

2022 ARCADIA □

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Packet 7: In Soviet Russia, aseemsdb.you

Tossups

1. *Note to players: this tossup is asking for a natural physical region, not a politically defined region.*

In a novel, a boy flying over this region sees his sister in their mother’s wedding dress trying to elope with the ghost of an abused runaway. A woman in a different novel perceives everything in this region as “big and new” with her “strange eyes;” that woman grows jealous of the girl Nunkie after her husband teaches her how to shoot a gun in this region. Ava and Kiwi help their father Chief Bigtree run a (*) theme park in this region in a Karen Russell novel. In another novel, this region is nicknamed “the muck” by a man who moves here to harvest beans, but is attacked by a rabid dog during a flood in this region that prompts his wife to return to Eatonville. For 10 points, Janie and Tea Cake escape a hurricane in what Florida region in Zora Neale Hurston’s *Their Eyes Were Watching God*?

ANSWER: the Florida Everglades [accept the Ten Thousand Islands; accept Belle Glade; prompt on Florida or Florida Peninsula; prompt on Florida swamps]

<HG, American Literature>

2. *Description acceptable.* **These objects are targeted by schemes like Raytheon’s SpaDE (“spade”) system and laser ablation subsystems developed by RIKEN. Breakups of these objects can be tracked on a scatterplot of height versus period that has a tilted cross shape, called a Gabbard diagram. Examinations of the Envisat led Donald Kessler to conclude that it could be a potential trigger for a cascade of collisions involving these objects. Whipple shielding is used to protect against small examples of these man-made objects. Along with (*) micro-meteor-oids, these objects pose significant risk to delicate instruments like solar panels and telescope lenses since they travel at hypervelocity speeds. Decommissioned satellites and carrier rocket remains are examples of, for 10 points, what defunct objects that pollute Earth’s orbit?**

ANSWER: space debris [or space junk, or space pollution, or space waste, or space trash, or space garbage; or orbital debris; accept specific examples such as broken or decommissioned or nonfunctional satellites or carrier or launch rockets until read; prompt on satellites or carrier rockets or any other space instrument that is not described as nonfunctional]

<KT, Other Science: Astronomy>

3. **An obsessive king describes this character as a “mysterious angel who occupies [his] entire being” in the Massenet aria “Vision fugitive (“vee-zee-OHN foo-zhee-TEEF”).” One composer called Aino Ackté (“ahk-TAY”) “the one and only [this character].” This character is the addressee of the command “Kill that woman,” after which she is crushed beneath soldiers’ shields. The polytonal chord that plays at the climax of that opera has been called “the most (*) sickening...in all opera” and occurs after this character kisses a dead man’s lips. This character performs a dance in which she removes the title articles of clothing after she is given the command “Tanz für Mich” by Herod. For 10 points, name this title character of a Richard Strauss opera who demands the severed head of John the Baptist after performing the “Dance of the Seven Veils.”**

ANSWER: Salome (The Massenet opera is *Herodiade*.)

<IZ, Other Arts: Auditory>

4. A social form of this phenomenon was discussed by Naomi Eisenberger and Matthew Lieberman in an application of attachment theory. Takotsubo syndrome presents with shortness of breath and this symptom in response to severe stressors like the death of a loved one. Donna Wong and Connie Baker developed a scale to assess this phenomenon in children. In one study, Hoffman et al. found that participants with and without medical training were less likely to recommend treatment for this phenomenon for (*) Black patients. In a theory developed by Ronald Melzack and Patrick Wall, additional sensory inputs “gate” this phenomenon, which is transmitted through A-delta and C fibers. For 10 points, name this unpleasant sensation whose physical form can be treated with opioids.

ANSWER: pain [or nociception; accept specific forms like social pain or chest pain; prompt on suffering; prompt on broken heart]

<AY, Social Science>

5. This man disastrously invested in mirrors designed to entrap and store the powers of holy relics during pilgrimages. American philanthropist James Lenox instructed customs officials to remove their hats upon seeing an object attributed to this man. The rationale for this man’s stylistic links to the Master of the Playing Cards match the reason for his estrangement from patron Johann Fust, his technique for copper (*) engraving. A new, interconnected world created by this man formed the “global village” in an eponymous Marshall McLuhan book. Inspired by olive oil screws, this Mainz native developed a tin alloy for molds and an oil-based ink to create 36- and 42-line texts. For 10 points, name this German who introduced Europe to the moveable-type printing press.

ANSWER: Johannes Gutenberg [or Johann Gensfleisch zur Laden zum Gutenberg]

<GE, European History>

6. Parts of a royal headdress from this city include a pair of double boat earrings and a solid gold comb fastened to seven golden flowers. Two sculptures from this city depict bipedal goats reaching the top branches of a golden tree. Tiles were bent or removed to account for the large size of a king of this city on an artwork intended to be carried on a pole. A bearded bull’s head is featured on the soundbox of a lyre discovered within this city. Shell, red limestone, and (*) lapis lazuli mosaics appear on an artwork from this city that is divided into “War” and “Peace” panels, known as this city’s “Standard.” A terraced mudbrick building sacred to Nanna in this city was restored by Saddam Hussein. For 10 points, name this Mesopotamian city home to the Great Ziggurat.

