**2021 National All-Star Academic Tournament**

**Round 9 – Tossups**

1. The so-called Bitch Wars were fought between members of the Thieves in Law who sought to control this system. Janis Mendriks and other coal miners were killed in the Pechora River basin while striking against this system. A canal-building project was awarded to Naftaly Frenkel for his success in improving the productivity of one of the largest institutions in this system. The moniker "Dead Road" was applied to an abandoned project built under this system, the Transpolar Railway. An institution that was part of this system, Solovki, likely inspired the name of a seven-volume work about inhabitants in this system known as *zeks*. For 10 points, name this system of Soviet labor camps which was documented by Aleksandr Solzhenitsyn **(sowl-zhuh-NEET-sn)** in his work about its "archipelago."  
ANSWER: **Gulag** [accept ***Gulag*** *Archipelago*; prompt on more general answers like (Soviet) forced labor camps or concentration camps; prompt on forced labor]  
<History European 1914-present - Hari Parameswaran>

2. One king of these beings plays a game with a "golden ball," which is actually a burning seal's head covered in tar. Two of these beings produce gold, peace, and happiness from a magic mill while held as slaves to a human king. Another king of these beings was killed by a molten piece of iron after he ambushed a god in his feast hall. In order to retrieve Mjolnir **(myohl-neer)**, Thor disguises himself as Freyja to pretend to marry one of these beings named Thrym **(thrim)**. In another story, Thor fails the trials of one of these beings after being unable to empty a drinking horn or lift a cat, which is actually a disguised Jormungandr **(yor-muhn-gan-der)**. Utgard-Loki is one of, for 10 points, what creatures from Norse mythology known for their large stature?  
ANSWER: **Jotunn** [or **Jotnar**; accept frost **giants** or other specific kinds of giants]  
<RMP Non-Greek/Roman Myth - Bradley McLain>

3. A piece for this ensemble features a rhythmic *Khoomar* section and concludes with the movement *Lorva Horovel*. *A Child's Garden of Dreams* was composed by David Maslanka for this ensemble, for which Alfred Reed wrote his *Armenian Dances*. A piece for this ensemble calls for an anvil in its "Song of the Blacksmith" movement before its rapid "Fantasia on the Dargason." A chaconne opens Gustav Holst's first suite for this ensemble. This ensemble is scored for pieces like "The Thunderer" and "Semper Fidelis," which were composed by a leader of one of these ensembles named John Philip Sousa. "Stars and Stripes Forever" is commonly played by a military example of, for 10 points, what ensemble consisting of woodwinds, brass, and percussion?  
ANSWER: concert **band** [or symphonic **band**; or military **band**; or marching **band**; or wind **band**; or **wind ensemble**]  
<Arts Music - Noah Sheidlower>

4. The standard lock system when there are no compounds with this modification requires a small amount of fluorine to be added. In 2017, a variant of tetrabenazine **(tetra-BEN-a-zine)** with this modification became the first such drug approved by the FDA. Pulsed field gradient methods like WATERGATE may be used to suppress the remaining signal if this modification affects a solvent incompletely. Drugs with this modification have increased half-life relative to their protio-equivalents due to kinetic effects. Peaks from dichloromethane or chloroform are largely eliminated by this modification, which is performed to all solvents in proton NMR. For 10 points, name this modification that yields heavy water from water by replacing hydrogen with a heavier isotope.  
ANSWER: **deuterated** [or **deuteration**; accept answers that indicate **deuterium** or **D** replacing a hydrogen; prompt on isotopic enrichment or changing isotopes before "isotope"]  
<Science Chemistry - Vishwa Shanmugam>

5. Plays by this author and an alphabetically-prior contemporary were popularised in Penguin Classics translations by Cambridge Five spy John Cairncross. Alan Hollinghurst's best-known translations are of this non-Greek author's plays. The title character deliriously demands another character's sword and is described by the allegedly untranslatable phrase "the daughter of Minos and of Pasiphae" in a play by this author, who in another play wrote about Orestes and Pyrrhus competing for Hermione. A chariot is attacked by a horned sea monster at the end of a play by this author, which uses characteristic rhymed alexandrines to depict the title character's incestuous love for Hippolyte. For 10 points, name this French playwright of *Berenice* and *Phèdre* **(FED-ruh)**.  
ANSWER: Jean **Racine** **(rah-SEEN)**  
<Literature European - Joseph Krol>

6. Anson Burlingame challenged a participant in this event to a duel on Niagara Falls. The victim of this event had earlier compared a man to Don Quixote before mocking his impeded speech. A lithograph cartoon depicting this event shows a man hoisting a quill representing "Argument" towards "Southern Chivalry." Henry Edmundson and Laurence Keitt blocked onlookers to this event from intervening, and its perpetrator was fined only $300 by the District of Columbia. The victim of this event had earlier described Andrew Butler's "harlot Slavery" in the speech "The Crime Against Kansas." For 10 points, name this 1856 event in which Preston Brooks bludgeoned a sitting Massachusetts senator in the Capitol building.  
ANSWER: the **caning** of Charles **Sumner** [or **Brooks-Sumner** incident; or Charles **Sumner** being struck by a **cane**; prompt on partial answers, prompt on synonyms of caning such as assault with "What weapon was used?"]  
<History American (pre-1865) - Ganon Evans>

