

1. In mice, this substance is lost after infection with Theiler's virus, and a protein found in this substance is not produced in Shiverer mice. Luxol fast blue is used to stain this substance, and the primary lipid component of this substance is galactocerebroside. Charcot-Marie-Tooth disease results in this loss of this substance, and an autoimmune disease that results in the loss of this substance is caused by autoreactive T-cells crossing the blood-brain barrier. Spaces between complexes of this substance are called Nodes of Ranvier, and this substance serves to increase the capacitance of the cells it surrounds. For 10 points, name this substance synthesized by oligodendrocytes and Schwann cells, which wraps around axons.

ANSWER: myelin

2. This author's poetic images include a chariot drawn by sparrows or by doves, depending on the translation. Longinus's *On the Sublime* makes an example of this poet's lines about a person who seems "equal to the gods." Anne Carson's collection *If Not, Winter* adapts this poet, who names a type of stanza in which a five-syllable ending caps off three hendecasyllable lines. This user of the Aeolic dialect allegedly left a group of followers called a *thiasos* leaderless upon jumping off a cliff for Phaon. Among many fragments, this author leaves only one complete poem, a 28-line "Hymn to Aphrodite." For 10 points, name this ancient Greek lyric poet, a woman from Lesbos.

ANSWER: Sappho of Lesbos [or Psappha]

3. A riot in this city resulted when Darcus Howe began a "Black People's Day of Action", and a truck bomb detonated outside of Hong Kong and Shanghai Bank in this city inspired the creation of the "ring of steel." During an incident in this city, the military launched Operation Nimrod to liberate an embassy from Khuzestani separatists. An assassination attempt on Israeli ambassador Shlomo Argov in this city set off the 1982 Lebanon War. An organic peroxide-based bomb was detonated on a bus in this city at the same time as three other bombs were detonated in this city's subway system. For 10 points, name this national capital whose namesake "Underground" subway system was bombed on July 7th, 2005, and in which the IRA once attempted to mortar Heathrow Airport.

ANSWER: London, England

4. This man called for measuring human development in terms of capability in a collaboration with Martha Nussbaum. This writer showed that it is impossible to have both "minimal liberalism" and a Pareto optimal selection of choices, in what is known as the Liberal Paradox. Emily Oster disputed the figure of one hundred million that this social scientist came up with in analyzing the "missing women problem." In his most famous book, he showed that shortages are caused not just by insufficient production but also from preexisting economic inequalities resulting in misdistribution. For 10 points, name this author of *Collective Choice and Social Welfare* and *Poverty and Famines*, an Indian welfare economist.

ANSWER: Amartya Sen

5. Aaron Perry was the chief prosecutor appointed as a result of this scandal, which quickly exonerated James Bayard. George Francis Train and Thomas Durant founded the organization at the center of this event, and its exposure was begun by a letter from Henry McComb to the New York Sun newspaper. James Patterson and James Brooks were implicated in its investigation, as well as Oakes Ames, who offered shares of stock from the organization at the center of this scandal. For 10 points, identify this Grant administration scandal involving the construction of the Union Pacific Railroad.

ANSWER: **Credit Mobilier** of America Scandal

6. A maltreated son of this man offered so many fire offerings that a god's throne grew too hot. The familiar man with this name is actually the seventh out of fourteen, each of whom presides over a namesake era lasting three hundred million years. This man placed a growing creature in a jar, then transferred it to successively larger containers, until it nearly filled up an ocean. This man lectures to an audience of *rishis* on legal matters in a 1st century BC discourse about his "laws." This man housed animals and different types of seeds in a boat he built after listening to Matsya, the horned fish first avatar of Vishnu. For 10 points, name this survivor of a deluge, the progenitor of mankind in Hindu mythology.

ANSWER: Vaivasvata **Manu**

7. The Bemolanga and Tsimimaro oil fields on this island produce heavy oil. Inhabitants of this island have burned reed beds to make more rice paddies along Lake Alaotra, its largest lake. Ruins of the Merina kingdom dot this island, the westernmost place settled by people late in the Austronesian expansion. This island, whose Sava region lets it produce more vanilla than any other place in the world, is home to the Canal des Pangalanes in its east, and the Tsaratanana massif in its center. Its indigenous language is Malagasy. For 10 points, name this large island, home to the lemur.

