

HARI (Hari's Academic Regionals(-minus) Invitational): Harimoment of truth

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ROUND 3

Tossups

1. **The biodiversity of extant organisms from this class like Poecilonites and Cerion was studied extensively by Steven Jay Gould. Organisms in this class are the intermediate host for the platyhelminthes that cause schistosomiasis, the second most deadly parasitic disease. The visceral mass of members in this class rotate 180 degrees during development in a process called torsion, which causes their internal organs to be (*) asymmetric. An animal from this class nicknamed after Jeremy Corbyn was unable to find a mate due to his left-coiled shell. Some hermaphroditic species in this class engage in courtship by stabbing each other with "love darts."** For 10 points, name this class of mollusks contrasted with bivalves and cephalopods, which contains snails and slugs.

ANSWER: **gastropoda** [or **gastropods**; prompt on snails or slugs before mention; prompt on mollusks or Mollusca with "Mollusca is a phylum, what specific class in Mollusca are we referring to?"]

<Biology, Schwartz>

2. **Francesco Vallotti names an irregular system for this task. The rising and falling progression "sa pa sa pa sa pa sa" is used to perform this task along with a shruti box. Systems for this task may make adjustments in units of commas and cents. Various early systems for performing this task struggled with a problem that produced an effect compared to a wolf. "Slips" can cause complications in performing this task with friction (*) pegs. Scordatura denotes an alternative method of this task. Using harmonics may aid string instruments in performing this task, which is usually done on open strings. An oboe typically plays an A to aid the orchestra in, for 10 points, performing which task to adjust the pitches of a musical instrument?**

ANSWER: **tuning** [accept word forms; accept **temperaments**; prompt on drones by asking "What task is the drone aiding in?"]

<Auditory Fine Arts, Nageswaran>

3. **In a play in this language, the son of a priest is saved from being eaten by a half-demon by a prince since they are both "middle brothers." In another play in this language, jewels gifted by a courtesan are stolen by a thief to buy the freedom of that courtesan's slave. The courtesan gives a young boy the jewels to fill the title toy in that play in this language. A possibly mythical king whose name means "little servant" used this language to write *The (*) Little Clay Cart*. In a play in this language, an old sage curses a king to forget a commoner he married until a ring is shown to him. That play is *Recognition of Shakuntala*. For 10 points, name this classical Indian language used by Bhāsa and Kālidāsa.**

ANSWER: **Sanskrit** [The treatise is Nāṭya Śāstra; the first play is Bhāsa's *Madhyamavyayoga*.]

<Drama, Zhang>

4. This phenomenon occurred incorrectly in subjects that heard "lure" words in an experiment by James Deese, which was extended by Henry Roediger and Kathleen McDermott into a paradigm studying this phenomenon. Distortions in this phenomenon are the result of either errors in source or reality monitoring. Whether the word "smashed" or "contacted" was used to describe a car (*) crash altered this phenomenon in a study conducted by John Palmer and Elizabeth Loftus. George Miller proposed the capacity of the "working" form of this phenomenon is described by the "magic number" seven plus or minus two. The three stages of this phenomenon are encoding, storage, and retrieval. For 10 points, name this phenomenon impaired in people with amnesia.

ANSWER: memory [accept false memories; accept forms of memory like working memory; accept word forms like remembering or memorization; accept recall; prompt on acting as a eyewitness or giving testimony with "what mental faculty is required to give testimony?"]

<Social Science, Chen>

5. Following one of this ruler's campaigns, settlements called *kastella* were founded around the town of Alburnus Maior to exploit the gold mines seized earlier. This ruler failed to besiege Hatra during a conflict which was sparked by simultaneous revolts led by Artemion and Lukuas. Apollodorus of Damascus built a massive bridge for one of this ruler's campaigns which was depicted on (*) spiraling bas reliefs located in this ruler's namesake forum. This emperor led his final campaign against Osroes I of the Parthian Empire. After initially being defeated near the Iron Gates, this emperor routed the forces of Decebalus. For 10 points, what second of the Five Good Emperors commemorated his Dacian conquests with his namesake column?

