

CALISTO: California Spring Tournament 2020

Edited by Justin French, Alistair Gray, Karan Gurazada, Avinash Iyer, Jeffrey Ma, James Malouf, and Shahar Schwartz. Written by the editors, Vikshar Athreya, Anishka Bandara, Nicholas Dai, Jason Hong, Daniel Jung, Victor Li, Gary Lin, Reedid Shahriar, Kyle Shi, Junu Song, Rohan Venkateswaran, Brandon Wang, Victor Wang, and Arav Watwani. Help from Ankit Aggarwal.

Packet 7 Tossups

1. **This country is home to the *Scalesia* genus of giant trees in the daisy family, as well as a species of flightless cormorant and the only marine iguana species in the world. The hundred-year-old Lonesome George was the last individual of a species in this country. Adaptive radiation in this country led to (*) “ground,” “tree,” and “warbler” species of birds with many varying beak shapes. This country’s islands of Santa Cruz and Isabela, which are home to giant tortoises and Darwin’s finches, are part of a wildlife-rich island group in this country. For 10 points, the Galapagos Islands are part of what South American country, named for its position around zero latitude?**

ANSWER: **Ecuador** [or the Republic of **Ecuador** or *República del Ecuador*]

<Geography — Gray> [Edited]

2. **Jamie Lockhart falls in love with Rosamund Musgrove after kidnapping her from a house in this state in *The Robber Bridegroom*. A character from this state repeats “I dont hate it” after being asked a question by his Harvard roommate, Shreve. That character drowns himself in the Charles River after he realizes that his sister Caddy is not a virgin. (*) Quentin Compson tells his roommate about Thomas Sutpen’s hundred-square-mile estate in this state’s fictional Yoknapatawpha (yok-nuh-puh-TAW-fuh) County, which is the setting of *Absalom*, *Absalom!* and *The Sound and the Fury*. For 10 points, name this home state of Eudora Welty and William Faulkner.**

ANSWER: **Mississippi**

<Long Fiction — Gray> [Ed. French]

3. **One of these molecules mediates the lyonization of X chromosomes; that molecule of this type is Xist. The protein Argonaute binds to a small one of these molecules in order to target and destroy larger ones in these molecules' namesake “interference.” Retrotransposons use this molecule as an intermediate. One type of this molecule has a (*) cloverleaf structure and contains a CCA tail that binds to amino acids. This molecule is the substrate of reverse transcriptase, and it contains uracil instead of thymine. For 10 points, the "messenger" variety of what single-stranded nucleic acid is produced from DNA in transcription?**

ANSWER: **RNAs** [or **ribonucleic acids** or long non-coding **RNAs** or **ncRNA** or micro **RNAs** or **miRNAs** or small interfering **RNAs** or **siRNAs** or transfer **RNAs** or **tRNAs** or messenger **RNAs** or **mRNAs**]

<Biology — Gurazada> [Edited]

4. **During one conflict, people in this city wailed after hearing news of defeat brought by the *Paralus*. Before one expedition, a commander from this city was accused of mutilating busts of Hermes, prompting him to defect to this city’s enemy. Following this city’s defeat at the Battle of Aegospotami (ee-go-SPOT-oh-my), Lysander installed the Thirty Tyrants to rule it. Alcibiades led the disastrous (*) Sicilian Expedition against Syracuse in the service of this city. One leader of this city gave a funeral oration in the aftermath of a devastating plague. For 10 points, name this ancient Greek city state led by Pericles that was defeated by Sparta during the Peloponnesian War.**

ANSWER: **Athens** [or **Athína** or **Athênai**]

<Ancient/Classical History — Hong> [Ed. Athreya]

5. In an opera by this composer, a man compares the blonde hair of his painting's subject with that of the title character in the aria "Recondita armonia." In that same opera by this composer, a melancholic solo clarinet accompanies that man in the aria "E lucevan le stelle" (ay loo-CHAY-von lay stell-ay) while he awaits execution atop the Castel Sant'Angelo. A character in another opera by this composer triumphantly sings "vincero" three times after declaring that (*) "none shall sleep." In that opera, Prince Calaf must answer three riddles to marry the title princess. For 10 points, name this Italian composer of the arias "Vissi d'arte" and "Nessun dorma" for his operas *Tosca* and *Turandot*.