ANSWER: **Madagascar**

8. A character in one of this author's novels describes feeling a "metaphysical ache" when he first sees the woman he hires as his secretary. In another of his novels, the protagonist smashes the limbs of dead dogs so that they can more easily fit in an incinerator. In another of his novels, essays that are to be submitted for the book *Strong Opinions* are interspersed with narrations by Señor C. and his secretary Anya. One of his protagonists is badly burned when attacked by two men who then rape his daughter. Simón and David try to adjust to life in Novilla in a 2013 novel by this author, and he also described Professor David Lurie leaving Cape Town to live on his daughter's farm. For 10 points, name this author of *Disgrace*.

ANSWER: J. M. **Coetzee**

9. Vladimir Sofronitsky, who married this composer's daughter, was considered his definitive early interpreter. He often used transpositions of a chord consisting of C, F sharp, B flat, E, A, and D. This composer switched to a single movement format for piano sonatas after his fifth, such as in two pieces using up to three or four musical staves. Today, his most performed piece is an etude in the unusual key of D-sharp minor. This composer used a "color organ" and popularized the "mystic chord" in a symphonic poem, and he envisioned a piece of performance art that would run for a week in the Himalayas before the end of the world. For 10 points, name this Russian composer of *Mysterium* and *Prometheus: The Poem of Fire*, a crazy synesthete.

ANSWER: Alexander Nikolayevich Scriabin

10. Taking this function on a member of a finite abelian group returns a member of the group that is the Pontryagin dual of the original group. The space of all functions whose derivatives are rapidly decreasing has the property that this operation is an automorphism; that space is named for Schwartz. The integral from negative infinity to infinity of the square of a function is equal to that same integral of this operation of that function, squared, according to Parseval's theorem. Like a related operation named for Laplace, it takes convolutions to products and takes inputs from the time domain to the frequency domain. For 10 points, name this operation which takes an input and resolves it into a series of frequencies, a transform named for a French mathematician.

ANSWER: Fourier transform

11. This sect believes that all of its religion's sacred texts have gradually disappeared, such that existing *anga* are not authentic. This sect consistently depicts its holiest figures with downcast eyes, and believes that people who become kevalins no longer need food. This sect believes that Mallinath must not have been a woman, since women must be reborn as men to achieve enlightenment or become tirthankaras. Ascetics of this sect carry a water gourd and a peacock-feather broom to sweep insects away, and nothing else. For 10 points, name this smaller and more austere sect of Jainism whose monks are "sky-clad," or naked, by contrast to the white robes of Svetambara monks.

ANSWER: Digambara Jains [or sky-clad Jains until it is read; prompt on Jains or Jainism; prompt on Jain monks]

12. The transition to this behavior can be shown by a material having a line with a positive y-intercept on an Arrott plot. A particular material class showing this behavior undergoes a martensitic phase transition and is shape-memory alloys. The product of the density of states at the Fermi level with the exchange integral for it must be greater than one according to the Stoner criterion. This property is shown by a gas of lithium atoms cooled to about 150 nanokelvin. It causes jumps in a material's J vs H curve due to alignment within entire domains in the Barkhausen effect. The susceptibility due to this property is equal to a constant over temperature minus theta according to a law partly named for Weiss. For 10 points, name this kind of magnetism that shows permanent magnetism by parallel alignment of domains.

ANSWER: ferromagnetism

13. A film character who fought in this war tells a story about lacking "sufficient collateral" to take a hill, which he uses to make a point about banking. Another veteran of this war asks children "Do you want to see the freak?" before smashing his hands, which are now hooks, through a window. This war's aftermath is the subject of the film *The Best Years of Our Lives*. The documentary film series *Why We Fight* was made during this war. Another film about this war represented its victims with a little girl in a red coat walking through a black in a white scene. That film ends with people placing stones on the title industrialist's grave in Jerusalem. For 10 points, name this war, during which Steven Spielberg's film *Schindler's List* takes place.
ANSWER: **World War II** [or the **Second World War**]

14. This character becomes furious when another character threatens to cut off his testicles and preserve them in a hog's turd. This character stresses that God forbids swearing in the Ten Commandments even before homicide. His possessions include a mitten whose wearer is allegedly ensured a bountiful harvest and the bone of a sheep once owned by a Jew. This man uses the Latin motto "*Radix malorum est cupiditas*" in all his speeches. He describes drunkard residents of Flanders whose discovery of a stash of gold under an oak tree impels them to kill each other. For 10 points, name this religious conman from Chaucer's *Canterbury Tales* who tells of three friends who attempt to kill Death.
ANSWER: the **Pardoner**