ANSWER: Trajan [or Marcus Ulpius Traianus]

<Ancient/Other History, Hong>

6. Paulus Deaconus used the melody of one of this author's poems to create the hymn *Ut Queant Laxis*. In that poem, this author leaves a cask of Albanian wine to Phyllis. This poet wrote "Betrayed me? Or has Canidia been tampering / With this unfortunate dish" in response to a burning meal he ate at a feast hosted by his patron, Maecenas. That rant against garlic by this poet is part of a collection of seventeen poems he wrote in (*) iambic trimeter. One of this poet's lines is called the "the Old Lie" in Wilfred Owen's "Dulce et Decorum Est." This poet's most famous quip comes after the statement "While we talk, envious time will have fled" in Book One of his *Odes*. For 10 points, name this Roman poet who wrote "carpe diem", or "seize the day".

ANSWER: Horace [or Quintus Horatius Flaccus]

<Poetry, Parameswaran>

7. The maximum incremental reactivity quantifies the potential of a reaction to produce this molecule. Ethylene diurea (di-urea) is used to protect plants from this molecule, whose harmful effects cause about a 10% decrease in global crop yield. Reactions between non-methane hydrocarbons, VOCs, and nitric oxides produce the "ground-level" form of this molecule, which is a tropospheric secondary pollutant. A mixture of this molecule and nitrogen oxide composes photochemical (*) smog. This molecule is a byproduct of lightning strikes, which is why thunderstorms often smell like this molecule. This molecule is depleted by reactions with halogen free radicals generated from chlorofluorocarbons. For 10 points, name this molecule that forms a namesake "layer" in the stratosphere.

ANSWER: ozone [or O3; accept ground-level ozone or tropospheric ozone]

<Other Science, Chen>

8. After this event, Langdon Cheves chaired an investigation into Patrick Magruder's failure to recover records, but Magruder resigned anyways. Joseph Milligan oversaw the purchase of books in the aftermath of this event. A famous action undertaken during this event by Jean Pierre Sioussat was chronicled in Paul Jennings's memoirs. This event was halted by an unexpected (*) hurricane which spawned a tornado. This event was preceded by the victory of Robert Ross's forces at the Battle of Bladensburg. During this event, the *Lansdowne Portrait* of George Washington was supposedly saved by Dolley Madison. For 10 points, name this event in the War of 1812 where the British destroyed the capital of the United States.

ANSWER: burning of Washington D.C. [accept burning of Washington, D.C. or burning of the White House; accept equivalents]

<American History, Nageswaran>

9. One player of this instrument featured his wife Linda's yodeling on the title track of his album *Black Woman*. That free jazz player of this instrument was Sonny Sharrock. A player of this instrument made frequent use of octaves, including in his cover of the Beatles song "A Day in the Life." The violinist Stéphane Grappelli founded a "hot club" quintet with a player of this instrument. The first track of Miles Davis's (*) *Sketches of Spain* covers a concerto originally written for this instrument. On *Bitches' Brew*, Davis collaborated with John McLaughlin, who played this instrument. "Nuages" and "Minor Swing" are by a three-fingered Romani player of this instrument. For 10 points, name this instrument played by Wes Montgomery and Django Reinhardt.

ANSWER: guitar [accept electric guitar or classical guitar or jazz guitar]

<Fine Arts, Berns>

10. During the Great Depression, workers in this region popularized a dish similar to shepherd's pie called "Chinese Pie." A dish from this region was supposedly invented in its city of Drummondville. Reuben Schwartz founded a delicatessen in this region's largest city that serves its namesake style of smoked meat. On Christmas Eve, families in this region traditionally eat a spiced meat pie called (*) tourtiere. A candy known in this region as *tire sur la neige* can be created by pouring hot maple syrup on snow and allowing it to harden. This region produces 70 percent of the world's maple syrup and is home to a dish consisting of gravy-covered fries. Poutine was invented in, for 10 points, what French-speaking region of Canada?