ANSWER: Giacomo Puccini [or Giacomo Antonio Domenico Michele Secondo Maria Puccini]
<Opera — Ma> [Edited]

6. The battle of Swally was fought over this body of water by two competing organizations. A list of ports on this body of water mentions the city of Barygaza as well as the Himyarite Kingdom. One navigator of this body of water captured the kingdom of Kotte. Another explorer of this body of water employed a sailor from Malindi and used a route first travelled by (*) Bartolomeu Dias. Arab traders used ships called *dhow*s (dows) to travel across this body of water. Trade across this body of water was nicknamed the "Monsoon Marketplace" and occurred at cities such as Mombasa and Calicut. Vasco Da Gama and Zhèng Hé explored, for 10 points, what third largest ocean?

ANSWER: Indian Ocean [accept Arabian Sea]
<Asian History — Iyer> [Edited]

7. A proposed building design for one of these events was ridiculed for resembling an "intergalactic bike helmet." That design by Zaha Hadid for one of these events was scrapped due to environmental and cost concerns in favor Kengo Kuma's design. Herzog and de Meuron collaborated with (*) Ai Weiwei in designing a National Stadium for one of these events that accompanied a building nicknamed the Water Cube. The 2022 iteration of this event will reuse older venues built for it like the Bird's Nest stadium. For 10 points, name these athletic competitions that were hosted in 2008 by Beijing and in 2020 will be held in Tokyo.

ANSWER: the Olympics [or the Olympic Games; accept the 2008 Beijing Summer Olympics or 2020 Tokyo Summer Olympics or 2022 Beijing Summer Olympics]
<Architecture — Ma> [Edited]

8. The Hermitian adjoint of a matrix A equals this function applied to each entry of A transpose. In quantum mechanics, the probability density of a particle's position equals the wavefunction times this function of the wavefunction. Applying this function to " r times e to the i theta" is equivalent to replacing theta with negative theta. It's not the identity, but if x is a root of a real polynomial, then so is this function of x . For a (*) complex number z , z times this function of z equals the square of the absolute value of z . This function is denoted with a horizontal bar over the variable. For 10 points, name this function that transforms " a plus $b i$ " into " a minus $b i$."

ANSWER: complex conjugate
<Math — French> [Edited]

9. Two of this man's sons are cursed after they kill every man in Shechem due to their sister being raped. This man marries the maids Bilhah and Zilpah due to the infertility of his other wives. This man buys his brother's birthright with a bowl of lentil soup, and he disguises himself as that brother with goatskins to get his father's blessing. At Peniel, this man wrestles until daybreak with an (*) angel before he is given the name Israel. This man is born along with his brother Esau after his father Isaac prays to God for Rebecca to be pregnant. For 10 points, name this man who, in the Book of Genesis, sees heaven in a vision of his namesake ladder.

ANSWER: Jacob [accept Israel or Yisra'el before "Israel" is read]
<Religion — Gray/Dai> [Ed. Venkateswaran]

10. **One poem in this form states “Don’t worry spiders / I keep house / casually.” A work which combines prose with this poetic form proclaims that “every day is a journey, and the journey itself home.” Sixty poems in this form are compared to each other in *The Seashell Game*. Traditionally, poems in this form contain a (*) “cutting word” which precedes a thematic shift. A poem in this form describes the sound of water that is made when a frog jumps into a pond. That poem was written by a 17th century master of this form named Matsuo Bashō. For 10 points, name this Japanese form of poetry whose syllables follow a 5-7-5 pattern.**

ANSWER: **haiku** [or **hokku**; accept **haibun**]

<Poetry — Schwartz> [Ed. French]

11. **Powers of a type of this quantity are multiplied by powers of the energy dissipation rate in the Kolmogorov microscales. A type of this quantity obeys the Oswald-de Waele (Oswald de-Whale) power-law in dilatant and pseudoplastic materials, while it decreases over time in thixotropic materials. That type of this quantity is the ratio of shear stress to shear rate. According to Stokes’ law, the (*) drag on a sphere is equal to six pi times radius times flow velocity times a type of this quantity. This quantity, which has “kinematic” and “dynamic” varieties, is constant in Newtonian fluids and is equal to zero in superfluids. For 10 points, name this quantity which describes a fluid’s resistance to flow.**

