his rehab facility to buy drugs. The narrator of this story has brunch with his boss Nordstrom, who warns him about the pending Staff Remixing. That narrator notes no Attitudinal Difficulties and rates his partner •very good in faxes that he sends out nightly. The characters of this story are forced to dig into their Reserve Crackers when the Big Slot comes up (*) goatless. At the end of this story, its protagonist narcs out Janet and she loses her job pretending to be a cavewoman at an amusement park. For 10 points, name this short story by George Saunders.

ANSWER: Pastoralia

20. A book with this title argues against Thomas Kuhn in suggesting that conceptual change is an evolutionary process, and was written by Stephen Toulmin. A book on this topic lists four remedies for •the abuse of words, which is exemplified by philosophers coining words without clear definitions. That essay was rebutted in a dialogue between (*) Theophilus and Philaethes. Another work on this topic says that we posit a necessary connexion between cause and effect due to custom or habit. This phrase appears in the title of an essay which introduced the distinction between primary and secondary qualities, as well as one which includes the section Of Miracles. For 10 points, name this subject of an essay by John Locke and an enquiry by David Hume.

ANSWER: human understanding

1. The person targeted by this headline had just arrived from an economic conference in Guadeloupe. For 10 points each:

[10] Give this three-word headline printed by *The Sun* during a strike of TGWU lorry drivers.

ANSWER: **Crisis? What crisis?**

[10] A factory in Speke stored hundreds of dead bodies as a result of the gravediggers' strike during this 1978-79 period of widespread strikes ineptly handled by James Callaghan.

ANSWER: the **Winter of Discontent**

[10] The Winter of Discontent allowed this politician to succeed James Callaghan as Prime Minister. The popularity of this Iron Lady dwindled after she instituted the Community Charge poll tax.

ANSWER: Margaret (Hilda) **Thatcher**

2. Answer the following about the technical term *arse* in classical music, for 10 points each.

[10] This composer was sued after he dispatched a postcard reading 'Sir and dear friend you are an arse, an arse without music!' to a critic of his ballet *Parade*. Police beat Jean Cocteau at the subsequent trial for repeatedly shouting *arse*.

ANSWER: Erik **Satie** [or: Éric Alfred Leslie **Satie**]

[10] This composer's obsession with 'fecally immanent imperatives' is evident in his work 'Leck mich im Arsch'. Johann Peter Salomon nicknamed this composer's 41st symphony.

ANSWER: W.A. **Mozart** [or: Wolfgang Amadeus **Mozart**, Johannes Chrysostomus Wolfgangus Theophilus **Mozart**]

[10] After Mozart was rejected by Aloysia, a member of this family, he allegedly sat down at the piano and sang 'Leck mir das Mensch im Arsch, das mich nicht will'. The Queen of the Night role in *The Magic Flute* was premiered by Josepha, another member of this family, which Mozart joined by marrying Costanze.

ANSWER: **Weber**

3. He wrote about the disappearance of 'the noun for standing in mist by a haunted tree' and 'the verb for I' in his poem 'Losing a Language'. For 10 points each:

[10] Name this American poet who wrote about a time when 'I will no longer find myself in life as in a strange garment' in his poem 'For the Anniversary of My Death'.

ANSWER: William Stanley **Merwin**

[10] W.S. Merwin is also renowned for his translations of this Chilean poet's *Twenty Love Poems and a Song of Despair*.

ANSWER: Pablo **Neruda** [or: Neftalí Ricardo **Reyes** Basalto]

[10] Auden and Merwin later feuded over Merwin's refusal of a Pulitzer Prize in the pages of this magazine, which is edited by Robert Silvers and which Tom Wolfe called 'the chief theoretical organ of Radical Chic'.

ANSWER: *The* **New York Review of Books** [or: **NYREV**, **NYRB**]

4. In the classroom, these things are often studied using Elsasser's regular and Goody's statistical model. For 10 points each:

[10] Name these things that are the basis of several models used to estimate the transmission of electromagnetic radiation through the atmosphere, including HITRAN, LOWTRAN, and MODTRAN.

