

## 2021 ACF Fall

### Packet H by Editors

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#### Tossups

1. After his tenure, this leader sued his former friend Ismail Ayob for selling signed prints of him. This leader was captured in a raid on his hideout at the Liliesleaf Farm. In an ensuing trial, this leader and colleague of Oliver Tambo declared he was "prepared to die" during the Rivonia Trial. This founder of the "Spear of the Nation" was imprisoned for 27 years on Robben Island until he was freed by F. W. de Klerk, whom he succeeded in one post while head of the African National Congress. For 10 points, name this prominent anti-apartheid activist who served as the first Black president of South Africa.

ANSWER: Nelson Rolihlahla **Mandela**

<World History>

2. Google's "Fire" line of products integrates a "realtime" one of these things based on JSON ("jay-sawn") with a mobile app development framework. Operations on parts of these things should satisfy the ACID properties. The "M" in JavaScript's MEAN stack is the document-oriented "Mongo" ("mawn-go") one of these things. A language used to interact with these things is vulnerable to injection attacks and includes the JOIN, WHERE, and SELECT keywords. "Relational" examples of these things are organized into tables that contain records and are usually queried using SQL. For 10 points, name these large collections of digital information often stored in the cloud.

ANSWER: **databases** [accept NoSQL **databases** or relational **databases**]

<Other Science>

3. In a painting by this artist, a man examines one of three red posts in an otherwise deserted roadside setting. This artist modeled his paintings *Mansard Roof* and *Haskell House* after buildings in his summer home of Gloucester ("GLAW-ster"), Massachusetts. In a painting by this artist, several rows of lights are reflected behind a woman in a green coat and yellow hat sitting alone at a table. This artist's wife Jo modeled for a painting whose background includes a brick building with green blinds. That painting by this artist shows three patrons sitting at a bar below a sign advertising Phillies Cigars. For 10 points, name this American artist of desolate urban scenes like *Automat* and *Nighthawks*.

ANSWER: Edward **Hopper**

<Painting/Sculpture>

4. Near the end of one of this author's novels, Rowland Mallet discovers that the title character had fallen off of a cliff while walking to Interlaken to see Christina Light. Another work by this author opens with the protagonist giving sugar cubes to an American boy named Randolph. This author of *Roderick Hudson* wrote a novel in which an American named Chad Newsome falls in love with the married Madame de Vionnet while visiting Europe. In a novella by this author, the title character dies of "Roman fever" after visiting the Colosseum and flirting with Mr. Giovanelli and Frederick Winterbourne. For 10 points, name this author of *The Ambassadors* and *Daisy Miller*.

ANSWER: Henry **James**

<US Literature>

5. One leader of this religion refused to accept a sacred thread at the age of 13. That man was said to laugh like an adult man as a baby. Another leader of this religion brought five people into his tent and pretended to sacrifice them before giving them a bowl of sweet water. In this religion, ego causes the Five Thieves of lust, wrath, greed, attachment, and pride, which together build a wall of illusion. The Three Pillars of this religion allow adherents to reach *mukti*. The Five K's of this religion's khalsa, or community, include a comb, a sword, and uncut hair. For 10 points, name this religion founded by Guru Nanak whose male adherents take the surname Singh and wear turbans.

ANSWER: **Sikhism**

<Religion>

6. This book uses the metaphor of hydrophobia to describe the negative effects of "Imitation of the Greeks, and Romans." A theory from this book holds that religion is unique to humans for reasons including the fear of ghosts and inquiry into cause and effect. Competition, diffidence, and glory are defined as the causes of war in this book. This book dismisses tyranny and oligarchy as derogatory terms for monarchy and aristocracy. This work argues that people must give up the right to self-government in order to prevent the war of "every man against every man." For 10 points, name this Thomas Hobbes book that describes a commonwealth led by a Sovereign with absolute power.

ANSWER: ***Leviathan*** or *The Matter, Forme and Power of a Commonwealth Ecclesiasticall and Civil*

<Philosophy>

7. A holder of this position revised one legal system with the *Ecloga* law code. According to one historian, a holder of this position was claimed to be a demon who could detach his head and had killed one trillion people. That holder of this position was assisted by the advisor Tribonian in developing a law code for his empire. The eunuch Narses helped a holder of this position put down a revolt instigated by the *demes*. A history of a holder of this position was written by Anna Komnena and called the *Alexiad*. The historian Procopius wrote the *Secret History* during the reign of a holder of this position married to Theodora. Justinian held, for 10 points, what position ruling an empire with capital at Constantinople?