7. Shakespeare uses the name of these things both as a noun and a verb, next to a near-homophone, to end the second line of Sonnet 104, after noting "you can never be old." The speaker claims that from these objects "my knowledge I derive" and "in them I read such art" in Shakespeare's Sonnet 14, which opens "not from the stars do I my judgement pluck." A description of these things opens a sonnet which ends "my love as rare / as any she belied with false compare." In that poem's first line, these things are insulted prior to the line "Coral is far more red than her lips' red," and they belong to a woman with hair like "black wires." For 10 points, the opening of Shakespeare's Sonnet 130 claims what objects belonging to the speaker's mistress are "nothing like the sun"?  
ANSWER: **eye**s [or "my mistress's **eye**s"; or "thine own **bright eye**s"; or "thine **eye**s"]  
<Literature British (Shakespeare) - Joseph Krol>

8. This text is recited to experience "uncreated light." In response to a controversy around this text, the energies-essence distinction was enunciated. A rope with thirty-three knots is most commonly used as an aid to reciting this text. This text is repeated "without ceasing" by the protagonist of the book *The Way of the Pilgrim* and is silently recited in the practice of hesychasm **(heh-see-kasm)**. In the West, this text was popularized by a story about a fictional young girl who explains how she recited this text until it became an unconscious action while speaking to Lane Coutell. For 10 points, J.D. Salinger's Franny Glass discusses what prayer, popular in the Orthodox tradition, which asks a certain person to "have mercy on me, a sinner?"  
ANSWER: the **Jesus** Prayer [prompt on "The Prayer"; prompt on "Prayer of the Heart"; prompt on "Prayer of the Mind"]  
<RMP Christian/Bible Religion - Clark Smith>

9. The "scrambling" of this quantity can be quantified by measuring an out-of-time-ordered correlator. A paradox about this quantity was resolved by confirming the upside down V shape of the curve of entanglement entropy vs time, called the Page curve. In classical systems, Landauer's principle gives the minimum energy expenditure to irreversibly manipulate this quantity, but in quantum systems it must be conserved as a consequence of the no-deletion and no-cloning theorems. Since quantum entanglement does not transmit this quantity, it does not violate special relativity. The holographic principle was proposed to resolve the apparent paradox that this quantity is lost when crossing a black hole's event horizon. For 10 points, identify this quantity whose basic unit is the qubit.  
ANSWER: quantum **information** [or **information** scrambling or conservation of quantum **information** or black hole **information** paradox]   
<Science Physics - Geoffrey Chen>

10. The namesake of this phenomenon tried to explain it via an individual and environment "matching" model co-named for Dickens. It's debated whether this phenomenon is an example of a statistical effect named for Arthur Jensen and, thus, attributable to biological variables. This phenomenon is driven by better nutrition according to its occasional namesake Richard Lynn. J. Philippe Rushton argued this effect is not due to changes in the *g*-factor. Charles Murray and Richard Herrnstein coined this effect's name in *The Bell Curve*. Due to this effect, certain tests have to be recalibrated every few years so that they have a standard deviation of around 15 and an average of 100. For 10 points, give this name for the nominal rise in IQ scores over time.  
ANSWER: Lynn-**Flynn** effect  
<Social Science Psychology - Clark Smith>

11. These organisms produce gel-like transparent exopolymer particles that bacteria often colonize, helping link the traditional food web with the microbial loop. These organisms are the most notable **(emphasize)** prey of "sloppy feeding," which releases a significant amount of DOC **("D-O-C")**. These organisms have a C to N to P ratio of about 106 to 16 to 1, termed the Redfield ratio. These organisms must enter a resting state below the compensation point, the bottom of the euphotic **(you-fot-ic)** zone. Diatoms **(DYE-uh-toms)** and dinoflagellates are examples of these organisms. These primary producers in the biological pump produce around half of the world's oxygen, with terrestrial plants making up the other half. For 10 points, krill feed on what microscopic photosynthetic organisms in marine environments?  
ANSWER: **phytoplankton** [prompt on plankton; antiprompt on unicellular green algae or cyanobacteria or coccolithophores; antiprompt on diatoms or dinoflagellates before read]  
<Science Biology - Vishwa Shanmugam>