ANSWER: **viscosity** [accept dynamic **viscosity** or kinematic **viscosity** or absolute **viscosity**; prompt on eta, mu, or nu]

<Physics — Schwartz> [Ed. French]

12. **France agreed to support this cause after the signing the Plombières agreement with a prime minister who resigned due to the Treaty of Villafranca. This cause was supported by a secret society of “charcoal burners” who forced King Ferdinand I to accept a constitution in 1820. This cause was furthered by victories at the Battles of Como and Solferino. A leader of this cause led the (*) Redshirts on the Expedition of the Thousand to conquer opposition to this cause. The kingdom of Piedmont fought for this cause, which was achieved with the accession of its king Victor Emmanuel II. For 10 points, Giuseppe Garibaldi let what effort to unify his home country?**

ANSWER: **Italian Unification** [or **Risorgimento**; accept answers indicating **Italy** gaining **Independence** from Austria or other foreign countries; accept **creation** of **Italy** and equivalents] (The secret society is the Carbonari.)

<European History — Lin> [Ed. Iyer]

13. **A 2009 Tim Jackson book argues for “Prosperity Without” this phenomenon. According to Thomas Piketty, inequality inevitably increases because the rate of return on capital is greater than the rate of this phenomenon. In endogenous theories of this phenomenon, it occurs due to intellectual property rights and investment in R&D. The convergence hypothesis states this phenomenon occurs faster in (*) developing countries. This phenomenon leads to an outward shift of the production possibility curve. In the long run, this phenomenon only occurs with an increase in labor productivity. For 10 points, name this phenomenon in which real GDP per capita increases.**

ANSWER: real economic **growth** [accept endogenous **growth** or exogenous **growth** or economic **expansion**; prompt on g]

<Economics — French> [Edited]

14. **This character briefly “[rolls] his great green eyes over the fat meadowlands” belonging to the family of a girl he gives singing lessons to. This character whistles while passing a lightning-struck tree where Major Andre was hung years earlier. This character rides off on his horse Gunpowder after he sees an (*) apparition of a “Galloping Hessian” (HESH-in) on a bridge. This teacher angers Brom Bones when he develops a crush on Katrina van Tassel. For 10 points, name this character who is chased out of Sleepy Hollow by the Headless Horseman in a short story by Washington Irving.**

ANSWER: Ichabod Crane [or Ichabod]

<Short Fiction — Schwartz> [Edited]

15. **Several putti carry a red and blue striped banner in a François Boucher (fran-SWAH boo-SHAY) painting titled for this figure’s “triumph.” Though it was previously attributed to Praxiteles (prak-SIT-uh-leez), an inscription on a sculpture of this figure revealed that it was by Alexandros of Antioch. The pose of Hiram Powers’ *Greek Slave* was inspired by a sculpture of this figure bathing named for (*) Knidos. In one painting, this figure stands to the right of the Three Graces dancing in an orange grove. In another painting, Hora drapes a pink cloth over this figure as she is blown to shore by Zephyr while standing on a seashell. For 10 points, name this goddess whose birth is depicted in a painting by Sandro Botticelli.**

ANSWER: Venus [or Aphrodite]

<Painting — Ma> [Ed. Malouf]

16. **A functional group containing hydrogen and this element can be added to an alkyl halide using potassium phthalimide (THAL-imide) in the Gabriel synthesis. Two atoms of this element and an R group comprise a diazonium cation (CAT-“eye”-on). A compound containing two atoms of this element is often used with an iridium catalyst as rocket fuel; that compound is (*) hydrazine. The inert diatomic gas formed by this element has a *triple* bond between two atoms of this element. The Haber process synthesizes a compound containing one atom of this element and three atoms of hydrogen. For 10 points, name this element, which is present with hydrogen in amines and ammonia.**

ANSWER: nitrogen [or N]

<Chemistry — Gurazada> [Edited]

17. **The founder of the Plowshares movement, Daniel Berrigan, was arrested for protesting this event as a member of the Catonsville Nine. Over four thousand pages of documents leaked by Daniel Ellsberg regarding this conflict were read on the floor of the Senate by Mike Gravel. Students wearing black armbands to protest this war led to the case of (*) Tinker v. Des Moines. The Pentagon Papers detailed American involvement in this war, which expanded after an alleged attack on the USS Maddox in the Gulf of Tonkin. For 10 points, name this war in which American forces were defeated in 1975 after the Fall of Saigon.**

ANSWER: Vietnam War [prompt on the draft before “war” is mentioned by asking, “for what war?”]