ANSWER: **Byzantine emperor** [accept **Eastern Roman emperor**; prompt on emperor or Roman emperor]

<European History>

8. It's not the U.K., but a suburb of this country's capital named Eastleigh is home to a large Somali immigrant community. This country's capital is home to an informal busing service known as *matatu*. The western half of this country is home to the Kakamega Forest and the White Highlands, which were historically reserved for European settlers in this country. The Kibera slum in this country's capital is home to many members of the Luo ethnic group. The Kikuyu are the largest ethnic group in this country, whose largest port city is Mombasa. For 10 points, name this east African country with capital Nairobi.

ANSWER: Republic of **Kenya**

<Geography>

9. In three-dimensional quantum mechanics, this operator equals negative  $i \hbar$  times the del operator. The Hamiltonian of a particle in a potential  $V$  is equal to  $V$  plus the square of this operator over the quantity two times mass. It's not mass, but this quantity for a system vanishes in the reference frame named for the "center" of this quantity. This quantity and position are conjugate variables. The de Broglie ("duh BRO-lee") wavelength is inversely proportional to this quantity, which is conserved in both elastic and inelastic collisions. Impulse is the change in, for 10 points, what quantity, which in classical physics equals mass times velocity?

ANSWER: linear **momentum** [prompt on  $\underline{p}$ ; do not accept or prompt on "angular momentum"]

<Physics>

10. In one work from this collection, a character uses a magician's help to remove all the rocks from the coast so that he can win a bet for Dorigen's love. In another work from this collection that was adapted into a play co-written by John Fletcher, two prisoners of Theseus become enamored with Emilia and eventually duel for her love. A character in one work from this collection learns from an ugly, old woman that sovereignty over their husbands is what women want most. The opening story of this collection about Arcite and Palamon is followed by one about Nicholas and Absalon vying for the love of the married Alison. For 10 points, The Wife of Bath and The Miller tell stories in what collection by Geoffrey Chaucer?

ANSWER: *The Canterbury Tales* (the Fletcher play, co-written by Shakespeare, is *The Two Noble Kinsmen*)  
<British Literature>

11. Unlike the spot rate, the forward version of this quantity accounts for projected future economic developments. Shifters of this quantity include changes in relative incomes, relative price level, and relative interest rates. It's not inflation, but regimes for managing this quantity include fixed, where it is controlled by the government, and floating, where it is determined by the market. Agreements like the Louvre Accord and Plaza Accord involved manipulation of this quantity by the G-5. China has also manipulated this quantity by lowering the reference rate for the yuan. For 10 points, name this quantity that measures the amount of one currency that can be traded for another.

ANSWER: foreign exchange rate [accept forex rate; prompt on rate or descriptions like currency value]  
<Social Science>

12. In an opera by this composer, a character recognizes a necklace worn as a gift since childhood by Leïla. In that opera by this composer set in Sri Lanka, Zurga and Nadir affirm their friendship in the duet "Au fond du temple saint." In another opera by this composer, a character meets a set of smugglers at Lillas Pastia's Inn and seduces an army officer with a *seguidilla* ("say-gee-DEE-yah"). The title character of that opera by this composer sings "Love is a Rebellious Bird" to her fellow cigarette factory workers and is killed by a jealous Don Jose after eloping with the toreador Escamillo. For 10 points, name this French opera composer of *The Pearl Fishers* and *Carmen*.

ANSWER: Georges Bizet  
<Other Fine Arts>

13. The speaker of one poem by this author compares a woman with an "audience around her" to a "kitchen-match" that darts "white flickering tongues before it bursts into flame." This author concluded a poem by stating, "we, who think of ascending joy, would feel the emotion... when a joyful thing falls." This author of "The Spanish Dancer" created a speaker who tells the addressee, "here there is no place that does not see you. You must change your life." This author opened one collection with the line, "Who, if I cried out, would hear me among the Angelic orders?" For 10 points, name this poet who wrote "The Archaic Torso of Apollo" and *The Duino Elegies*.