12. David Hall set one of these objects on fire in a 1971 series titled for their "interruptions." Wolf Vostell's *Sun in Your Head* is one of his many décollages described by this word. Shigeko Kubota recreated Duchamp's *Nude Descending a Staircase No. 2* using these objects embedded into a staircase. A "cello" made of these objects was played by Charlotte Moorman. A statue of the Buddha appears to look at one of these objects in a work by a Korean-American artist. The Smithsonian contains a work in which these objects sit between neon outlines of the United States, Nam June Paik's *Electronic Superhighway*. For 10 points, name these objects which were used by video artists to display moving images.  
ANSWER: **television**s [or **TV** screens; accept **monitors** or video **screen**s; accept **CRT**s TVs; prompt on videos by asking "what are the videos being displayed on"]  
<Arts Painting - Hari Parameswaran>

13. A woman in this novel donates a bouquet of red roses to Ned's dying wife and says, "I can't love you unless I give you up," while explaining a wedding date after Easter. That woman in this novel wonders if a lover will receive yellow roses during a performance of "The Shaughraun." A woman's family in this novel pays for her controversial black satin dress at a coming-out ball. A character in this novel realizes "It's more real to me here than if I went up" outside of his ex-lover's Paris apartment with his son Dallas. Sillerton Jackson spies on the granddaughter of Ms. Mingott entering an opera box in this novel, where the protagonist stays with the pregnant May Welland. For 10 points, name this novel about the relationship between Countess Ellen Olenska and Newland Archer, written by Edith Wharton.  
ANSWER: *The* ***Age of Innocence***  
<Literature American - Ganon Evans>

14. Murray Hall, a secretly trans member of this organization, was exposed posthumously after dying of breast cancer, prompting an editorial that demanded leaders of this organization "wear whiskers." A leader of this organization fled from trial disguising himself as a common sea hand only to be recognized from a newspaper. That man who led this organization was found guilty of 204 counts of corruption in a trial after being defended by Elihu Root. A leader of this organization smokes and says "As long as I count the Votes, what are you going to do about it?" in one of many political cartoons lampooning this organization by Thomas Nast. For 10 points, name this New York political machine led by Boss Tweed.  
ANSWER: **Tammany Hall** [Accept **Society of St. Tammany**, the **Sons of St. Tammany**, or the **Columbian Order**]   
<History American (1865-1945) - Justin Hawkins>

15. This concept titles a book which ends by warning of "the new dark ages which are already upon us." Ernest Sosa pioneered an approach to epistemology named for these things, which is split into "reliabilist" and "responsibilist" camps. A book arguing for a return to an ethics based on these things begins by imagining a future world where science has been lost. G. E. M. Anscombe's "Modern Moral Philosophy" sparked a revival of ethical theories based on these things, an event called the "aretaic turn." Alistair MacIntyre's magnum opus is entitled *After [this concept]*. They help individuals achieve a state of flourishing called *eudaimonia*, and exist as the "golden mean" between two extremes. For 10 points, Aristotle defended an ethical theory based on what character traits, contrasted with vices?  
ANSWER: **virtue**s [or **virtue** ethics; or **virtue** epistemology; accept **arete** until "aretaic turn"]  
<RMP Philosophy/Thought - Geoffrey Chen>

16. In 2016, the first Grammy nominated work from this country was produced by inmates and guards at its Zomba Prison. The largest elephant translocation in history repopulated this country's Nkhotakota **(en-kuh-tah-KOE-tuh)** Wildlife Reserve. This country's delicacy of *chambo* nsima is fished off its Likoma **(li-KOE-muh)** Island. Scottish settlers in this country founded Blantyre and named its Shire River, which flows through Liwonde **(li-WON-duh)** National Park. This country shares its name with a body of water that is both home to the highest number of unique fish species in the world and is the southernmost of the Great African Rift Lakes. This country's majority Chewa people include its once Prime Minister Hastings Banda, who changed this country's name from Nyasaland. For 10 points, name this landlocked African country whose capital is Lilongwe **(li-LONG-way)**.  
ANSWER: (Republic of) **Malawi**  
<Geography - Ganon Evans>

17. In an opera by this composer, a princess proves her fidelity to her fiancé by standing in the way of a serpent that attacks them. An English-language opera by this composer includes parts for Harun al-Rashid and Charlemagne and ends its Act Two with a "Song of the Mermaids" after the title fairy crashes Huon's ship. Gustav Mahler's only foray into opera was his completion of this composer's unfinished work *The Three Pintos*. An opera by this composer ends with Samiel **(ZOM-eel)** taking Kaspar's soul after a wreath of roses saves Agathe **(ah-GAH-tuh)**. A "Huntsman's Chorus" appears in that opera by this composer, in which Max is given a set of "magic bullets" at the Wolf's Glen. For 10 points, name this German Romantic composer of *Euryanthe* **(oy-ree-AHN-tuh)**, *Oberon*, and *Der Freischütz* **(FRY-shoots)**.  
ANSWER: Carl Maria von **Weber** **(VAY-bur)**  
<Arts Opera - Ethan Strombeck>