<US History — Shahriar> [Ed. Iyer]

18. **In one method, this quantity is selected for a bound cluster of stars so that the stars fit the main sequence. In another method, this quantity is calculated by observing an object from two points along Earth’s orbit and then measuring the apparent angular shift. The receding velocity of a galaxy equals this quantity for the galaxy times the (*) Hubble parameter. Objects with known luminosities called “standard candles” make up much of the cosmic “ladder” of this quantity. A unit of this quantity that corresponds to a parallax angle of one arcsecond is called a “parsec.” For 10 points, name this quantity that can be measured in astronomical units, lightyears, or meters.**

ANSWER: distance [or length; accept radial distance or cosmic distance ladder or comoving distance or proper distance]

<Astronomy — French> [Edited]

19. Potassium bitartrate crystals that look like glass shards may form in this substance during production. A technique to make one kind of this substance is called *saignée*, or “bleeding.” Containers for this substance are a good source of astringent tannins, which act as antioxidants in this substance. Homemade kinds of this substance are often made from (*) elderberries or dandelions. Spices like nutmeg and cloves are used to make a “mulled” kind of this substance. Sake is one several East Asian kinds of this substance made from fermented rice. For ten points, name this alcoholic beverage most often made from grapes.

ANSWER: wine [accept rosé wine or red wine or elderberry wine or dandelion wine or mulled wine or rice wine before “rice”; prompt on alcohol or alcoholic beverages]

<Mixed/Other — Gray> [Edited]

20. The narrator of this novel uses the term “McFate” to refer to strange coincidences like the recurring appearance of the number 342. In this novel, a man briefly fantasizes about drowning his wife in Hourglass Lake. That man fixates on the death by typhus of his childhood love, (*) Annabel Leigh. The narrator of this novel is followed by a pornographer and playwright named Clare Quilty. In this novel, a woman is hit by a car shortly after finding out that her husband is in love with her daughter, Dolores Haze. For 10 points, name this novel about Humbert Humbert’s pedophilic obsession with the title “nymphet,” written by Vladimir Nabokov.

ANSWER: Lolita

<Long Fiction — Schwartz> [Edited]

Packet 7 Bonuses

1. In this play, Franz hangs himself with the cord of his hat after he is told that the greatest sins are fratricide and parricide. For 10 points each:

[10] Name this play in which Franz Moor plots to have his brother Karl disinherited. At the end of this play, Karl kills his lover Amalia on her request after they realize that they cannot be together.

ANSWER: *The **Robbers*** [or *Die **Räuber***]

[10] *The Robbers* is by this German playwright, who portrayed a legendary Swiss marksman shooting an apple off his son's head in *William Tell*. A poem by this author is addressed to a "daughter of Elysium."

ANSWER: Friedrich **Schiller** [or Johann Christoph Friedrich von **Schiller**]

[10] Friedrich Schiller is best known for this poem, which lauds its title concept as a "beautiful spark of Divinity." It is sung by the chorus in the last movement of Beethoven's Ninth Symphony.

ANSWER: "**Ode To Joy**"

<Drama — Schwartz> [Ed. French]

2. In 2004, this player testified that he did not know that substances given to him by trainer Greg Anderson were performance-enhancing drugs. For 10 points each:

[10] Name this baseball player who is the all-time MLB leader in home runs, just above Hank Aaron. This player has not been selected for the Hall of Fame due to his involvement in a steroid scandal about the company BALCO.

ANSWER: Barry **Bonds**

[10] Bonds played most of his career with this team. Pitchers Madison Baumgarner and Tim Lincecum helped this team win the World Series in the even years 2010, 2012, and 2014.

ANSWER: San Francisco **Giants** [or **San Francisco**]

[10] Bonds described this former manager of the Giants giving him batting practice the morning he hit his record-breaking 756th home run. This man was also the manager of the team during that run of World Series wins.