ANSWER: Rainer Maria Rilke  
<European Literature>

14. A deficiency of an enzyme that activates glutathione ("glue-tah-THAI-own") and produces NADPH can cause these cells to lyse during periods of oxidative stress, which may be caused by consumption of fava beans. These cells are usually broken down in the mononuclear phagocyte ("FAY-go-site") system. A substitution of glutamic acid for valine in one protein causes deformation in the shape of these cells. Erythropoietin ("eh-RITH-ro-POY-tin"), also known as EPO, promotes the production of these cells. These cells, which are broken down in the spleen, are usually biconcave-shaped and have no nuclei. For 10 points, name these cells, which gain their color from the oxygen-carrying protein hemoglobin.

ANSWER: red blood cells [or RBCs or erythrocytes or red blood corpuscles or hematids or erythroid cells;  
prompt on red cells]  
<Biology>

15. Followers of this country's King Movement were suppressed by troops under Duncan Cameron. Warriors belonging to the later Hauhau movement in this country launched a successful attack on Sentry Hill. The indigenous inhabitants of this country's Chatham Islands were the victims of a genocide by another indigenous group from this country, whose *pa* forts had been the site of intense fighting during this country's Musket Wars. 500 chiefs from that group in this country signed the Treaty of Waitangi with the British government. For 10 points, name this island country in the Southern Hemisphere that is the native home of the Maori people.

ANSWER: **New Zealand** [accept **Aotearoa**]

<Other History>

16. In one work, an author from this country notes how characters in the stories they wrote when they were a child drank ginger beer even though the author didn't know what ginger beer was. Toward the end of a novel written by an author from this country, the protagonist rekindles with her ex-boyfriend nicknamed "Ceiling," and he notes how he read her blog "Raceteenth" when they were apart. A different novel written by an author from this country details the accidental death of Ezeudu's son which causes the protagonist to be exiled from Umuofia for seven years. The novel *Americanah* was written by an author from this country named Chimamanda Adichie. For 10 points, name this African country that is the setting of the novel *Things Fall Apart* by Chinua Achebe.

ANSWER: **Nigeria** [or Federal Republic of **Nigeria**]

<World/Other Literature>

17. An *allegro con brio* movement from this piece begins with the descending major seventh interval "F# G" repeated twice in fortissimo. This piece's opening theme is repeated in a haunting minor form in the pianissimo movement "Cum mortuis in lingua mortua." Movements of this piece depict the Jewish pair Samuel Goldenberg and Schmuyle, as well as children playing in the Tuileries. This piece's finale is based on a sketch of the Great Gate of Kiev and incorporates its Promenade theme. For 10 points, name this piano suite depicting the paintings of Viktor Hartmann, composed by Modest Mussorgsky.

ANSWER: **Pictures at an Exhibition: A Remembrance of Viktor Hartmann** [accept "of" or "from" in place of "at"; accept **Kartinki s vystavki**]

<Classical Music>

18. This figure flayed a giant and used his impenetrable skin as a shield. Herse, Pandrosus, and Aglauros were scared to death after they opened a box bestowed by this figure which contained a snake-like infant. This figure's mother was turned into a fly and eaten, leading to this figure being born fully grown and armed from a god's head. Cecrops judged this deity's gift as more useful than the one provided by Poseidon. After failing to win a weaving contest, this goddess turned Arachne into a spider. For 10 points, name this Greek goddess of crafts, strategic warfare, and wisdom.

ANSWER: Pallas **Athena** [or **Athene**]

<Mythology>

19. In this city, Charles Kaufman controversially gave a lenient sentence to two men for the 1982 murder of Chinese-American Vincent Chin. The Algiers Motel incident took place during a race riot in this city. Franklin D. Roosevelt sent troops to this city to end a 1943 race riot that began with fighting on this city's Belle Isle Bridge. Jerome Cavanagh's second term as mayor of this city saw the 12th Street riots in 1967. The Black-owned Motown records operated out of this city, which was nicknamed as such due to this city's large automobile industry. For 10 points, name this largest city in Michigan.

ANSWER: **Detroit**

<US History>

20. Inhomogeneities in these things can be eliminated through shimming. Superconductors are often used to produce these things for an analytical method that may involve dissolving samples in a deuterated ("DUE-tur-ate-ed") solvent. A Fourier transform is used to process the free induction decay signal produced when atoms align with one of these things. A form of spectroscopy uses a radio-frequency pulse to align the spins of  $^1\text{H}$  ("hydrogen one") or  $^{13}\text{C}$  ("carbon thirteen") nuclei against one of these things. One of these things is produced when namesake domains become aligned in metals like nickel and cobalt. For 10 points, name these things which may be produced by pieces of iron with north and south poles.