18. Fulk V, Count of Anjou, commissioned the Melisende Psalter **(SALL-ter)** for a ruler who was half-Frankish and half-this ethnicity. An alliance between the Ilkhanate **(ILL-kah-nait)** and a kingdom of this ethnicity was disastrously defeated at the Battle of Marj al-Saffar. Under the Rubenid Dynasty, this ethnicity founded a kingdom in Cilicia. The city of Etchmiadzin **(eck-mee-AD-zin)** is home to a church founded by a saint of this ethnicity, Gregory the Illuminator. Six kings of this ethnicity named Tigranes **(tig-RAA-nays)** ruled a kingdom that was centered on Mount Ararat. This is the namesake of the only quarter of Jerusalem's walled city named after an ethnicity. For 10 points, identify this ethnicity which names a country that was the first to adopt Christianity as its state religion.  
ANSWER: **Armenian**s  
<History World - Hari Parameswaran>

19. While sharing a train car, this character asks a woman if she saw herself in the mirrors of a destroyed ballroom. After this character shoots a pig devouring a corpse, his love interest is forced to have sex with a general whose concubine is La Luna. This character, nicknamed the "Indiana General," shoots through a silver coin while carrying a copy of *Don Quixote*. This character is shot in the back after some false property papers from the King of Spain are burned by General Thomas Arroyo. Harriet Winslow fights to have this character buried in Arlington Cemetery after dying during the Mexican Revolution. For 10 points, name this fictional representation of Ambrose Bierce who titles a Carlos Fuentes novel.  
ANSWER: the **Old Gringo** [or el **Gringo Viejo**; accept Ambrose **Bierce** or **Ambrose** until mention; prompt on the Indiana General until mention]  
<Literature World / Classical / Misc - Ganon Evans>

20. Binary data types described by this word are the inputs to an efficient algorithm named for Andrew Booth. This property of the input is maintained by an assembly instruction whose label is usually either "sext" or "sex", which increases the input's number of bits. The IEEE **("I-Triple-E")** 754 standard defines two equivalent constants that differ in this property but both have 0 mantissa and 0 exponent. This property is changed by flipping all bits and adding 1 in the two's complement representation. In most implementations, floating point numbers encode this property in their leftmost bit. In C, a char **(care)** described by a form of this word can store a maximum value of 127 instead of 255. For 10 points, name this property that determines whether a number is positive or negative.  
ANSWER: **sign** of a number [accept **signed** numbers or **signed** zero or **sign**ed extension; accept answers describing being either **positive** or **negative** before the end of the question; prompt on integers or numbers before “sext” by asking "what other property do the integer inputs into Booth's algorithm have?"]  
<Science Computer Science - Vishwa Shanmugam>

21. This artist photographed Anderson Cooper as "a very young baby" for a *Harper's Bazaar* Valentine's Day Issue. Someone spat on one of this artist's photographs at the MoMA that depicts its subject with plucked eyebrows and curlers in his hair. This artist's photographs of children include one of a boy wearing round buttons saying "Bomb Hanoi" and another of twins which inspired the girls in *The Shining*. This artist photographed the "Jewish giant" Eddie Carmel leaning over his parents at their Bronx home. This artist's most famous work depicts a boy with a suspender strap hanging off his right shoulder holding a fake MK2 Pineapple weapon. For 10 points, name this photographer of marginalized people who took *Child With a Toy Hand Grenade*.  
ANSWER: Diane **Arbus**  
<Arts Photography - Noah Sheidlower>

**2021 National All-Star Academic Tournament**

**Round 9 – Bonuses**

1. The singer can reach for an optional high A during the words "die dir am Herzen frisst" at the climax of this cycle's seventh song, "Ich grolle nicht." For 10 points each:  
[10] Name this 1840 song cycle that sets sixteen poems by Heinrich Heine. In its last song, the narrator imagines putting his songs and his dreams in a coffin to be tossed into the sea.  
ANSWER: ***Dichterliebe*** **(DEEK-ter-lee-buh)** [or *A* ***Poet's Love***]  
[10] This composer wrote *Dichterliebe* during his Liederjahr, or Year of Song, when he married the virtuoso pianist Clara Wieck. He also wrote the piano suites *Kinderszenen* and *Carnaval*.  
ANSWER: Robert **Schumann**  
[10] The sixth song in *Dichterliebe* is set at this location. A symphony titled for this location has a solemn trombone choir in its fourth movement, which was inspired by a ceremony Schumann witnessed at Cologne Cathedral.  
ANSWER: **Rhine** River [accept ***Rhenish*** Symphony]  
<Arts Music - Shan Kothari>