ANSWER: Bruce **Bochy** (BO-chee)

<Pop Culture — Venkateswaran> [Edited]

3. For 10 points each, answer the following about United States international diplomacy during the presidencies of Nixon and Ford:

[10] Most of the diplomatic stance of their presidencies was shaped by this National Security Advisor and Secretary of State under both presidents. He won the Nobel Peace Prize for the Paris Peace Accords alongside Le Duc Tho.

ANSWER: Henry **Kissinger**

[10] Kissinger advised Nixon to support the western half of this nation during a bloody civil war, during which this country led by Yahya Khan ordered Operation Searchlight.

ANSWER: Islamic Republic of **Pakistan** [or West **Pakistan**; do NOT accept or prompt on "East Pakistan"]

[10] Kissinger organized Nixon's visit to this country, where he met with its premier Zhōu Ēnlái, as well as meeting with Máo Zédōng.

ANSWER: People's Republic of **China** [or **Zhōngguó** or **Zhōnghuá Rénmín Gònghéguó** or **PRC**; do NOT accept or prompt on "Republic of China" or "**Zhōnghuá Mínguó**"]

<US History — Shahriar> [Ed. Iyer]

4. Two guard cells surround each of these structures and control their opening and closing. For 10 points each:

[10] Name these openings found on the epidermis of most leaves. These structures regulate gas exchange in plants.

ANSWER: **stoma** [or **stomata** or **stomate** or **stomates**] (Stomata is the plural form of stoma.)

[10] Stomata open and close in order to regulate transpiration, in which this substance evaporates from a plant and is lost to the atmosphere. The roots of vascular plants absorb this substance and the inorganic nutrients dissolved in it.

ANSWER: **water** [or **H₂O** or **dihydrogen monoxide** or **hydrogen hydroxide**]

[10] This hormone is produced in the roots of a plant in response to water deficiency; from there, it is carried to the leaves, where it triggers stomatal closure. This hormone also inhibits growth and seed germination.

ANSWER: **abscisic acid** [or **ABA** or **abscisin II** or **dormin**]

<Biology — Athreya> [Ed. Gurazada]

5. A painting by Táng Dynasty artist Jīng hào depicts Zhōnglí Quán, one of the Eight Immortals, “seeking” the namesake concept of this religion. For 10 points each:

[10] Name this Chinese religion founded by Lǎozǐ (LAO-zih). Practitioners of this religion try to become “one with” a concept translated as “the Way.”

ANSWER: **Daoism** [or **Taoism** or **Dàojiā** or **Dàojiào**]

[10] Daoism teaches this practice that translates to “nonaction,” which ensures that the universe continues to run naturally.

ANSWER: **wú wéi**

[10] Along with the *Dàodé Jīng*, Daoists also revere this text. This text’s namesake author recounts a dream in which he did not know if he was a man dreaming he was a butterfly or a butterfly dreaming he was a man.

ANSWER: **Zhuāngzǐ** (JWONG-zih) [or **Chuang Tzǔ**; accept **Master Zhuāng**]

<Religion — Venkateswaran> [Edited]

6. In a cantata titled for this character, Alfred Schnittke framed the climax as a hellish tango. For 10 points each:

[10] Name this character. In a Charles Gounod (sharl goo-NOH) opera titled for this character, Marguerite, captivated by her own beauty, sings the aria “Ah, je ris de me voir (vwah),” better known as the “Jewel Song.”

ANSWER: **Faust** [accept **Faust Cantata** or *Historia von D. Johann **Fausten***]

[10] This composer’s interest in Johann Wolfgang von Goethe’s (GUR-tuh’s) *Faust* resulted in both his *Faust Symphony* and *Mephisto Waltzes*. He better known for his *Liebesträume* (LEE-beh-strowm-ah) and *Hungarian Rhapsody No. 2*.

ANSWER: Franz **Liszt** (list)

[10] Franz Schubert used text from Goethe’s *Faust* for his *Gretchen am Spinnrade*, a composition of this type. Schubert’s other Goethe-inspired works of this type include “Erlkönig.”