ANSWER: **magnetic fields** [or **B**-fields or **H**-fields; accept nuclear **magnetic** resonance spectroscopy]

<Chemistry>

## Bonuses

1. For 10 points each, answer the following about physical phenomena that occur at low temperatures:

[M] At temperatures below its lambda point at around 2 kelvin, helium-4 becomes one of these substances that have zero viscosity.

ANSWER: **superfluids** [do not accept or prompt on **supercritical** fluid]

[E] A perfect crystal would have zero entropy at this temperature, at which all particles have zero kinetic energy.

ANSWER: **absolute zero** [or **zero kelvin**; accept **negative 273.15 degrees Celsius** or **negative 459.67 degrees Fahrenheit** or **negative 460 degrees Celsius** or **zero degrees Rankine**]

[H] Particles of this type are able to form a "condensate" at low temperatures in which they all occupy the same state.

ANSWER: **bosons** [prompt on **Bose-Einstein condensate**]

<Physics>

2. The addressee of this poem is told that "thy infinite gifts come to me only on these very small hands of mine." For 10 points each:

[H] Describe or give the first line of this poem whose speaker compares himself to a "frail vessel" that the addressee "emptiest again and again, and fillest it ever with fresh life."

ANSWER: "**Thou hast made me endless**, such is thy pleasure" [accept BUT DO NOT REVEAL Lyric number **1** of **Gitanjali** or answers stating that it is the **first poem** of **Gitanjali** or **Song Offerings**]

[M] That poem is the first lyric of this collection written by Rabindranath Tagore.

ANSWER: **Gitanjali** [or **Song Offerings**]

[E] An introduction to an English translation of *Gitanjali* was written by this Irish poet who himself wrote poems like "Easter, 1916" and "The Second Coming."

ANSWER: William Butler **Yeats**

<World/Other Literature>

3. Many Asian cultures tell a romantic folktale about a cowherd and a weaver girl. For 10 points each:

[E] The love between the cowherd and the weaver girl was forbidden because the weaver girl possessed this quality and the cowherd did not. In a Chinese myth, Chang'e ("chang-uh") gains this quality after drinking a special elixir.

ANSWER: **immortality** [accept answers indicating an **inability to die**; accept **divinity** or answers indicating the weaver girl is a **goddess** or **fairy**]

[M] As punishment for their illicit relationship, the cowherd and the weaver girl were banished to different sides of this object. In many myth systems, this object was often described as a silvery river.

ANSWER: the **Milky Way**

[H] The Queen Mother of Heaven eventually took pity on the heartbroken lovers and allowed them to meet each year on the seventh day of the seventh month, when a group of these things creates a bridge across the Milky Way.

ANSWER: **birds** [accept **magpies** or **crows** or **ravens** or **corvids** or **xǐquè** ("shee-chu-eh")]

<Mythology>

4. A reply to one argument about this event states that it could be a non-event lacking a singularity. For 10 points each:

[H] Name this event, which the Kalam argument states cannot be explained using science.

ANSWER: **creation of the universe** [accept equivalents; accept **Big Bang**]

[E] The Kalam cosmological argument defends this being whose existence is implied by an argument from final cause. Atheists do not believe in the existence of this being.

ANSWER: **God**

[M] The aforementioned argument from final cause was promoted by this student of Albertus Magnus. This thinker offered a proof of God using the Aristotelean concept of the unmoved mover.

ANSWER: St. Thomas **Aquinas** [or **Doctor Angelicus**; or **Doctor Communis**; or **Doctor Universalis**]

<Philosophy>

5. Answer the following about the history of smallpox vaccination. For 10 points each:

[M] The smallpox vaccine was developed by this English doctor by infecting the eight-year old James Phipps with the weaker cowpox virus. This doctor would later serve as physician extraordinary to King George IV.

ANSWER: Edward **Jenner**

[E] Despite being at war with the United Kingdom, this French emperor mandated vaccination for all his troops and even gave Jenner a medal. This emperor would ultimately be defeated and exiled after the Battle of Waterloo.

ANSWER: **Napoleon I** Bonaparte [prompt on **Bonaparte**]

[H] The Balmis expedition was dispatched by a Spanish king of this name to vaccinate people across Spanish America. Smallpox helped the Spanish conquer the Incas during the reign of a different king with this name, who also faced the Protestant Reformation.