2. This poet is described as one "For whom all winds are quiet as the sun, / All waters as the shore" in a eulogy published the year before they actually died. For 10 points each:  
[10] Name this poet eulogized in Algernon Swinburne's Catullus-inspired poem "Ave Atque Vale," which opens with a quote from their collection *The Flowers of Evil*.  
ANSWER: Charles (Pierre) **Baudelaire**  
[10] Swinburne claimed that this poet had a "sad bad glad mad brother's name" and was "Prince of All Ballad-Makers." This poet asked, "but where are the snows of yesteryear?" in "The Ballade of the Ladies of Bygone Days."  
ANSWER: François **Villon** **("vee-YAWN")**  
[10] Stéphane Mallarmé asked Swinburne to contribute to a *Tombeau* dedicated to this poet. This poet compared a sketch of mermaids to "drowned lilies dancing" in the collection *Enamels and Cameos.*ANSWER: Théophile **Gautier** **(tay-oh-FEEL goat-YAY)**  
<Literature European - Vishwa Shanmugam>

3. This text contains a parable in which an old man tells his children that their carts are outside so that they escape a fire. For 10 points each:  
[10] Name this text, in which the Buddha describes the story of the daughter of the king of the nagas **(naa-gaas)** to explain how everyone can attain enlightenment. This text expounds upon the doctrine of "skillful means."  
ANSWER: **Lotus** Sutra  
[10] In the Lotus Sutra, the Buddha predicts that this chief disciple will re-awaken as a Buddha named "Flower Glow Tathāgatha" **(tuh-THA-guh-thuh)**. This seemingly slow-witted "General of Dharma" listens to Avalokitesvara **(ah-vah-luh-kee-tehs-va-ruh)** deliver the Heart Sutra.  
ANSWER: **Śāriputra** [or **Sāriputta** or **Shariputra**]  
[10] The doctrine of "skillful means" describes the way in which these beings help others achieve nirvana. Avalokitesvara exemplifies these beings, who are central to Mahayana Buddhism.  
ANSWER: **bodhisattva**s  
<RMP Non-Christian/Bible Religion - Hari Parameswaran>

4. This conflict saw the German Hans Kundt appointed as both Commander in Chief and Minister of War for one of its belligerents, despite not taking place in Europe. For 10 points each:  
[10] Name this conflict. Its first battle saw an army led by José Félix Estigarribia successfully retake the outpost of Boquerón which had been occupied under the orders of Daniel Salamanca.  
ANSWER: **Chaco** War [accept Gran **Chaco** War]  
[10] The Chaco War lasted from 1932 to 1935, and was fought between Salamanca's Bolivia and this other nation, the only other landlocked country in South America. Historically it was led by leaders like Alfredo Stroessner.   
ANSWER: **Paraguay** [accept República del **Paraguay**]  
[10] A class of gunboat named for this city was key in the Chaco War. This city was the location of a key siege on the Paraguay River during the War of the Triple Alliance that began in 1867.  
ANSWER: **Humaitá**   
<History World - Rodrigo Rose>

5. Answer the following about the intersection of algebra and topology, for 10 points each:  
[10] A topological group is a group equipped with a topology under which the group operation and this operation are both continuous. *x* composed with this operation of *x* is always the identity.  
ANSWER: **inverse** [accept word forms like **inverting**]  
[10] The fundamental group of a topological space is formed by quotienting the set of loops at a base point by equivalence under one of these functions. Path-connected spaces are simply connected if any two paths with the same endpoints are equivalent under one of them.   
ANSWER: **homotopy** [accept **homotopic**]   
[10] If X and Y are homotopically equivalent, their homology groups have this relationship. In general, this relationship implies the existence of an injective and surjective function *f* between two groups where f of *u* times *v* equals f of *u* times f of *v*.  
ANSWER: **isomorphic** [accept word forms like **isomorphism**]  
<Science Math - Tim Morrison>

6. A political cartoon published in one of this state's newspapers in 1920 shows this state in the coils of a giant anaconda. For 10 points each.  
[10] That anaconda represented the Anaconda Company's alleged control of this state's politics. IWW organizer Frank Little was murdered while trying to organize workers in this state's city of Butte **(byoot)**.  
ANSWER: **Montana**  
[10] The Anaconda Company was a conglomeration of companies within this industry based out of Butte, Montana. This industry within Butte was dominated by three men known as its "kings."  
ANSWER: **copper** mining [prompt on mining]  
[10] David Emmons wrote a history of miners of this ethnicity in Butte, which included the founder of the Anaconda Copper Company, Marcus Daly. As of 2017, Butte has the highest population of this ethnicity per capita of any city in the U.S .  
ANSWER: **Irish**-Americans  
<History American (1865-1945) - Douglas Simons>

7. Although Allakariallak was familiar with this technology, a staged sequence from *Nanook of the North* shows him biting an object exemplifying this technology. For 10 points each:  
[10] Name this technology. A staged 1916 photograph often reproduced in anthropology textbooks shows Frances Densmore using this technology in front of the Blackfoot chief Mountain Chief.  
ANSWER: music **record**ings [or **phonograph** or wax recording **cylinder**s or **gramophone**s or similar; prompt on just music by asking "how was it played?"]  
[10] Olive Dame Campbell pioneered the musicological use of recording technology in the 1910s when she recorded ballads from this major mountain range of the Eastern US, whose musical tradition uses banjos and fiddles.  
ANSWER: **Appalachia**ns   
[10] Two father-and-son ethnomusicologists with this surname made a recording of Lead Belly while he was incarcerated for the Library of Congress's Archive of Folk Culture.   
ANSWER: **Lomax** [or John **Lomax**; or Alan **Lomax**]  
<Social Science Misc - Joseph Krol>