ANSWER: Quebec [prompt on French Canada]

<Geography, Ah Now>

11. This quantity is normalized with respect to two different length scales in the first two diagonal terms of the 3 by 4 intrinsic parameters matrix. In a formula used to calculate this quantity, a term inversely proportional to the product of two radii of curvature is typically assumed to be negligible. The magnitude of spherical aberration is inversely proportional to the cube of this dimensional quantity. The (*) power of an optical system is given by the reciprocal of this quantity that can be calculated using the lensmakers' equation. The sum of the reciprocals of the distances of an object and its image to a lens is equal to one over this quantity. For 10 points, name this quantity which represents the distance that parallel beams of light must travel to converge onto a namesake point.

ANSWER: focal length [prompt on f but do not accept or prompt on "f-number" or "f-ratio" or "f-stop"]

<Physics, Liu>

12. **After a prince became skilled in using these objects, he was forced to offer his right thumb to his guru. Rama broke one of these objects to win Sita's hand in marriage; that one belonged to Shiva and was originally a trident called Pinaka. One of these objects was used to construct a bed for Bhishma (BEESH-muh). In a contest, one of these objects was used while staring at a golden fish's (*) reflection in the water.** Kama's use of this type of object often draws comparisons between him and a Greek analogue who famously uses one. The Bhagavad Gita opens with a character dropping one of these objects, before being persuaded by Krishna that it is his duty as a kshatriya to fight. For 10 points, name this main weapon of Arjuna in the Mahabharata.
ANSWER: bow and arrow [prompt on arrows; prompt on weapons] (Kama is often called the "Indian Cupid" or similar)
<Mythology, Nageswaran>

13. **A character insists that this concept "did not exist" after leaving money to an old woman in "The Eternal City," who says that this concept was used to kick out prostitutes from an apartment. This concept leads a man to sign letters he censors as "Washington Irving" or "Irving Washington." One man is asked if he is "against" this concept for refusing to participate in the McCarthy-esque (*) Glorious Loyalty Oath Crusade.** At the end of a novel, one character escapes this title concept by leaving for Sweden like his friend Orr. This concept, which is first explained by Doc Daneeka, is most prominently used to prevent sane pilots from getting out of flying missions. For 10 points, name this paradoxical concept that titles the first novel by Joseph Heller featuring Yossarian.
ANSWER: catch-22
<Long Fiction, Zhang>

14. **At Oxford, Alex Lloyd heads a project to translate the diaries of people with this occupation — including Willi Graf — from German to English. These people were told to say "no to decadence and moral corruption" in a speech given at Berlin's Opera Square by Joseph Goebbels, initiating the policy of *Gleichschaltung*. They are not peasants, but these people issued the "Twelve Theses," which describes a previously-held 1817 event held by them in (*) Wartburg. Sophie and Hans Scholl were executed for leading these people in the White Rose resistance. In 1933, these people engaged in a mass book burning of "un-German" literature. For 10 points, Martin Heidegger encouraged what people to embrace Nazism while teaching at Freiburg?**
ANSWER: German university students [prompt on anti-Nazi activists]
<European History, Parameswaran>

15. **Eve Sedgwick explained a form of this concept in an essay that examines the phrase "Shame on you" and Henry James's *The Art of the Novel*. In *The Postmodern Condition*, Jean-François Lyotard posits that research and education are legitimized by this concept and the criterion of efficiency. Richard Schechner founded a field of study named for this concept. Illocutionary acts always accompany utterances described by this concept, as per J.L. (*) Austin. Using the example of drag, gender is associated with this concept due to repetitive bodily acts that produce meaning in Judith Butler's *Gender Trouble*. For 10 points, name this concept, which can refer to acting before a live audience when applied to the arts.**
ANSWER: performativity [accept word forms like performance; accept performance theory, performance studies, queer performativity, gender performativity, performative utterances, or performing arts]
<Philosophy, Zhang>