ANSWER: **Charles** [or **Carlos**; or **Charles I**; or **Charles IV**]

<Other History>

6. For 10 points each, answer some questions about some of the U.S. Poet Laureates from the 21st century.

[E] The current U.S. Poet Laureate, Joy Harjo, wrote a poem about a woman who had some of these animals whom she "loved" and "hated," and were the same animal. The speaker of Robert Frost's poem "Stopping by Woods on a Snowy Evening" owns one of these animals that must "think it queer to stop without a farmhouse near."

ANSWER: **horse** [accept "She Had Some **Horses**"]

[H] This author of the poems "The Wild Iris" and the feminist "Mock Orange" was the Poet Laureate from 2003-2004. She also won the Nobel Prize in Literature in 2020.

ANSWER: Louise **Glück** ("*glick*") [or Louise Elisabeth **Glück**]

[M] Former poet laureate Natasha Trethewey wrote a poem titled for this genre of music coming from a "Graveyard" about her mother's death. The speaker of a poem by a different author hears a man "droning a drowsy syncopated tune" of this genre of music on Lenox Avenue.

ANSWER: the **blues** [accept "Graveyard **Blues**"; accept "The Weary **Blues**" by Langston Hughes]

<US Literature>

7. Performances in the "pair" discipline of this sport usually include a death spiral. For 10 points each:

[M] Name this Winter Olympic sport. Surya Bonaly famously attempted to circumvent the ISU's ban on backflips in this sport by performing a backflip and landing on one foot.

ANSWER: **figure skating** [accept **ice dancing**; prompt on "ice skating"; do not accept or prompt on "speed skating"]

[H] Surya Bonaly is a Black figure skater from this country. Guillaume Cizeron and Gabriella Papadakis, who hold numerous all-time records in ice dancing, are a team representing this country.

ANSWER: **France** [accept the **French Republic** or **République française**]

[E] Many elements of figure skating are similar to those in this other discipline. Figure skating's forward and backward spins are equivalent to this discipline's *pirouette en dedans* ("on de-DON") and *pirouette en dehors* ("on de-YOR"), respectively.

ANSWER: **ballet**

<Pop Culture>

8. This composer was inspired by a legendary Arab knight to write *Antar*, which he initially called his second symphony before deciding to instead label it a symphonic suite. For 10 points each:

[M] Name this composer, who was similarly inspired by Arab influences to compose the symphonic suite *Scheherazade*.

ANSWER: Nikolai Andreyevich **Rimsky-Korsakov**

[H] The music of central Asia inspired this other composer to compose *In the Steppes of Central Asia*. This composer depicted the exoticized "Polovtsians" in dances from his opera *Prince Igor*.

ANSWER: Alexander Porfiryevich **Borodin**

[E] Borodin and Rimsky-Korsakov were members of the "Mighty Handful" of composers from this country. Another composer from this country, Mily Balakirev, composed the virtuosic "Oriental Fantasy" *Islamey*.

ANSWER: **Russia**

<Classical Music>

9. Types of these things include "ball and socket" and "hinge." For 10 points each:

[E] Name these things, parts of the skeletal system where different bones meet each other. They include the elbow and the knee.

ANSWER: **joints** [accept but do not reveal synovial **joints**]

[H] Hinge joints and ball-and-socket joints are both very movable because the gap between the bones is filled with this viscous substance.

ANSWER: **synovial fluid**

[M] The surfaces of the bones in a synovial joint are covered with the hyaline ("HIGH-uh-leen") form of this connective tissue. This connective tissue is formed of chondrocytes and is found in intervertebral discs and growth plates.

ANSWER: **cartilage** [accept hyaline **cartilage** or articular **cartilage** or fibro**cartilage**]

<Biology>

10. The Dunning School of historiography glorifies the Redeemers during this period. For 10 points each:  
[H] Name this period of American history villainized by the Dunning School. By contrast, historian Eric Foner referred to this period as "America's Unfinished Revolution."

ANSWER: **Reconstruction**

[E] The Dunning School extolled this president for supporting white supremacy during Reconstruction. This president took power after Abraham Lincoln's assassination and was the first to be impeached.

ANSWER: **Andrew Johnson** [prompt on **Johnson**]

[M] This president, and author of *A History of the American People*, was a supporter of the Dunning School. This former president of Princeton University was first elected campaigning on the "New Freedom" platform.