ANSWER: **lieder** [or **song**]

<Classical Music — Ma> [Edited]

7. This man founded the De Beers Company to take advantage of a diamond mining rush. For 10 points each:

[10] Name this British colonialist who was depicted as a giant towering over Africa in several cartoons. This man is the namesake of an international postgraduate scholarship to study at Oxford.

ANSWER: Cecil John **Rhodes** [or **Rhodes** scholarship]

[10] Rhodes founded the De Beers Company with funding from this British banking family, who had earlier financed Rhodes' efforts to buy out most small diamond mining operations in the Cape Colony.

ANSWER: **Rothschild** family [accept N.M. **Rothschild** and co.]

[10] Rhodes' ambition of linking Cape and Cairo by rail was stalled by this country's ambition for a "pink map" linking its African colonial possessions. This country's colony of Mozambique was first claimed by Vasco da Gama in 1498.

ANSWER: **Portugal** [or **Portuguese Republic** or **República Portuguesa**]

<British/Commonwealth History — Shahriar> [Ed. Athreya]

8. A 2019 biography by Ha Jin recounts a legend in which one poet drowned after drunkenly trying to embrace this object. For 10 points each:

[10] Name this object, with which the speaker "drinks alone" in an 8th century poem.

ANSWER: the **moon** [or **yuèliàng**; accept the reflection of the **moon** or **moonlight**]

[10] This frequently-drunk Táng dynasty poet wrote "Drinking Alone by Moonlight."

ANSWER: **Lǐ Bái** [or **Lǐ Po** or **Lǐ Taibái** or **Rihaku** or **Lǐ Bo**; prompt on **Lǐ**]

[10] In China, Li Bai's most famous poem is this four-line poem in which he raises his head to look at the bright moon and then lowers it, thinking of his home village.

ANSWER: "**Quiet Night Thought**" [or **Jìng Yè Sī**; accept similar translations like "**Quiet Night Thoughts**"]

<Poetry — Schwartz> [Ed. French]

9. The effectiveness of this process may be measured as the reduction of biochemical oxygen demand. For 10 points each:

[10] Name this general process, which may employ aeration or oxidation ponds. This process aims to decrease the presence of coliform and suspended solids in an effluent.

ANSWER: **wastewater treatment** [or **sewage treatment**; prompt on **water treatment** or **water purification**]

[10] In the United States, wastewater treatment is regulated by this government agency. Superfund legislation allows this agency to clean sites contaminated by hazardous waste, such as Love Canal.

ANSWER: **EPA** [or **Environmental Protection** Agency]

[10] In addition to the "conventional pollutants" enumerated in the Clean Water Act, wastewater treatment targets nitrogen and this element, since they lead to eutrophication. The most common mineral source of this element is apatite.

ANSWER: **phosphorus**

<Environmental Science — French> [Edited]

10. People tend to seek this thing when there is a small probability of a gain, such as winning the lottery, and avoid this thing when there is a small probability of a loss, such as a terrorist attack. For 10 points each:

[10] Name this thing, the possibility of uncertain gains and losses. A lottery is a situation with a high level of reward and a low level of this thing.

ANSWER: **risk**

[10] Risk aversion is one of these fast but fallible mental shortcuts for problem-solving that might go wrong and result in cognitive bias. Two other examples of these techniques are named for availability and familiarity.

ANSWER: **heuristic** [or **heuristic** techniques; prompt on **rules of thumb**]

[10] Prospect theory, which describes how people behave under risky conditions, was developed by this author of *Thinking, Fast and Slow* alongside his frequent collaborator Amos Tversky.

ANSWER: Daniel **Kahneman**

<Psychology — Gray> [Edited]

11. This leader placed Mohammad Naguib under house arrest after an assassination attempt. For 10 points each:

[10] Name this Egyptian leader who overthrew King Farouk in 1952. This leader accepted Soviet funding to build the Aswan High Dam, and he briefly resigned after Egyptian defeat in the Six-Day War.

ANSWER: Gamal **Nasser** [or Gamal Abdel **Nasser** Hussein]

[10] Nasser formed the brief United Arab Republic with this country to the northeast, which was led by Hafez al-Assad. Hafez's son, Bashar al-Assad, currently leads this country from Damascus.