ANSWER: atmospheric absorption **bands** [or: atmospheric **absorption lines**; *prompt on*: molecular **spectra**, atomic **spectra**]

[10] This molecule's Herzberg and Schumann-Runge bands are of interest to extraterrestrial atmospheric scientists. Banded iron formations probably formed due to periodic excesses of this molecule during the Proterozoic eon.

ANSWER: **oxygen** gas [or: **O₂**, **dioxygen**]

[10] The Great Oxygen Catastrophe of circa 2.3 billion years ago was caused by these polluting, photosynthetic bacteria, who wiped out all the early anaerobic life on Earth.

ANSWER: **cyanobacteria** [*prompt on*: **blue-green algae**, **Cyanophyta**]

5. This king feuded with his twin brother Proetus in the womb and invented the shield during his later war against Proetus. For 10 points each:

[10] Name this king of Argos who sent his daughter away in a chest that was found by the fisherman Dictys.

ANSWER: **Acrisius**

[10] Acrisius tried to kill his daughter Danae because of a prophecy that this hero, Danae's son, would kill him. This slayer of Medusa eventually did kill Acrisius with a badly-thrown discus during some funeral games.

ANSWER: **Perseus**

[10] Because Perseus was too ashamed of killing Acrisius to rule Argos, he switched kingdoms with a cousin of this name. Meaning "great sorrow," it is shared by an illegitimate son of Menelaus.

ANSWER: **Megapenthes**

6. The Lie derivative of a metric with respect to these vector fields equals zero. For 10 points each:

[10] Name these vector fields that generate a one-parameter group of isometries for a given manifold.

ANSWER: **Killing** vector field

[10] The zero set of a Killing field is a disjoint union of submanifolds, each with even codimension, that are "totally geodesic." This term denotes curves that are the shortest distance between two points in a curved geometry, thus being analogs of straight lines.

ANSWER: **geodesics**

[10] This parameter is identically zero along a null geodesic, so one can't use it to parametrize the geodesic. In special relativity, this quantity is the interval measured by a clock in the rest frame of the observer.

ANSWER: **proper** time [or: **s**, **ds**]

7. Protesters in Kuala Lumpur dressed up as zombies to criticize this agreement and its potential impact on healthcare. For 10 points each:

[10] Name this trade agreement widely denounced as a Trojan Horse and NAFTA on steroids. If approved, this agreement will take effect in the U.S., Australia, and Japan, among others.

ANSWER: **TPP** [or: **Trans-Pacific Partnership**]

[10] This two-word phrase describes the presidential power to negotiate international agreements like NAFTA, GATT, and TPP while preventing Congress from modifying said agreements.

ANSWER: **fast track**

[10] TPP's provisions regarding intellectual property resemble this other international treaty, which aims to curb online piracy and trade of generic drugs. Like SOPA and PIPA, this treaty was the subject of widespread 2012 protests throughout the U.S. and Europe.

ANSWER: **ACTA** [or: **Anti-Counterfeiting Trade Agreement**]

8. The Gospel of Nicodemus gives this man the name Dismas and his companion the name Gestas. For 10 points each:

[10] Name this man who in the Gospel of Luke is told "Today shalt thou be with me in paradise."

ANSWER: the **Penitent Thief** [or: the **Good Thief**, the **Thief on the Cross**; prompt on: **thief**]

[10] This New Testament book includes the line "Behold, I come as a thief." It is the last book of the New Testament.

ANSWER: Book of **Revelation**

[10] This epistle states "Let him that stole steal no more: but rather let him labor, working with his hands." Its line "For by grace are ye saved through faith" is a central justification for the doctrine of salvation by faith alone.

ANSWER: Epistle to the **Ephesians**

9. This story is about a woman who was beautiful and started with all the advantages, but had no luck. For 10 points each:

[10] Name this short story in which Paul dies after making his mother rich by telling Cresswell and Bassett to bet on a horse named Malabar.

ANSWER: The **Rocking-Horse Winner**

[10] This author of "The Rocking-Horse Winner" also wrote "Odour of Chrysanthemums" and "Sons and Lovers."

ANSWER: David Herbert **Lawrence**

[10] In "The Rocking-Horse Winner," Paul and his sisters hear their house whispering this five-word phrase.