ANSWER: Woodrow **Wilson** [accept Thomas Woodrow **Wilson**]

<US History>

11. In Cyril Tourneur's *The Atheist's Tragedy*, Fresco hides in this kind of location from Levidulcia's foolish husband Belforest. For 10 points each:

[H] Describe this type of location. A character in another play is startled by a man in this kind of location and proceeds to stab him after shouting, "How now! A rat?"

ANSWER: **behind** an **arras** [accept synonyms like **behind** a **tapestry** or **curtain**; prompt on woman's **bedroom** with, "Where in the room?"]

[E] The title Danish prince of this aforementioned Shakespeare tragedy stabs the hiding Polonius in an attempt to kill his uncle Claudius.

ANSWER: **Hamlet**

[M] This drunken Shakespearean character falls asleep while he is hiding behind an arras from a sheriff who is trying to arrest him. This fat, cowardly knight provides much of the comedy for both of the *Henry IV* plays.

ANSWER: Sir **John Falstaff** [or **Jack Falstaff**; or John **Oldcastle** as he was originally named; accept any underlined name]

<British Literature>

12. This leader garnered criticism in one post for cutting a program providing free milk to children over seven. For 10 points each:

[E] Name this Conservative prime minister of the United Kingdom dubbed the "Iron Lady." During her tenure, this prime minister oversaw the U.K.'s victory over Argentina in the 1982 Falklands War.

ANSWER: Margaret Hilda **Thatcher**

[M] Thatcher was the target of the 1984 Brighton Hotel Bombing by the IRA after refusing to grant political status to prisoners during this period of conflict in Northern Ireland. This period came to an end with the 1998 Good Friday Agreement.

ANSWER: The **Troubles**

[H] 1984 also saw Thatcher defeat a strike of workers in this industry that included the Battle of Orgreave. Mark Ashton co-founded a group of LGBT supporters for a union in this industry during that strike.

ANSWER: **coal** mining [prompt on **mining**]

<European History>

13. This speech's Beatitudes include "Blessed are the meek, for they shall inherit the earth." For 10 points each:  
[M] Name this speech recounted in Matthew chapters 5 to 7. It originated the oft-repeated dictum to "not throw your pearls before swine."

ANSWER: **Sermon on the Mount**

[E] This prayer found in the Sermon on the Mount begins "Our father, who art in heaven, hallowed be thy name."

ANSWER: **Lord's** Prayer

[H] A section of the Sermon on the Mount urges the audience to beware these people using the analogy of a diseased tree that bears bad fruit. These people are also compared to wolves in sheep's clothing.

ANSWER: **false prophets** [accept equivalents that contain the word **prophets** and indicate that they aren't actually prophets; prompt on **imposters** or **deceivers** or equivalents]

<Religion>

14. Jazz players of this instrument in the pre-Swing era often engaged in "cutting contests" where they would trade off increasingly complex improvisations. For 10 points each:

[E] Name this instrument. Performers of this instrument like Fats Waller and Oscar Peterson often used its "stride" style of playing, which quickly moves up and down this instrument's 88 black and white keys.

ANSWER: **piano**

[M] This jazz pianist trained under stride pianist Willie "The Lion" Smith before starting a swing orchestra that recorded his tunes including "Mood Indigo" and "Take The A Train."

ANSWER: Duke **Ellington** [or Edward Kennedy **Ellington**]

[H] Oscar Peterson stopped playing piano for several years after witnessing the talent of this stride pianist. His recordings include virtuosic versions of "Tea For Two" and "Tiger Rag."

ANSWER: Art **Tatum**

<Other Fine Arts>

15. Every sequence with this property is a Cauchy sequence. For 10 points each:

[M] Name this property, which the harmonic series does *not* possess. The root test may be used to determine if a series has this property.

ANSWER: **convergence** [accept word forms, accept **having a limit**]

[E] The sequence of partial sums of a real-valued function  $f(x)$  ("f of x") converges if and only if the improper form of this operation applied to  $f$  yields a finite number. This operation is the inverse of differentiation.

ANSWER: **integration** [or **integral**; accept **integral** test]

[H] The sequence of partial sums of a real-valued function  $f(x)$  possesses this strong form of convergence if the choice of epsilon depends only on  $N$  and not on  $x$ . This form of convergence is contrasted with pointwise convergence.