8. This quantity is expressed in terms of allele frequencies and Kronecker delta functions in the Queller and Goodnight estimator. For 10 points each:  
[10] Name this quantity, whose unusually high values within haplodiploid **(hap-low-dip-loyd)** populations drove the evolution of eusociality, according to the haplodiploid hypothesis. Hamilton's rule claims that kin selection occurs when this quantity times benefit exceeds cost.  
ANSWER: coefficient of **relatedness** [or **r**; or coefficient of **relationship**; accept coefficient of **inbreeding**; accept degree of **consanguinity**; accept **kinship coefficient**]  
[10] The coefficient of relatedness is extrapolated to be negative in this phenomenon, in which an animal harms both itself and an unrelated organism. It has Hamiltonian and Wilsonian forms.   
ANSWER: **spite** [or Hamiltonian **spite** or Wilsonian **spite**]  
[10] Spite can be seen as the opposite of this phenomenon, in which an organism harms itself to increase the fitness of another. Kin selection is a subtype of this phenomenon.  
ANSWER: **altruism**  
<Science Biology - Geoffrey Chen>

9. A poet with this married surname contrasted the "perfect loveliness" of wild violets with "garish lights, and mincing little fops / And cabarets and songs" in the poem "Sonnet." For 10 points each:  
[10] Name this surname, which is the married surname of Alice Ruth Moore. A poet with this surname wrote, "I know why he beats his wing! / I know why the caged bird sings" in the poem "Sympathy."  
ANSWER: **Dunbar** [accept Alice **Dunbar** or Paul Laurence **Dunbar**; prompt on Alice Nelson with "What was her first married surname?"]  
[10] This poet's "Caged Bird" contrasts the title animal with a "free bird" who "dares to claim the sky." Paul Dunbar inspired the title of this author's memoir *I Know Why the Caged Bird Sings.*  
ANSWER: Maya **Angelou** [or Marguerite **Johnson**]  
[10] The speaker says, "I mean, I can fly / like a bird in the sky" in this poet's poem "Ego Tripping." This Virginia Tech professor wrote "Knoxville, Tennessee" and "Nikki-Rosa."  
ANSWER: Nikki **Giovanni** [or Yolande Cornelia **Giovanni** Jr.]  
<Literature American - Caroline Mao>

10. The founder of one firm in this sector, Bruce Henderson, used his growth-share matrix to divide a company's business lines into dogs, question marks, cash cows, and stars. For 10 points each:  
[10] Name this sector in which advisors provide specific analysis to business leadership. Bain & Company and BCG are two of the Big Three firms in this sector.  
ANSWER: management **consulting**  
[10] Former BCG consultant Clayton Christensen drew on Henderson's "experience curve" in his theory of this process while studying the disk-drive industry. This is the process by which innovations allow new firms to displace established, market-leading firms.  
ANSWER: business **disruption** [accept answers containing **disruption** like competitive **disruption**; accept **disruptive** innovation; do not accept or prompt on "creative destruction"]  
[10] Management consultancies often recruit from these institutions, which confer MBA degrees. The one at the University of Pennsylvania is called Wharton.  
ANSWER: **business school**s [or **school**s of **business** administration; prompt on b-schools; prompt on schools of management]  
<Other Academic - Shan Kothari>

11. In the final stanza of a poem, some of these figures are seen "combing the white hair of the waves blown back" before the speaker claims to have "lingered ... till human voices wake us, and we drown." For 10 points each:  
[10] Name these figures, which J. Alfred Prufrock hears "singing, each to each," lamenting, "I do not think that they will sing to me."  
ANSWER: **mermaid**s  
[10] The image of "mermaids singing, each to each" appears at the end of this poet's "The Love Song of J. Alfred Prufrock."  
ANSWER: T. S. **Eliot** [or Thomas Stearns **Eliot**]  
[10] In the opening stanza, Prufrock uses this substance as an adjective to describe "restaurants with oyster shells." The narrator of Eliot's "Preludes" describes "faint stale smells of beer" emanating from a street "trampled" with this substance.  
ANSWER: **sawdust** [prompt on dust or wood]  
<Literature British - Tim Morrison>