16. **Ri-metos, trained navigators on this body of water, created "meddo" and "matang" varieties of "stick charts" to map locations, winds, and currents in it. In this body of water, the Saudeleur dynasty created canals to connect the artificial islands of Nan Madol, leading it to be nicknamed the "Venice of [this body of water]." Stone discs known as rai were used by the state of (*) Yap in this body of water as one of the earliest currencies. Around 1500 A.D., the Moriori peoples settled the Chatham Islands in this body of water. People in this body of water travelled using outrigger canoes, which were used to spread breadfruit and sweet potatoes to South America. For 10 points, name this body of water where Polynesian civilizations thrived.**

ANSWER: Pacific Ocean

<World History, Hong>

17. **In 2000, Hwang et. al. discovered the superconducting nature of a complex formed by reacting this substance with a mercury-magnesium alloy. An early method used to synthesize Zintl ions involved using this substance as a solvent to reduce Group 14 elements with alkali metals. That reagent can also be used to reduce alkynes to trans-alkenes and has a (*) blue color due to solvated metal electrons. It's not an alcohol, but sodium is dissolved in a liquid form of this substance to act as the reducing agent in the Birch reduction. The Ostwald process uses a series of oxidations to produce nitric acid from this substance. For 10 points, name this substance produced industrially via the Haber-Bosch process with chemical formula NH₃.**

ANSWER: ammonia

<Chemistry, Tong>

18. **In response to this event, the Koury Wingate Gallery asked the General Idea collective to modify Robert Indiana's "LOVE" print. An interactive piece which asks viewers to take pieces of candy was created in memory of one of this event's victims, "Ross in L.A." Another artist depicted the "three wise monkeys" with x's on them in an artwork about this event. For this event, the Gran Fury art collective created posters depicting a (*) pink triangle with the phrase "Silence = Death". Many works about this event were created by Felix Gonzalez-Torres and Keith Haring, who worked for "ACT UP". The NAMES project headed the creation of a 50,000 panel quilt memorializing this event. For 10 points, name this event.**

ANSWER: AIDS epidemic [accept AIDS crisis or HIV/AIDS crisis]

<Visual Fine Arts, Parameswaran>

19. **At the end of a 2012 essay, this author puts a poster reading "NO SELL OUT" on his apartment wall. The radiologist Mabel Jones exemplifies "all of the odd poise and direction that the great American injury demands of you" in one of his works. This author collaborated with artist Brian Stelfreeze to create the "Nation Under Our Feet" and "Intergalactic Empire of (*) Wakanda" arcs for the Black Panther comics. This author implores "I would have you be a conscious citizen of this terrible and beautiful world" in a 2015 book framed as a letter to his son Samori. This author collected essays he wrote during the Obama presidency into *We Were Eight Years in Power*. For 10 points, name this former journalist for *The Atlantic* who wrote *Between the World and Me*.**

ANSWER: Ta-Nehisi Coates (The first clue refers to "The Legacy of Malcolm X.")

<Short Fiction/Other, Parameswaran>

20. **This figure's story is the primary content of the Surah that convinced Umar to convert the Surah *Taha*. This figure disrespectfully asks a wise companion why he took a plank from a ship, killed a child, and mended a wall without pay. This adopted son of Asiya developed a stutter after putting a coal in his mouth rather than taking a ruby ring. Muhammad was repeatedly sent back to Allah by this (*) prophet so he could ask for fewer daily prayers. After returning from Mount Sinai, this prophet admonished his followers for worshipping a golden calf in his absence. This prophet turned the rod of his brother Aaron into a snake, outdoing the Pharaoh's magicians. For 10 points, name this Islamic prophet who parted the Red Sea.**

ANSWER: Musa ibn Amran [or Moses]

<Religion, Shanmugam>

Bonuses

1. Cantor's diagonal argument is most commonly used to show the uncountability of this set, as it has higher cardinality than the natural numbers. For 10 points each:

[10e] Name this set of numbers represented in mathematical notation by a "blackboard R."

ANSWER: **real** numbers [accept **reals**]

[10m] The cardinality of the reals is sometimes called the "cardinality of [this word]." This word names an unsolved hypothesis asking if there is a set whose cardinality is strictly between that of the integers and the reals.