15. In this state, college student David Attias proclaimed he was the "angel of death" after running over pedestrians with his car. A writer from this state commented that "full Asian men are disgustingly ugly," pointing out he was "descended from British aristocracy," not slaves. That writer from this state produced a text describing how his step-mother, Soumaya, limited his World of Warcraft playing time. In YouTube videos, a person from this state lamented being twenty two years old "and still a virgin," and said that he, "the supreme gentleman," wanted to have "revenge against humanity." That killer in this state stabbed his roommates to death and then began shooting at members of the Delta Delta Delta sorority. For 10 points, name this state where Elliot Rodger killed six people near Santa Barbara.
ANSWER: **California**

16. In the laboratory, this substance is used to pre-wet PVDF membranes for western blotting, and the transfer buffer for that procedure is 20% this substance. The product of the reaction between this compound and hydrogen iodide is bound to an iridium-containing catalyst in the first step of the Cativa process, which carbonylates this compound. Reacting this compound with isobutylene creates the anti-knock agent MBTE, and it is also used to trans-esterify triglycerides to form biodiesel. Ingesting this compound can cause high anion-gap acidosis and blindness, which is prevented by inhibiting ALDH. This compound can be oxidized twice to create formic acid or once to create formaldehyde. It was originally distilled from wood by Robert Boyle. For 10 points, name this simplest alcohol with formula CH₂OH.
ANSWER: **methanol**

17. After guards left no one alive in a building suspected to harbor a fugitive, this artist depicted the bodies of a family living inside. A frequent subject of this man examines the pulse of a starving worker in *It's Safe to Release This One!* and has bags of food and money rolled up his tongue into his mouth in *Gargantua*. He depicted his colleague at the journal *Le Charivari* in a hot air balloon in "Nadar Elevating Photography to the Height of Art," one of his more than four thousand lithographs. In a painting by this caricaturist of King Louis-Philippe, a hooded woman holding a basket sits between a sleeping boy and a breastfeeding mother in the part of a train reserved for the poor. For 10 points, name this socially-conscious French painter of *The Third Class Carriage*.

ANSWER: Honore **Daumier**

18. This man was suspected of orchestrating the murder of two labor activists in Seattle in 1981, as he neared the second decade of his martial law-based "New Society." The wife of this leader commissioned a palace made of coconuts in order to impress Pope John Paul II. This man's rule faced massive protests after the murder of his longtime political opponent at an airport. He found asylum in Hawaii after he was overthrown in the People Power Revolution led by Corazon Aquino. He embezzled billions of dollars for lavish personal expenses, such as his wife's collection of over two thousand shoes. For 10 points, name this corrupt longtime president of the Philippines.

ANSWER: Ferdinand Emmanuel Edralin **Marcos**

19. One policy that led to this event was nicknamed the "Frank Sinatra" doctrine. In his master's thesis, 20-year-old Zbigniew Brzezinski predicted this event. During this event, a city renamed itself after Anatoly Sobchak became mayor. The Special Period in Cuba was directly caused by this event. During this event, the president was arrested at his holiday home in Foros in the August coup, which was ended when a speech was made outside the White House atop a tank. This event granted Russia a seat on the UN Security Council, and ended after Mikhail Gorbachev resigned and Boris Yeltsin took over. For 10 points, name this event where Ukraine and the Baltic States, among others, became independent countries in 1991.

ANSWER: **Fall** of the **Soviet Union** [or **Dissolution** of the **Soviet Union**; or breakup of the **Warsaw Pact**; or breakup of the **Eastern Bloc**; or logical equivalents mentioning the **Soviet Union**, **USSR**, **Eastern Bloc** or **Warsaw Pact** breaking up; prompt on partial answer; prompt on "Revolutions of 1989; prompt on "ending the Cold War" or "independence of Russia or Ukraine" or logical equivalents]

20. In a story from this collection, Anthony Rockwell confirms that money can buy everything, by hiring a group of cab drivers to aid his son's proposal to Miss Lantry. A character from this collection searches for a "man about town," only to realize that he is that person. One character in this collection steals an umbrella hoping to get arrested, while another saves Johnsy by painting the title picture on a wall. In a story in this collection, Della and Jim buy ineffective Christmas gifts for each other by selling their most prized possessions. For 10 points, name this short story collection featuring "The Last Leaf" and "The Gift of the Magi," written by O. Henry.