12. Addiction to sniffing a silver paint named aurolac amongst these people was captured in an Edet Belzberg documentary titled for "these people" *Underground*. For 10 points each:  
[10] Name these people, who were nicknamed "decretei" in reference to Decree 770. These people incurred death camp-like conditions at places like Cighid.  
ANSWER: Romanian street **children** [accept synonyms for children such as **kid**s; accept **orphan**s]  
[10] In *Freakanomics*, Steven Levitt and Stephen J. Dubner argued that the decretei became the revolutionaries which overthrew this Romanian President on Christmas Day, 1989. This Communist leader openly denounced the Soviet Union's end of Prague Spring.  
ANSWER: Nicolae **Ceaușescu** **(chow-SES-coo)** [be lenient on pronunciation]  
[10] This other communist leader withdrew from the Warsaw Pact due to the Prague Spring retaliation, and fought Catholics in the city of Shkodër **(sh-CROW-der)** over abortion policy similar to Ceaușescu's. Members of this leader's Young Pioneers learned how to build *zjarri*.  
ANSWER: Enver **Hoxha** **(hoe-ZHUH)** [or Enver Halil **Hoxha**; be lenient on pronunciation]  
<History European 1914-present - Ganon Evans>

13. A recently-uncovered fresco in this ruler's castle shows sixteen mulberry trees rising from the floor towards the ceiling. For 10 points each:  
[10] Name this ruler who commissioned the Sala delle Asse **(SAH-luh DEL-lay AHS-say)**. Donato Montorfano's painting of this ruler and his wife standing below a crucifixion hangs opposite the most famous piece that he commissioned for the Santa Maria delle Grazie.  
ANSWER: **Ludovico Sforza** [accept **Ludovico "Il Moro"**; prompt on Sforza]  
[10] Ludovico Sforza commissioned this artist to paint frescoes in the Sala delle Asse and the now-damaged *Last Supper* in the Santa Maria delle Grazie.  
ANSWER: **Leonardo** **da Vinci** [accept either underlined part]  
[10] Da Vinci depicted Cecilia Gallerani, Ludovico's mistress, wearing a blue and red coat while holding the title animal of this painting. This painting was mistakenly given the title of *Belle Ferroniere* **(bel fer-oe-nyear)** after it was acquired by a Polish prince.  
ANSWER: ***Lady with an Ermine*** [or ***Dama con l'ermellino***]  
<Arts Painting - Hari Parameswaran>

14. A number of Greek myths are etiological myths, myths that are used to explain the origins of cult practices and natural phenomena. Answer some questions about them, for 10 points each:  
[10] The current race of man originated after a series of races named for heroes and these substances. A race named for an alloy of these substances was described by Hesiod **(heh-see-awd)** as warring itself to death.  
ANSWER: **metal**s [accept specific metals like **iron**, **bronze**, **silver**, or **gold**]  
[10] For distracting the goddess during many of Zeus' escapades, Hera punished this nymph on Mount Cithaeron **(SITH-uh-ron)**. A unique version of this nymph's story is presented in Daphnis and Chloe, in which she's torn apart by Pan.   
ANSWER: **Echo**  
[10] This person and his friend Pirithous **(py-RITH-oh-us)** were trapped in the underworld. To escape, this Athenian was torn off a bench and rescued by Hercules, explaining why Athenians have such small buttocks in some myths.   
ANSWER: **Theseus**  
<RMP Greek/Roman Myth - Rahul Rao - Pothuraju>

15. In classical mechanics, this construct moves with constant speed in the absence of external forces, so using a unique inertial frame named for it often simplifies the equations of motion. For 10 points each:  
[10] Name this construct. For complex bodies it can be found by finding the intersection of two 'plumb lines'.   
ANSWER: **center of mass** [or **center of gravity**; or **center of momentum**; accept **barycenter** or the **center of mass** frame]  
[10] The constant velocity of the center of mass allows an analytic solution for the many-body problem in the case where there are this many particles. Newton's law of this number is often written as 'F = ma'.  
ANSWER: **two** [accept Newton’s **second** law or the **two**-body problem]  
[10] In the two-body problem for particles of mass m1 and m2, the equations of motion reduce to Newton's second law with a reduced mass denoted 'mu'; give the expression for this reduced mass in terms of m1 and m2.  
ANSWER: **m1 times m2 over (m1 + m2)** [accept equivalents like the **product over the sum** of the masses or **half the harmonic mean** or the **reciprocal of 1 over m1 plus 1 over m2**; do not accept "1 over m1 plus 1 over m2"]  
<Science Physics - Joseph Krol>

16. A misspelling of "blind" as "blond" in a previous translation caused a Coleman Barks translation of this poet to tell "bright-hearted companions" to ignore "all the blond ones." For 10 points each:  
[10] Name this poet, who had likely never seen a blond person. This poet tells the reader to "listen to the song of" the title object in the poem "Song of the Reed Flute."  
ANSWER: Jalāl ad-Dīn Mohammad **Rūmī**  
[10] Rumi's *Masnavi* is titled in English for *Spiritual* [this poetic form]. Ghazals consist of this two-line poetic form, which are then linked by a repeated end phrase known as a *radif.*  
ANSWER: **couplet**s  
[10] "God sobs in my arms" in a ghazal by Agha Shahid Ali which uses this word as its *radif.* The speaker writes, "the stars are blue and shiver in the distance" in a poem of mostly couplets whose English title begins with this word.  
ANSWER: **tonight** [accept "**Tonight** I Can Write (The Saddest Lines)"; do not accept or prompt on "night"]  
<Literature World / Classical / Misc - Caroline Mao>