ANSWER: **continuum** [accept cardinality of the **continuum**; accept **continuum** hypothesis]

[10h] Cantor's earlier proof of the uncountability of the reals used the lack of this property for a sequence of real numbers on a real interval. The rationals have this property on the reals, since there is a rational number between any two real numbers.

ANSWER: **dense**

<Math, Zhang>

2. Francisco Suárez broke from the traditional structure of works in this field in his 54 "Disputations" on it. For 10 points each:

[10m] Name this field of philosophy. The *binarium famosissimum* is a term applied to medieval studies in this field that paired hylomorphism with plurality of forms.

ANSWER: **metaphysics**

[10h] Suárez was a scholar from the university of this Spanish city and one of the last scholasticists. Francisco de Vitoria founded the school of philosophy of this city and developed natural and international law.

ANSWER: **Salamanca**

[10e] The Salamanca school directly influenced Hugo Grotius, a jurist from this country, which was also the home of Desiderius Erasmus and Baruch Spinoza.

ANSWER: **Netherlands** [accept **Dutch**]

<Philosophy, Zhang>

3. After being captured by this ship's crew at Wulaia Bay, "Jemmy Button" received a British education. For 10 points each:

[10m] Name this ship, which was captained by Robert FitzRoy in three voyages that explored South America and the Pacific Ocean.

ANSWER: **HMS Beagle**

[10e] "Jemmy Button" was a member of this place's Yaghan tribe. British missionaries set up the town of Ushuaia in this archipelago, whose name translates as "Land of Fire."

ANSWER: **Tierra del Fuego**

[10h] FitzRoy was partially influenced to go on the voyage after the suicide of this uncle of his. The failure of the Walcheren Expedition prompted this politician to duel George Canning.

ANSWER: Viscount **Castlereagh** [or Lord **Castlereagh**; or Robert **Stewart**]

<Ancient/Other History, Parameswaran>

4. The artist of this painting convinced her friend Louisine Havemeyer to purchase it. For 10 points each:
[10m] Name this painting. A man rows a yellow sailboat in this painting, which also depicts a woman wearing a bonnet while holding a child with a pink dress.

ANSWER: *The **Boating Party***

[10h] *The Boating Party* was an example of the typical mother and child subject of Mary Cassatt, who depicted her own mother reading this daily French magazine. Pierre-August Renoir depicted Claude Monet's wife reclining on a sofa and reading this newspaper in another portrait.

ANSWER: *Le **Figaro***

[10e] Mary Cassatt popularized the spread of this movement in the United States, whose other artists included Monet and Renoir.

ANSWER: **Impressionism** [accept word forms like **Impressionist**]

<Visual Fine Arts, Martin>

5. In one play, this character sings "Water moves, the ocean flows, / Nothing comes and nothing goes / Strange days are upon us." For 10 points each:

[10m] Name this character. In another play, this character sings of a man who "doth suffer a sea-change / Into something rich and strange" while he lies "full fathom five."

ANSWER: **Ariel**

[10h] This poet's "Middle Passage" references Ariel's song in the lines "Deep in the festering hold thy father lies, / of his bones New England pews are made." This poet asked "what did I know / of love's austere and lonely offices?" in a poem about his father.

ANSWER: Robert **Hayden** [The second poem is "Those Winter Sundays."]

[10e] In this T. S. Eliot poem, Madame Sosostris quotes Ariel's song to describe a "drowned Phoenician sailor." This poem begins "April is the cruellest month."

ANSWER: "The **Waste Land**"

<Non-Epic Poetry, Faeder>

6. After this object was destroyed by Set, Hathor or Thoth restored this object by using gazelle's milk, leading it to be used as a symbol of healing. For 10 points each:

[10m] Name this body part. This object represents the moon and is thus the counterpart to a similar symbol belonging to Ra.

ANSWER: **Eye of Horus** [prompt on wedjat or eye by asking "who does it belong to?" and accept **Horus** as a response]

[10e] The Eye of Horus symbolized offering, since Horus gave it to his father to eat in the afterlife. This god was killed by Set and resurrected by his wife Isis.