ANSWER: **Syria** [or the **Syrian** Arab Republic or al-Jumhūrīyah al-'Arabīyah as-**Sūrīyah**]

[10] Levi Eshkol, who led Israel during the Six-Day War, was the successor to this prime minister of Israel. This prime minister briefly resigned after the Lavon Affair.

ANSWER: David **Ben-Gurion** [or David **Grün**]

<Asian History — Shahriar> [Ed. Iyer]

12. A young Dizzy Gillespie was humiliated at one of these events when another player transposed to a key that Gillespie had not yet learned to play in. For 10 points each:

[10] Name these informal sessions at which jazz musicians play together and improvise off each others' solos.

ANSWER: **jam** sessions

[10] In 1940, Buddy Anderson convinced Dizzy Gillespie to have a jam session with an up-and-coming player of this instrument named Charlie Parker. This instrument has alto, tenor, and soprano varieties.

ANSWER: **saxophone** [or **sax**; accept alto **saxophone** or tenor **saxophone** or soprano **saxophone**]

[10] Jam sessions between players of this instrument could include musical battles called "cutting contests." Players of the "stride" style of this instrument included Fats Waller and Art Tatum.

ANSWER: **piano**

<Jazz — French> [Edited]

13. This author wrote that the title food has “the taste of being strong and free, which means free to make mistakes” in his story “Bear Meat.” For 10 points each:

[10] Name this author. This author recalled exchanging cigarette lighter flints for rations of bread in his story “Cerium,” which he collected alongside stories like “Iron” and “Argon” in *The Periodic Table*.

ANSWER: Primo **Levi** [or Primo Michele **Levi**]

[10] “Cerium” is set in this place, whose inhabitants are classified as “drowned” or “saved” in Levi’s memoir *If This is a Man*. In the novel *Night*, God is said to be “hanging here from this gallows” in this Nazi concentration camp.

ANSWER: **Auschwitz** III-Monowitz

[10] This author evoked the Book of Job in *The Trial of God*, which is set in the aftermath of a Ukrainian pogrom. He wrote about the Jews of Sighet in *Night*.

ANSWER: Elie **Wiesel** [or Eliezer **Wiesel**]

<Short Fiction — Gray> [Ed. French]

14. For 10 points each, answer the following about the Dulong-Petit law:

[10] The Dulong-Petit law gives a good approximation for the specific heat capacity of a solid, which is defined as the amount of energy needed to raise the temperature of this mass of solid by one degree celsius. This amount of mass is equal to one-thousandth of a kilogram.

ANSWER: one **gram** [prompt on **g** or **.001 kg**]

[10] More specifically, the Dulong-Petit law states that the specific heat capacity of a solid is equal to three times this constant. This constant is the product of Boltzmann’s constant and Avogadro’s number.

ANSWER: ideal **gas** constant [or molar **gas** constant or universal **gas** constant; prompt on **R**]

[10] At low temperatures, the Dulong-Petit law is less accurate than this model, which predicts that heat capacity is proportional to temperature cubed. This model’s namesake physicist derived it by treating the solid’s vibrations as phonons.

ANSWER: **Debye** model [accept **Debye** T-cubed law or **Debye** temperature-cubed law]

<Physics — Gurazada> [Edited]

15. Potential explanations for this phenomenon include the invasive varroa mite and neonicotinoid pesticides, some of which have accordingly been banned in the E.U. For 10 points each:

[10] Name this phenomenon. Worker bees don’t die near the hive in this phenomenon, but instead suddenly abandon their hive while leaving their queen behind.

ANSWER: **colony collapse** disorder [or **CCD**]

[10] Colony collapse disorder is concerning in part because of bees’ role in transporting this substance, which allows plants to sexually reproduce.

ANSWER: **pollen**

[10] Colony collapse disorder is worrying for this crop since the California Central Valley’s production of this crop uses half of all U.S. honeybees during its pollination period of a few weeks, as well as 10% of California’s water.

ANSWER: **almonds**

<Current Events — Gray> [Edited]

16. The garish blue-white face of a woman occupies the right side of a painting titled for this location. For 10 points each:

[10] Name this cabaret that was advertised in a color lithograph by Henri de Toulouse-Lautrec (too-looze-loh-TREK). That lithograph is titled for one of this cabaret's famous can-can dancers, "La Goulue" (GOO-loo).