ANSWER: **There must be more money**

10. This non-Italian man's reign is often described with the phrase "Years of Lead." For 10 points each:

[10] Name this king whose opponents were sent to Tazmamart. This king fought the Sand War with an eastern neighbor.

ANSWER: **Hassan II** of Morocco

[10] Forces under Hassan II underwent the Green March to seize territory from this country, which also owns the Morocco-bordering exclaves of Ceuta and Melilla.

ANSWER: **Spain** [or: **España**]

[10] A resource of this kind published by Michelin was banned during the Moroccan Years of Lead. Another resource of this kind was banned in Iran for using the term "Arabian Gulf" instead of "Persian Gulf."

ANSWER: road **maps** [or: **atlases**, obvious equivalents]

11. This entry was closely mimicked for the design of the American Radiator Building in New York. For 10 points each:

[10] Name this influential modernist design which was runner-up to a Hood & Howells building in a 1922 architectural competition.

ANSWER: **Eliel Saarinen's** Chicago **Tribune** Tower design

[10] Eliel and Eero Saarinen designed the Kleinhaus Music Hall for this city's philharmonic orchestra. It was the site of Frank Lloyd Wright's Larkin Administration Building and is the site of Louis Sullivan's Guaranty Building.

ANSWER: **Buffalo**, New York

[10] Eliel Saarinen was the first director of the Cranbrook Academy of Art, which was strongly influenced by this German art school led by Walter Gropius and Ludwig Mies van der Rohe.

ANSWER: **Bauhaus**

12. Warrant's Ode to this person consists entirely of live recordings of obscenities and the statement "I wanna hear all of you scream the hair off your nuts!" For 10 points each:

[10] Name this woman, by far the most famous founder of the Parents Music Resource Center. At the time, she was the wife of a soon-to-be Vice President.

ANSWER: **Tipper Gore** [or: **Mary Elizabeth Gore**]

[10] The PMRC was largely responsible for pressuring the music industry into labeling albums with explicit or sexual content with this two-word phrase.

ANSWER: **Parental Advisory**

[10] In his testimony to the Senate, this singer noted that targeting the recording industry while watching a crowd chant "The Blue Jays suck" at a baseball game was "ludicrous." This Colorado native also described how one of his most well-known songs was misinterpreted and banned from many radio stations.

ANSWER: John **Denver** [or: Henry John **Deutschendorf**, Jr.]

13. Answer the following about microbiological techniques, for 10 points each.

[10] This analyzer can be used to directly count the number of microorganisms by using a small aperture and measuring electrical impedance as microorganisms pass through. A distinct advantage over optical techniques is that it can simultaneously measure concentration and size.

ANSWER: **Coulter** counter

[10] Microorganisms are often cultured on agar plates, which consist of nutrient agar in this kind of shallow labware.

ANSWER: **Petri** dish [or: **Petri** plate; *prompt on:* **cell**-culture dish]

[10] Robert Koch developed this method for isolating a single bacterial species. It divides a plate into three sections, then uses an inoculating loop to transfer bacteria clockwise between sections, creating a characteristic pattern after incubation.

ANSWER: **streaking** [or: word forms]

14. Louis XV granted the Chateau de Chambord to Maurice de Saxe to honor his leadership at this battle. For 10 points each:

[10] Name this 1745 victory for the French against a coalition led by the Duke of Cumberland. Lothair was defeated by his two brothers during an 841 battle of the same name, which led to the signing of the Treaty of Verdun.

ANSWER: Battle of **Fontenoy**

[10] The 1745 Battle of Fontenoy happened during this war, which began when Frederick the Great invaded Silesia and ignored the Pragmatic Sanction.

ANSWER: War of the **Austrian Succession**

[10] During this earlier battle in the War of the Austrian Succession, Tom Brown received eight cuts and two bullet wounds while retrieving a battle standard. This battle made George II the last British monarch to personally lead his troops into battle.

ANSWER: Battle of **Dettingen**

15. Dante called this poet *il miglior fabbro*, which Ezra Pound referred to in praising him in *The Spirit of Romance*, and which T. S. Eliot in turn referred to in calling Pound *il miglior fabbro*. For 10 points each:

[10] Name this 12th-century poet who invented the sestina.