ANSWER: **Osiris**

[10h] In some myths, the Eye of Horus grows into some of these things after it is buried by Set. The headdress of the god Nefertem depicts one of these things that was the first thing created in the universe.

ANSWER: blue **lotus** [or **sesen**; accept blue **water-lily**; prompt on flowers; prompt on plants]

<Mythology, Zhang>

7. The video game company Atari took its name from a term in this activity. For 10 points each:

[10e] Name this board game popular in Asia. In 2019, the 9-*dan* Lee Sedol retired competitively from this activity after losing to a computer he called "an entity that cannot be defeated" in 2016.

ANSWER: **Go** [accept **weiqi** or **baduk**]

[10m] Lee Sedol lost to the AI AlphaGo, which was developed by DeepMind and acquired by this company. This company also created the unrelated programming language Go.

ANSWER: **Google**

[10h] Denso Wave was inspired by Go boards to create this technology first used to track cars during manufacturing. This technology is ubiquitously used by merchants in China used in conjunction with the apps WeChat Pay and AliPay.

ANSWER: **QR** codes [accept **Quick Response** code]

<Other, Zhang>

8. Due to its extremely high conductivity, charge carriers in graphene have essentially a value for zero for this quantity. For 10 points each:

[10e] Name this quantity, whose effective type can be negative in solid-state materials. Electrons have a value of 9.11 times 10^{-31} kilograms for this quantity.

ANSWER: **mass** [or effective **mass**]

[10h] Effective mass is inversely proportional to the second derivative of energy with respect to the magnitude of this vector. Crystal momentum equals \hbar times this quantity.

ANSWER: **wave** vector [accept **wave** number; prompt on **k**]

[10m] For an electron to transition from the valence to the conduction band in indirect band gap materials, one of these quasiparticles is needed to change the electron's momentum vector. They represent lattice vibrations.

ANSWER: **phonons**

<Physics, Parameswaran>

9. Answer the following about dreams in Russian literature, for 10 points each:

[10e] Mikolka beats a horse to death with a crowbar during a dream in this novel, which begins with the murder of a pawnbroker by Raskolnikov.

ANSWER: ***Crime and Punishment*** [or ***Prestupléniye i nakazániye***]

[10h] In the first part of a novel by Ivan Goncharov, this extremely lazy title character has a long dream about his effortless childhood. This character is rebuked by Olga for delaying their wedding, after which she marries his friend Stoltz instead.

ANSWER: Ilya Ilych **Oblomov**

[10m] In this author's short story "How Much Land Does a Man Need?" Pahom has a dream in which he imagines himself lying dead next to the Devil. Pozdnyshev kills his wife after she cheats on him with a violinist in another work by this author.

ANSWER: Leo **Tolstoy** [or Lev Nikolayevich **Tolstoy**]

<Long Fiction, Martin>

10. Defense Minister Charles Hernu resigned following the destruction of this vessel. For 10 points each:

[10m] Name this vessel which was sunk as part of Opération Satanique. This Greenpeace vessel was docked in Auckland to protest French nuclear testing in Moruroa.

ANSWER: Rainbow Warrior

[10e] Later in the Cold War, opposition to nuclear power was fueled by this 1986 event, which saw a nuclear reactor melt down and explode in the Ukrainian city of Pripyat.

ANSWER: Chernobyl nuclear disaster

[10h] Following the Cold War, this German chancellor was pressured by the Greens to phase out nuclear power in 2000. This former leader of the SDP appointed Greens member Joschka Fischer as his foreign minister.

ANSWER: Gerhard Schröder

<European History, Parameswaran>

11. Answer the following about people or things disliked by former senator Strom Thurmond, for 10 points each:

[10m] Thurmond led the Senate effort to defeat the nomination of this man as Chief Justice. This jurist earlier served as the defense attorney in the case of *Gideon v. Wainwright*.

ANSWER: Abraham "Abe" Fortas

[10e] A memo written by Thurmond to Richard Nixon urged the deportation of this Beatles member due to his radical views. This husband of Yoko Ono was assassinated by Mark David Chapman.