17. The effect that deviations from this shape have on vapor pressure is quantified by the acentric factor. For 10 points each:  
[10] Name this idealized shape nearly held by noble gases.  
ANSWER: **spherical** [or **sphere**s; prompt on centricity]  
[10] The kinetic theory of gases assumes all molecules are hard spheres with this additional property, allowing physical interactions to be ignored. This general property is often framed as the distance between molecules being large.  
ANSWER: they are negligibly **small** [accept synonyms like sub**microscopic** or **not big**; accept answers that indicate they are **point**-like, have **no volume**, or have **small radii**]  
[10] That simple model is sufficient to provide theoretical support for this result, which provides relative rates for particles impinging against a small portion of a container's wall. The term "colloid" was coined while researching this law, which is expressed as the square root of a ratio.  
ANSWER: **Graham's** law of effusion  
<Science Chemistry - Joseph Krol>

18. Vodka bottles litter one of these objects in a Tracey Emin work that symbolized her depression. For 10 points each:  
[10] Name this type of object. A performance art piece by Yuan Chai and Jian Jun Xi that centered on that Emin work lived out the childhood fantasy of jumping on one of them and starting a pillow fight.  
ANSWER: **bed**s [accept *My* ***Bed***]  
[10] This artist's *Women of the Revolution* is made up of many lead beds and features a picture of him walking towards a concentration camp-like location. This painter often used common materials to give texture to works like *Sulamith*.  
ANSWER: Anselm **Kiefer**  
[10] The relationship between these two artists is chronicled in *Bed.* *Bed* is one of the "combines" that one of these artists is famous for, while the other is best-known for his encaustic paintings depicting the American flag; name both.  
ANSWER: Robert **Rauschenberg** and Jasper **Johns** [accept in either order]  
<Arts Sculpture - Noah Sheidlower>

19. During one of these events, prisoners of war were ritually strangled outside the Temple of Jupiter Optimus Maximus. For 10 points each,  
[10] Name these events, Rome's highest honor, in which a general was allowed to march his army into the city while leading in a chariot drawn by four white horses.   
ANSWER: **Triumphs** [Prompt on parades, processions, or marches by asking “during which events?”]  
[10] During Triumphs, generals were allowed to cross this legal boundary without relinquishing their command. Part of the parade route during a Triumph included a march around the Palatine Hill tracing the original version of this boundary.   
ANSWER: **Pomerium** [or **Pomoerium**]  
[10] Instead of using horses during one of his triumphs, this general attempted to have his chariot drawn by four elephants only to have them not fit through the gates. That Triumph was awarded to this general after his victories in the Mithridatic Wars.   
ANSWER: **Pompey** the Great [or Gnaeus **Pompeius** Magnus]  
<History European to 1400 - Justin Hawkins>

20. This scholar codified the medieval "problem of universals" through his influential translation of Porphyry's *Isagoge* **(ICE-ah-go-jee)**. For 10 points each:  
[10] Name this scholar whose translations of Aristotle provided almost all of the Aristotelian corpus available to medieval thinkers. Lorenzo Valla dubbed him "the first of the Scholastics."  
ANSWER: Anicius Manlius Severinus **Boethius**  
[10] Boethius' translation of the *Isagoge* became the standard medieval textbook on this philosophical discipline, which establishes what truths necessarily follow from premises.  
ANSWER: **logic**  
[10] One of the last major figures to write a commentary on Boethius' version of the *Isagoge* was this British philosopher, who proposed the ideas of "univocity of being" and "haecceity" **(HECK-city)**.  
ANSWER: John **Duns** Scotus  
<RMP Philosophy/Thought - Joseph Krol>

21. This writer argues with Emmanuel Egudu over whether Africans favor oral literature over print literature. For 10 points each:  
[10] Name this writer who appears as an animal rights advocate in *The Lives of Animals*. Her most famous novel is titled obliquely for Leopold Bloom's house and retells *Ulysses* from Molly's perspective.  
ANSWER: **Elizabeth** **Costello** [accept either underlined portion]  
[10] The fictional Elizabeth Costello titles a 2003 novel by this South African author. David Lurie's affair with Melanie Isaacs is the subject of this author's novel *Disgrace*.  
ANSWER: J.M. **Coetzee** **(coht-SEE-uh)** [or John Maxwell **Coetzee**]  
[10] A Costello lecture uses a poem by this author about an animal whose "stride is wilderness of freedom" to argue that poets can embody animals. This poet’s poems "The Jaguar" and "The Thought-Fox" appear in *The Hawk in the Rain*, which preceded their collection *Birthday Letters*.  
ANSWER: Ted **Hughes** [or Edward James **Hughes**]  
<Literature World / Classical / Misc - Hari Parameswaran>