ANSWER: *The* **Four Million**

21. The density of this quantity for a disk is often modelled using an exponential times a hyperbolic secant squared function. For objects on the main sequence, this quantity is related to the mass by a 3.9-degree power law. Taking four pi G M c times the mass of the photon, all over the Thompson scattering cross section, gives an upper bound for it, near which objects have strong radiation-driven winds. Henrietta Leavitt discovered a relationship between this quantity and period for Cepheid variables, allowing them to be used as standard candles. It is bound by the Eddington limit and varies as the fourth power of temperature according to an application of the Stefan-Boltzmann equation. For 10 points, name this measure of a stellar object that is the energy emitted during a unit of time.

ANSWER: luminosity

22. A character in this novel is nearly incriminated for saying that George Washington could eventually become as famous as George III. In this novel's chapter, "The Sea Still Rises," Foulon is murdered and his mouth is filled with grass. In a celebrated passage from this novel, hundreds of people scramble to drink the wine spilled from a broken cask on the street. The banker Mr. Lorry writes a note reading, "Recalled to Life," near the beginning of this novel. The protagonist of this novel is incriminated for being the nephew of the Marquis St. Evremonde, but is saved by his look-alike Sydney Carton. For 10 points, name this novel set during the French Revolution written by Charles Dickens.

ANSWER: A *Tale of Two Cities*

23. These people were relocated throughout the Ottoman empire by the surgun system. Groups of these people across Eurasia were visited in the 12th century by Benjamin of Tudela. The nobility of the early medieval Khazar khaganate chose to become members of this group. The Vilna Gaon dominated among these people in early modern Lithuania. In the 17th century, many of these people in and around Constantinople became Sabbateans. Catherine the Great established the Pale of Settlement to include these people, who were targeted in Strasbourg and Mainz after allegations of well-poisoning during the Black Death. For 10 points, name this religious group which lived in shtetls and was often targeted by pogroms.

ANSWER: Jews [or Jewish people; accept Ashkenazic Jews; accept Sephardic Jews]

1. This man was the son of a convict father and fortune teller mother and is self-conscious about being born in prison. For 10 points each:

[10] Name this character who at one point arrests the Thenardiers. He works undercover behind the barricade and eventually commits suicide by drowning himself in the Seine River when his life is spared by his nemesis.

ANSWER: **Javert**

[10] Javert is a character in this author's mammoth novel *Les Misérables*.

ANSWER: Victor **Hugo**

[10] This 1829 Hugo short novel inspired many other writers with its socially conscious approach. It is written from the perspective of a man about to be executed at the guillotine.

ANSWER: *The **Last Days of a Condemned Man*** [or *Le **Dernier Jour d'un Condamné***]

2. This region contains the Maasai Mara, a hunting grounds named for the Maasai people, and a Great Wildebeest Migration occurs here yearly. For 10 points:

[10] Name this grassland plain and common safari destination, now protected largely as a namesake national park in Tanzania.

ANSWER: **Serengeti** plain [or **Serengeti** ecosystem; or **Serengeti** National Park]

[10] The very wide branches of this tree can be seen throughout the African continent, including sporadically on the Serengeti. According to legend, the hyena planted this tree upside-down.

ANSWER: **baobab** tree [or **Adansonia**]

[10] Further east in Tanzania, this other conservation site is named for a huge crater, the world's largest volcanic caldera.

ANSWER: **Ngorongoro** conservation area [or **Ngorongoro** crater]

3. The author of this work rides in a truck he dubs Rocinante and claimed that he was not recognized once on a 10,000 mile journey. For 10 points each:

[10] Name this travelogue in which John Steinbeck makes a cross country trip with the title character, a French poodle.

ANSWER: **Travels with Charley**

[10] Another literary pet, the grandmother's cat Pity Sing causes a crash when it jumps out of a picnic basket onto Bailey's neck in what Flannery O'Connor short story in which the grandmother and family are murdered by The Misfit during a road trip?

ANSWER: **"A Good Man Is Hard to Find"**

[10] This American poet wrote that a dog is, "a real realist with a real tale to tell and a real tail to tell it with." He wrote the collection *A Coney Island of the Mind* and founded San Francisco's City Lights bookstore.