ANSWER: John Winston Ono Lennon

[10h] Thurmond gave an over-24-hour filibuster against the Civil Rights Act of this year. That Act of this year, while weaker than the 1964 version, established a branch of the Department of Justice dedicated to civil rights.

ANSWER: 1957

<American History, Nageswaran>

12. This composer incorporated many poems from *Des Knaben Wunderhorn* into his symphonies. For 10 points each:

[10e] Name this late Romantic Austrian composer and conductor who scored many of his symphonic works, such as the Symphony of a Thousand, for very large orchestras.

ANSWER: Gustav Mahler

[10h] This slow symphonic movement by Mahler opens with a theme rising from C to F. Unusually for Mahler, this movement is scored only for harp and strings.

ANSWER: adagietto [accept Symphony No. 5, Movement 4]

[10m] Mahler's fifth symphony begins with a "funeral" variety of one of these pieces. In his first symphony, Mahler had a double bass play a minor version of Frere Jacques in another "funeral" variety of these pieces.

ANSWER: funeral march

<Auditory Fine Arts, Tong>

13. This process is induced by three different homeotic genes in the ABC model. For 10 points each:

[10e] Name this process in angiosperms that results in the development of a structure containing carpels, stamens, and petals.

ANSWER: flowering [or flower development]

[10h] Exposure to this stimulus causes downregulation of FLC expression, triggering flowering. Many plants like Arabidopsis require prolonged exposure to this stimulus through the process of vernalization.

ANSWER: cold temperature [accept equivalents like low temperature or coldness; do not accept or prompt on "heat"]

[10m] Short-day and long-day plants differ in whether this stimulus suppresses or induces flowering. In plants, this stimulus is "harvested" by the protein complexes P680 and P700.

ANSWER: sunlight [or photons; or electromagnetic radiation; or electromagnetic waves]

<Biology, Hong>

14. For 10 points each, answer the following about linguist George Lakoff:

[10e] Lakoff's book *Women, Fire, and Dangerous Things* is titled for three concepts which belong to the same category for this part of speech in the Dyirbal language. This part of speech can be modified by adjectives.

ANSWER: **nouns**

[10m] The Dyirbal language is from this country. Words adapted from languages native to this country include "cooee", a high-pitched call, and "yakka", meaning work.

ANSWER: **Australia**

[10h] With Mark Johnson, Lakoff wrote a book examining the "conceptual" type of these constructs, which aid in the comprehension of conceptual domains through mappings. That book is titled for [these constructs] *We Live By*.

ANSWER: conceptual **metaphors** [accept *Metaphors We Live By*]

<Social Science, Zhang>

15. In a story by this author, the Colonel seeks Belisa Crepusculario's help with a speech to win an election, but begins to obsess over the title "Two Words" she tells him. For 10 points each:

[10h] Name this author. The half-English Eliza Sommers befriends Tao Chi'en in a novel by this author.

ANSWER: Isabel Angélica **Allende** Llona

[10m] The story "Two Words" appears in a collection named for the "Stories of" this character. This daughter of Consuelo and a gardener falls in love with Huberto Naranjo and Rolf Carlé in the Allende novel titled for her.

ANSWER: **Eva** Luna [or Eva **Luna**; accept "Stories of **Eva Luna**"]

[10e] Allende's novels *Eva Luna* and *House of the Spirits* belong to a Spanish genre named for realism and this word. That genre named for this word and realism blends aspects of fantasy and reality.

ANSWER: **magic** [or **magical**]

<Long Fiction, Nageswaran>

16. An oedometer (**ee-dometer**) is used to test for the "consolidation" of this substance. For 10 points each:

[10e] Name this substance divided into horizons like O, A, and B. Pores containing liquids or gas make up about half of this substance, while the other half contains solid organic matter and minerals that serve as nutrients.

ANSWER: **soil**

[10h] This quantity is plotted against effective stress on the y-axis of a consolidation curve. This dimensionless quantity is given by the equation " ϕ over the quantity 1 minus ϕ ," where ϕ is porosity.