ANSWER: **Moulin Rouge** (moo-LAN ROOJ) [accept *At the Moulin Rouge*]

[10] Another Toulouse-Lautrec advertisement was made for the Divan du Monde (dee-VAHN doo mohnd) ballroom, which at the time was named for this country. This country's *ukiyo-e* prints greatly inspired Toulouse-Lautrec and his contemporaries.

ANSWER: **Japan** [or **Nippon** or **Nihon**; accept Divan **Japonais**]

[10] This other French painter and draughtsman was an avid collector of Japanese prints. His works include *The Absinthe Drinker* and *A Cotton Office in New Orleans*.

ANSWER: Edgar **Degas** (DAY-gah)[or Hillaire-Germaine Edgar **Degas**]

<Painting — Ma> [Ed. Malouf]

17. The gambling habits of the title characters of this novel are described as "one obsessive, one compulsive." For 10 points each:

[10] Name this novel. In this novel, one of the two title characters bets the other that he cannot transport a glass church to a town four hundred kilometers north.

ANSWER: ***Oscar and Lucinda***

[10] The author of *Oscar and Lucinda*, Peter Carey, is from this country. This country is also home to bush poets like Henry Lawson and Banjo Patterson.

ANSWER: **Australia**

[10] Carey's novel *Jack Maggs* is an adaptation of this novel by Charles Dickens. In this novel, the pompous Mr. Pumblechook takes credit for Pip's social climb after Pip meets the escaped convict Abel Magwitch.

ANSWER: ***Great Expectations***

<Long Fiction — Schwartz> [Edited]

18. In Buddhist mythology, the Heavenly King who guards this region is named Virupaksha. For 10 points each:

[10] Name this general region, where Mount Kūnlún is said to be. In Taoist mythology, the Peaches of Immortality are cultivated by the Queen Mother of this region.

ANSWER: the **west** [or **xī**; accept **Xīwángmǔ**]

[10] The hero journeys to the west from this island in an immram. Like Mount Kunlun, Tír na nÓg (teer-na-nog) is a mythical paradise west of this island, whose mythology includes tales of Cú Chulainn and Fionn mac Cumhaill.

ANSWER: **Ireland**

[10] In Greek mythology, this god of the West Wind is the gentlest of the Anemoi. Out of jealousy, this god directs Apollo's discus to kill Hyacinthus.

ANSWER: **Zephyrus** [or **Zephyr**]

<Mythology — Li/French> [Ed. French]

19. This leader held the position of Grand Prince of Vladimir after stepping down as prince of Novgorod. For 10 points each:

[10] Name this commander who earned his name by defeating a Swedish invasion along a river north of Novgorod. He also defeated the Teutonic Order at the Battle of the Ice.

ANSWER: Saint Alexander **Nevsky** [or Alexander **Yaroslavich**]

[10] Nevsky submitted to this people's Golden Horde Khanate in order to prevent the ransacking of Novgorod while he was grand prince. This people's namesake empire was founded by Chinggis Khan.

ANSWER: **Mongols**

[10] Alongside serving as the Prince of Novgorod, Nevsky served as the Grand Prince of this city. This city was the center of a namesake "Rus" until it was sacked by the Golden Horde.

ANSWER: **Kiev** [or **Kyiv**]

<European History — Iyer/Ma> [Edited]

20. This compound is the smallest aromatic annulene. For 10 points each:

[10] Name this cyclic hydrocarbon. Phenol is formed by adding an -OH ("O-H") group to this compound, and cyclohexane can be obtained by fully reducing it.

ANSWER: **benzene** [or **1,3,5-cyclohexatriene** or **[6]annulene**; prompt on **cyclohexatriene**]

[10] The carbon-carbon bonds in benzene all have this fractional bond order. This is also the bond order in ozone.

ANSWER: **one point five** [or **three over two** or **three halves** or **one and a half** or other mathematical equivalents]

[10] Benzene is not commonly used as one of these substances due to its toxicity. Solutes are dissolved in these substances, and water is sometimes called the "universal" one.

ANSWER: **solvents**

<Chemistry — Gurazada> [Edited]