ANSWER: Lawrence **Ferlinghetti**

4. Reflecting on this piece, the composer wrote "I have written something that so reeks of cowpats...and 'to-thyself-be-enough-ness' that I can't bear to hear it, though I hope that the irony will make itself felt." For 10 points each:

[10] Name this piece that begins with the cellos, double basses, and bassoons playing tiptoeing notes, and gradually increases in tempo until all the instruments crash together and play very loud notes.

ANSWER: "**In the Hall of the Mountain King**" [or "**I Dovregubbens Hall**"]

[10] "In the Hall of the Mountain King" and "Morning Mood" are both from this Norwegian composer's incidental music to *Peer Gynt*.

ANSWER: Edvard Hagerup **Grieg**

[10] The first *Peer Gynt Suite* features a violin in place of the female soloist of this other piece, who says that though winter, spring, and summer go by, she will wait for her lover. It is not to be confused for a "cradle song" later sung by the same character.

ANSWER: "**Solveig's Song**" [or "**Solveigs Sang**"]

5. This test sorts people into categories such as thinking or feeling. For 10 points each:

[10] Name this personality indicator test, whose uses in society are advocated by the Center for Application of Psychological Type.

ANSWER: **Myers-Briggs** Type Indicator [or **MBTI**]

[10] The Myers-Briggs test is based on the theories of this psychiatrist, the founder of analytical psychology, who also proposed such ideas as "archetypes" and the "collective unconscious."

ANSWER: Carl Gustav **Jung**

[10] Jung proposed this concept, in which events that appear to be causally unrelated are observed to act together in a meaningful manner. An example is hearing about a golden scarab and then immediately spotting an insect that resembles the scarab.

ANSWER: **synchronicity**

6. Answer some questions pertaining to vacuums, for 10 points each.

[10] The vacuum form of this laboratory technique lowers the pressure above a mixture to below its vapor pressure. It is used to separate components of a mixture based on their boiling points.

ANSWER: vacuum **distillation**

[10] The speed of light in a vacuum is equal to the inverse of the square root of the vacuum permittivity times this constant.

ANSWER: vacuum magnetic **permeability** [or the **permeability** of free space; or **magnetic constant**; or **mu-naught**]

[10] The low-pressure form of this deposition process can be said to occur under vacuum conditions. Said low-pressure form of this process is used to deposit high quality silicon nitride and polycrystalline silicon.

ANSWER: **chemical vapor** deposition [or **CVD**]

7. The New York Herald t-shirt worn by this film's heroine helped popularize the trend of t-shirts with writing on them. For 10 points each:

[10] Name this 1960 film that popularized the "jump cut" technique, and in which the Humphrey Bogart-impersonator Michel is ratted out by his American girlfriend Patricia.

ANSWER: Breathless [or A Bout de Souffle]

[10] Jean-Luc Godard's *Breathless* was an influential film in the "New Wave" of this European country.

ANSWER: France [or French Republic; or Republique francaise]

[10] In *Breathless*, Patricia interviews Mounsieur Parvulesco, who says that his greatest ambition is to become immortal and then die. Parvulesco was portrayed by this director of *Le Samourai*, who honored an American novelist with his *nom de plume*.

ANSWER: Jean-Pierre Melville [or Jean-Pierre Grumbach]

8. Answer the following about the political cause of Carlism in 19th century Spain, for 10 points each.

[10] This ruling house's proper line of succession was disputed by the Carlists. A branch of this house - a rather distant branch from the French dynasty of the same name - ruled Spain from 1700 onwards.

ANSWER: House of Bourbon

[10] The first Carlist war tried to oust this queen of Spain and replace her with the Carlists' namesake infante, Carlos.

ANSWER: Isabella II [prompt on Isabella]

[10] An assembly of this name allowed Ferdinand VII to set aside Salic law and ensure Isabella II's succession to the throne. These legislative assemblies of Spain included an 1812 example at Cadiz whose constitution was too liberal to keep itself from being overthrown.

ANSWER: Cortes Generales

9. Aquinas used the example of an archer to argue that God directs all objects towards this property, which for an arrow is its target. For 10 points each:

[10] Name this ancient Greek term largely meaning "goal," the end purpose which gives each object a reason for being.

ANSWER: telos [or final cause; or teleology]

[10] This tutor of Alexander the Great argued that all objects have a *telos* in his *Physics*.

ANSWER: Aristotle of Stagira [or Aristoteles]

[10] In this book, Immanuel Kant argued that we needed the concept of teleology to make sense of nature. It also explains how people label things as beautiful as part of a *sensus communis*.