ANSWER: **void ratio** [prompt on e]

[10m] Soils are characterized by the "pore water" form of this quantity. The gradient of this quantity from the surrounding rock to water must be positive in an artesian aquifer.

ANSWER: (pore water) **pressure** [accept pressure **head** or piezometric **head**]

<Other Science, Zhang>

17. Ata-Malik Juvayni, governor of Khorasan, chronicled this ruler's conquests along with the Daoist monk Changchun. For 10 points each:

[10m] Name this ruler. Juvayni recounted the extreme bloodshed of this ruler's punitive expedition against the Khwarezmian Empire, which he destroyed.

ANSWER: **Genghis** Khan [or **Chinggis** Khan; accept **Temujin**; prompt on **Khan**]

[10h] Juvayni also recounted Hulegu Khan's destruction of these people's fortress at Alamut. The "Old Man of the Mountain" led this Nizari Isma'ili sect, which warred with the Seljuks in Syria.

ANSWER: **Assassins** [or **Hashashins**]

[10e] This explorer gave Hassan-i Sabbah the title of "Old Man of the Mountain" and also claimed he surrounded Alamut with rivers of milk and honey. This Italian more famously served in the court of Kublai Khan.

ANSWER: Marco **Polo**

<World History, Parameswaran>

18. Answer the following about portrayals of lesbian relationships in American theater, for 10 points each:

[10m] Martha commits suicide after Mary Tilford accuses her of having an affair with her fellow teacher Karen in this author's play *The Children's Hour*.

ANSWER: Lillian **Hellman**

[10h] Paula Vogel's *Indecent* is about the production and obscenity trial over a play in this language that features a lesbian kiss in the rain. That play, *God of Vengeance*, was originally written in this language before its English Broadway production was shut down in two weeks.

ANSWER: **Yiddish** (*God of Vengeance* is by Sholem Asch.)

[10e] This author wrote about two New England women who live together in *Boston Marriage*. This playwright also wrote *Speed-the-Plow* and *Glengarry Glen Ross*.

ANSWER: David **Mamet**

<Drama, Zhang>

19. A character whistles this theme after his shadow appears on his own wanted poster before he buys a girl a balloon. For 10 points each:

[10h] Name this musical piece which accompanies a child murderer who is hunted down by a criminal network in a 1931 film.

ANSWER: "**In the Hall of the Mountain King**" [or "**I Dovregubbens hall**" or "**In der Halle des Bergkönigs**"; prompt on *Peer Gynt*]

[10m] "In the Hall of the Mountain King" is whistled by a man who murders to "escape [himself]" in *M*, a film by this director. This director pioneered the world of science fiction in cinema with his silent film *Metropolis*.

ANSWER: Fritz **Lang**

[10e] Fritz Lang belonged to this country's school of "expressionism." It's competitiveness in the worldwide film industry largely fell apart after directors like Lang fled due to the rise of Hitler.

ANSWER: Federal Republic of **Germany** [or Bundesrepublik **Deutschland**; accept **Weimar** Republic or **Weimar** Germany]

<Other Fine Arts, Schwartz>

20. Kim Janey acted in this position after a former holder became Biden's Secretary of Labor. For 10 points each:

[10h] Name this office. The 2021 election for this office was contested between Annissa Essaibi George and former City Council President Michelle Wu, the latter of whom became the first woman elected to this position.

ANSWER: **mayor of Boston**, Massachusetts

[10e] Among Wu's endorsers is this Massachusetts senator, who had taught Wu at Harvard Law School. This progressive dropped out of the 2020 Democratic Primaries after Super Tuesday.

ANSWER: Elizabeth Ann **Warren** [accept Elizabeth Ann **Herring**]

[10m] Wu advocates for broad rent limits by enacting zoning reform and this type of tax. Vancouver enacted a tax of this type, set at 3% in 2021, to prevent property speculation.

ANSWER: **vacancy** tax [accept **Empty Homes** Tax]

<Current Events, Nageswaran>