ANSWER: Arnaut **Daniel**

[10] Daniel was one of these Occitan poets, who performed songs about courtly love in genres like *alba* and *canço*.

ANSWER: **troubadours**

[10] A traditional sestina has this many lines, including the shorter envoi stanza at the end.

ANSWER: **39**

16. This physicist wrote the definitive treatise *The Principles of Statistical Mechanics*. For 10 points each:

[10] Identify this person who names the mass limit at which a neutron star can no longer support itself with J. Robert Oppenheimer and George Volkoff.

ANSWER: Richard C. **Tolman** [or: Richard Chace **Tolman**]

[10] This Belgian physicist first solved Einstein's equations for an inhomogeneous universe in the case of a spherically symmetric dust cloud, a model later worked on by Tolman and Hermann Bondi. He independently solved Einstein's equations for a homogeneous, isotropic, expanding universe.

ANSWER: Georges **Lemaître** [or: Georges Henri Joseph Édouard **Lemaître**]

[10] Tolman's surface brightness test distinguishes between the predictions of cosmological models by correlating surface brightness with this quantity. Represented *Z*, it's a measure of how much a spectrum has been shifted to higher wavelengths by the Doppler effect.

ANSWER: Doppler **redshift**

17. Answer the following about African plays based on Greek plays, for 10 points each.

[10] Wole Soyinka wrote a play subtitled *A Communion Rite* which is an adaptation of this ancient Greek play.

ANSWER: *The* **Bacchae** [or: *The* **Bacchantes**, **Bakchai**]

[10] Prisoners rehearse for a performance of *Antigone* in this author's play *The Island*. He also wrote *Master Harold and the Boys*.

ANSWER: (Harold) Athol (Lanigan) **Fugard**

[10] This Nigerian author of *Our Husband Has Gone Mad Again* adapted *Oedipus Rex* into his play *The Gods Are Not to Blame*. According to Wikipedia, he was diminutive in size but a giant in drama in Africa.

ANSWER: Ola **Rotimi** [or: Olawale Gladstone Emmanuel **Rotimi**]

18. This speech opens with a parable about the Arab man Ali Hafed, who travelled the world looking for riches, not realizing the contents of his own backyard could make him wealthy. For 10 points each:

[10] Name this inspirational lecture that made Russell Conwell famous in the 19th century.

ANSWER: **Acres of Diamonds**

[10] Conwell was the pastor of this city's Grace Baptist Church. He also was the founder of this city's Temple University.

ANSWER: **Philadelphia**

[10] Conwell fought under James McPherson at this Civil War battle, where Joseph Johnston held off Sherman's frontal charge and saved Atlanta. The first Major League Baseball commissioner was named for this battle.

ANSWER: Battle of **Kennesaw Mountain**

19. The creator of this concept divided it into four dimensions: efficiency, calculability, predictability, and control. For 10 points each:

[10] Name this concept introduced in a 1993 book, which is based on Weber's concept of rationalization. Its creator argued that over-rationalization ironically leads to irrationality.

ANSWER: **McDonaldization**

[10] This *New York Times* columnist introduced a version of the democratic peace theory stating that no two countries which both have McDonald's have fought each other in his book *The Lexus and the Olive Tree*.

ANSWER: Thomas (Loren) **Friedman**

[10] McDonaldization is similar to a concept named after this company and popularized by Antonio Gramsci. Gramsci discussed this company's emphasis on mass production through the development of the assembly line.

ANSWER: **Ford** Motor Company

20. Answer the following about Scottish painting, for 10 points each.

[10] A painting by Henry Raeburn shows the Reverend Robert Walker performing this activity, which William Grant does in a Gilbert Stuart portrait. Some people do this in the background of *The Hunters in the Snow*.

ANSWER: ice **skating**

[10] This extremely popular Jack Vettriano painting shows a couple dancing on the beach next to a maid and the title character, both of whom hold umbrellas.

ANSWER: *The* **Singing Butler**

[10] Though this painter was English, he did paint a Scottish stag in his *Monarch of the Glen*.

ANSWER: Sir Edwin (Henry) **Landseer**