ANSWER: Critique of the Power of Judgment [or Kritik der Urteilskraft]

10. Name these Cubist paintings by Picasso, for 10 points each.

[10] A sailor, but not a plate of fruit, was removed between the studies and the final product of this 1907 painting, which drew on caricatures of African masks for the faces of five Barcelona prostitutes.

ANSWER: *Les Demoiselles d'Avignon* [or *The Young Ladies of Avignon*]

[10] Picasso portrayed himself, Guillaume Apollinaire, and Max Jacob as a Harlequin, Pierrot, and monk in two later paintings of this title from his synthetic Cubist period.

ANSWER: *Three Musicians*

[10] This 1911 or 1912 painting contains guitar strings strummed by Picasso's lover Marcelle Humbert and a musical staff, among other nods to the titular refrain to a popular Parisian dance hall tune about "my pretty girl."

ANSWER: *Ma Jolie*

11. This man wrote "Stop sending people to kill me" to Josef Stalin. For 10 points each:

[10] Name this man, the only European co-founder of the Non-Aligned Movement, which he became the first Secretary-General of in 1961.

ANSWER: Josip Broz *Tito* [or Josip *Broz*]

[10] Tito was the longtime leader of this country, which no longer exists. It consisted of such republics as Serbia, Croatia, and Bosnia-Herzegovina.

ANSWER: Socialist Federal Republic of *Yugoslavia*

[10] This Croatian archbishop condemned Tito's Communist leadership. He was eventually tried and imprisoned. While he was released from prison thanks to foreign pressure, he refused to leave Yugoslavia. He was declared a martyr and beatified by Pope John Paul II years later.

ANSWER: Aloysius *Stepinac*

12. Describe some things relating to silicon chemistry, for 10 points each.

[10] Silicon, like carbon, is a group 14 element, which means that it has this many electrons in its valence shell.

ANSWER: *four*

[10] Silane, or SiH₄, is an example of an electron precise one of these compounds, which are typically very strong bases. Other examples of these include borane and, for sodium, NaH.

ANSWER: molecular *hydrides* [or saline *hydrides*]

[10] This form of silicon can be synthesized in an arc plasma reactor and can come in single walled and multi walled varieties.

ANSWER: silicon *nanotubes* [do not accept "silicon buckyballs"]

13. In the first poem of this collection, the speaker compares himself and his wife to effigies on a “marriage-tomb...each wishing for the sword that severs all.” For 10 points each:

[10] Name this collection written after the author’s wife ran off with Henry Wallis.

ANSWER: Modern Love

[10] *Modern Love* was written by this author of *The Egoist*. The title character is put through The System by his father in his *The Ordeal of Richard Feverel*.

ANSWER: George Meredith

[10] This later English poet concluded, “What will survive of us in love,” in a poem about sculptures on a tomb. This author of *The Whitsun Weddings* also advised “don’t have any kids yourself” in “This Be The Verse.”

ANSWER: Philip Larkin

14. In the script wherein this character appears, she is complimented on her white dress and wishes to be carried off by "threads of silver." For 10 points each:

[10] Name this injured, dying non-human female, the subject of unrequited love from a Boy Beetle whose mother wants him to marry Sylvia Beetle instead.

ANSWER: the butterfly from *The Butterfly's Evil Spell* [or la mariposa]

[10] This Spanish playwright of *Blood Wedding* wrote *The Butterfly's Evil Spell*. He wrote about a barren woman named Yerma before being shot on the eve of the Spanish Civil War.

ANSWER: Federico García Lorca

[10] Every visible character in Lorca's *The House of Bernarda Alba* has this identity category, which the unseen Pepe el Romano lacks. Ntozake Shange wrote a staged "choreopoem" for colored people of this type.

ANSWER: the cast is all female [or all women; or obvious equivalents]

15. When a messenger came to chain this man, this man tricked the messenger into putting the chains on himself. For 10 points each:

[10] Name this king of Corinth who who was forced to continuously roll a boulder up a hill in Tartarus.

ANSWER: Sisyphus

[10] The messenger whom Sisyphus chained was this personification of death sent by Zeus.

ANSWER: Thanatos

[10] This master thief, a son of Hermes, was outwitted by Sisyphus after trying to steal his herds.

ANSWER: Autolycus

16. This function's sifting property means that its multiplication by another function under an integral gives that function at the point where this function is non-zero. For 10 points each:

[10] Name this function that is zero at every point except the origin, where it spikes to infinity. It's actually more a distribution, but has an area of one.