ANSWER: **uniform** convergence

<Other Science>

16. A coup d'etat in this country in May of 2021 resulted in the resignation of president Bah N'daw. For 10 points each:

[H] Name this West African country which has been fighting a war against insurgents in the north who have declared the independent state of Azawad. The insurgents in this country are mostly of Tuareg background.

ANSWER: Republic of **Mali**

[E] The coup in Mali resulted in this country, which formerly colonized Mali, temporarily suspending joint military operations with the Malian military. This European country is currently led by president Emmanuel Macron.

ANSWER: **France** [or the **French** Republic]

[M] In September 2021, Mali announced its partnership with the private military Wagner Group, which is from this country. The Wagner Group has fought alongside separatists backed by this country in a neighboring country's Donbass region.

ANSWER: **Russia** [or **Russian** Federation]

<Current Events>

17. In a Pär Lagerkvist novel, a character with this condition named Piccolino poisons Lodovico Montanza and Teodora's lover Ricardo. For 10 points each:

[H] Name this condition that also affects a character who is able to shatter glass with his voice in a novel that details the deaths of his two possible fathers, the Nazi-sympathizer Alfred and the resistance fighter Jan Bronski.

ANSWER: **dwarfism** [or being a **dwarf**; accept equivalents like being **short**]

[M] That aforementioned dwarf, Oskar Matzerath, is the protagonist of this author's novel *The Tin Drum*.

ANSWER: Günter **Grass** [or Günter Wilhelm **Grass**]

[E] Günter Grass wrote the novel *The Tin Drum* in this language. In his memoir *Peeling the Onion*, which he wrote in this language, he revealed that he had been in the Waffen-SS.

ANSWER: **German** [or **Deutsch**]

<European Literature>

18. An atom of one of these elements would act as a deactivating group in an electrophilic aromatic substitution reaction. For 10 points each:

[M] Name this group of elements. All of these elements except the lightest are exemplary leaving groups in  $S_N2$  ("S-N-2") reactions and form strong diatomic acids with hydrogen.

ANSWER: **halogens**

[E] Halogen atoms are deactivating groups because their high value for this quantity causes them to withdraw electron density from a ring. Fluorine has the highest value for this quantity of all elements in the Pauling scale.

ANSWER: **electronegativity**

[H] Despite being deactivating groups, most halogens direct attacking electrophiles to these two sites on the ring during EAS reactions. These two sites are adjacent to and opposite to the carbon bonded to the halogen atom respectively.

ANSWER: **ortho** and **para** [or **o** and **p** or **2, 4**, and **6**; accept **ortho/para** directors]

<Chemistry>

19. Sculptures of Eva Hesse like *Untitled (Rope Piece)* mark a transition from this movement to its "Post" version. For 10 points each:

[M] Name this movement founded by artists like Carmen Herrera and Agnes Martin. This movement's emphasis on simplicity and repetition is also exemplified by the music of Steve Reich and Philip Glass.

ANSWER: **minimalism**

[E] Agnes Martin's use of subdued examples of these things has led to her being classified as both Minimalist and a member of a school named for these things' "field." The paintings of Barnett Newman often used the primary examples of these things.

ANSWER: **colors**

[H] Minimalist works by this artist include the colorful sculpture *Rainbow Pickett*. This artist set places for Judith, Artemisia Gentileschi, and Georgia O'Keeffe in her installation *The Dinner Party*.

ANSWER: Judy **Chicago**

<Painting/Sculpture>

20. A polity centered in this non-Egyptian city was ruled by Razia Sultana, a member of its Mamluk dynasty. For 10 points each:

[H] Name this city, whose namesake sultanate was established by Qutb ("ku-thub") al-Din Aibak ("EYE-bock") in 1206 and lasted until 1526, when its final ruler Ibrahim Lodi was killed in battle.

ANSWER: **Delhi** [do not accept nor prompt on "New Delhi"]

[M] During the reign of the Tughlaq ("toog-LOCK") Dynasty, the Delhi Sultanate was visited by this Moroccan judge and traveler, who served in the court of sultan Muhammad bin Tughlaq. This man wrote about his travels in the *Rihla*.

ANSWER: **Ibn Battuta** [accept Abd Abdallah Muhammad **ibn Battuta**]

[E] The Delhi Sultanate was replaced by this empire founded by Babur, the victor of the First Battle of Panipat. The sultanate's final capital of Agra would later be the site of the Taj Mahal, built by this empire's fifth ruler Shah Jahan.

ANSWER: **Mughal** Empire

<World History>