ANSWER: Dirac delta function

[10] Taking the Fourier transform of the Dirac delta gives this number, which is also maximum amplitude of the sine and cosine functions—at least, when they aren't multiplied by anything.

ANSWER: one

[10] When the Dirac delta is the input to a continuous linear, time-invariant system, the output is known by this term. It's given by the transfer function convolved with the Dirac delta.

ANSWER: impulse response

17. Alfred Sturtevant constructed the first genetic map while working on the *melanogaster* species of this organism. For 10 points each:

[10] Name this popular model organism, also known as the fruit fly.

ANSWER: **Drosophila melanogaster** [or **Drosophila melanogaster**]

[10] The nuclei of *Drosophila*, especially in the salivary gland, feature this type chromosome because DNA replication without cell division results in large, banded chromosomes.

ANSWER: **polytene** chromosome

[10] This is the name given to DNA replication without cell division. It can occur when the M phase does not follow the gap at the end of the S phase of the cell cycle.

ANSWER: **endoreplication**

18. The "Black Dinner" was a violent incident involving these groups, which each have a unique plaid pattern called a tartan. For 10 points each:

[10] Name these large kinship groups of Scotland, such as the Campbells and the MacDonalds, who often fought one another as part of broader British wars.

ANSWER: Scottish highland **clans**

[10] Clan MacDonald supported these rebellions against the British throne, which Clan Campbell defended. Bonnie Prince Charlie fled after one of these rebellions lost at Culloden Moor.

ANSWER: **Jacobite** risings [accept any answer indicating attempts to put the house of **Stuart** back on the English throne after its ouster; accept Jacobite rising of 17**15**; accept Jacobite rising of 17**45**; accept "**the '15**"; accept "**the '45**"]

[10] In this 1692 massacre, dozens of members of Clan MacDonald were killed after their hosts reneged on the rights of hospitality, to punish them for failing to swear allegiance to William and Mary.

ANSWER: **Glencoe** massacre [or Mort **Ghlinne Comhann**]

19. Name these short speeches, for 10 points each.

[10] This 1863 speech's prediction that "the world will little note, nor long remember what we say here" proved untrue. It was given at the dedication of a Civil War battlefield cemetery.

ANSWER: **Gettysburg Address**

[10] Standing on a flatbed truck in 1968 in Indianapolis, Robert Kennedy posited that "in our own despair, against our will, comes wisdom through the awful grace of God," in a speech on this event.

ANSWER: the **assassination of MLK** [accept answers indicating the **killing of King**, Jr.]

[10] In 1939, a thirty-six year old gave this speech, saying that despite stories of his bad break, he considered himself "the luckiest man on the face of the earth."

ANSWER: Lou Gehrig's **Farewell to Baseball** [accept answers like **Gehrig's retirement** speech]

20. Answer the following about Biblical contradictions, for 10 points each.

[10] Numbers says this man was very meek, but he seems pretty angry at other points. That said, he was humble enough to let his brother Aaron do the talking in front of the Egyptian pharaoh.

ANSWER: Moses

[10] According to Acts, Judas Iscariot bought one of these locations with the money he earned betraying Jesus and later died there. The gospel of Matthew suggests the chief priests actually bought this location instead.

ANSWER: potter's field

[10] Only Mark's gospel suggests a woman with this name joined Mary the mother of Jesus and Mary Magdalene at the empty tomb of Jesus. Another woman with this name in the Bible married Philip the Tetrarch.

ANSWER: Salome

21. This man was awarded the 1912 Nobel Peace Prize for his efforts in peaceful international diplomacy. For 10 points each:

[10] Name this Secretary of War from 1899 to 1904 and Secretary of State from 1905 to 1909. In the former position, he drafted the Platt Amendment, while in the latter, he negotiated the Gentleman's Agreement with Japan.

ANSWER: Elihu Root

[10] Elihu Root succeeded to the position of Secretary of State after this predecessor died. It is believed he authored the Bixby letter while serving as a private secretary to Lincoln, and this man co-names a Washington hotel with his neighbor and good friend Henry Adams.

ANSWER: John Hay

[10] Elihu Root and John Hay both served as Secretary of State under this president, whose diplomacy relied on the maxim "speak softly and carry a big stick." His main big stick was the Great White Fleet.

ANSWER: Theodore Roosevelt, Jr. [or Teddy Roosevelt; or T.R.]