ANSWER: Ur [or Tell el-Muqayyar; accept the Standard of Ur]

<KT, Visual Arts>

7. This thinker lifted several phrases directly from *A Letter Concerning Toleration* for a “Memorial, and Remonstrance” against state-subsidized Christian teachers. David Hume and this thinker title a Douglas Adair essay about politics “reduced to a science.” An essay by this thinker criticized as “a masterly thesis of economic determinism in politics” discusses how the effects and not the causes of “violent” groups can be (*) controlled. This thinker noted that “ambition must be made to counteract ambition” in an essay that suggests, “If men were angels, no government would be necessary.” A Charles Beard book heavily cites an essay about “factions” that this thinker published under the pseudonym “Publius” as the 10th *Federalist* paper. For 10 points, name this “Father of the Constitution” who became the fourth U.S. president.

ANSWER: James Madison [prompt on Publius until read]

<HG, American History>

8. This object gives the English name for wooden divination blocks thrown to receive answers like “yes,” “no,” and “the god is laughing.” Those blocks known as *jiǎobēi* (“j’yow-BAY”) are used in Poe (“pway”) divination. Games played during a holiday named for this object include one in which a young woman describes the beauty of heaven as she ascends and another in which a chanted spell bewitches a boy into

becoming the “Toad King.” In Buddhism, changes to this thing mark days of observance known as Uposatha. The Korean festival of (*) Chuseok is celebrated on the same day as a Chinese festival centered on this object. A goddess who drank the elixir of immortality resides on this object alongside a jade rabbit. Cakes named for this object are consumed during the Mid-Autumn festival. For 10 points, Cháng’è (“chong-UH”) is the goddess of what celestial body?

ANSWER: moon [or crescent moon, or half moon, or new moon, or full moon, or yueliang, or dal; accept Moon Festival; accept harvest moon]
<KT, Beliefs>

9. The translation of a poem from this modern-day country refers to the heart as and “joy’s bower,” and notes that “the firm wishing...to my heart fears no cad’s beak or nail-tip.” A poet from this country, Cercamon, is often credited with inventing the *planh* and *sirventes* lyric forms. A poem in a style from this country that exclaims, “You whoreson dog, Papiols, come!” was written by Ezra Pound. That style from this country, which ends with a (*) three-line *envoi*, is the *sestina* and was invented by a poet whom Dante referred to as “il miglior (“meel-YORE”) fabbro,” Arnaut Daniel. A hero from this country dies while blowing his oliphant to summon help at the Battle of Roncesvalles. For 10 points, name this country where Occitan-speaking troubadours adapted *chanson de geste* epics like the *Song of Roland*.

ANSWER: France [or French Republic or République française; accept França or Repubblica francesa; accept Kingdom of France] (The poem in the first clue is *Lo ferm voler qu’el cor m’intra* by Arnaut Daniel. The Ezra Pound poem is “Sestina: Altaforte.” Occitan troubadours adopted the *Song of Roland* into the poem *Ronsasvals*.)
<AS, European Literature>

10. *Description acceptable.* Microwaving crystalline aluminosilicates activates them for use in this action. This action can be performed by pushing solvent through neutral alumina under nitrogen, followed by storage over 3-angstrom molecular sieves. Magnesium and sodium sulfates can perform this action on the isolated organic phase after liquid-liquid extraction. Acetal (“ASS-ih-tall”) formation can be driven forward with this action, which can be facilitated with a (*) Dean-Stark trap. Indicator-infused calcium sulfate can be used for this action, which turns the indicator from blue to pink. Storage containers that perform this action are necessary when storing hygroscopic compounds such as sodium hydride. For 10 points, glassware ovens and desiccators may be used to perform what action?

ANSWER: removing water [accept dehydration or drying; accept desiccation until read; prompt on removing solvent; prompt on heating until read; prompt on evaporation or absorption or adsorption or trapping]
<ME, Chemistry>

11. The SNJ was created after this event to indoctrinate youths with the guildism ideology. Film director Costa-Gavras set the film *Missing* in the aftermath of this event, dramatizing the execution of an American filmmaker. The issuance of Decree Law 527 capped this event, after which Charles Horman was executed. This event occurred nearly three months after Roberto Souper initiated *El Tanquetazo* (“tahn-kay-TAH-so”). The newspaper *El Mercurio* accelerated this event by advocating (*) neoliberal economic policies at odds with the ongoing nationalization of copper mines. After this CIA-backed event, a leader formed the Caravan of Death and employed the Chicago Boys. For 10 points, name this event during which Salvador Allende was ousted as president of a South American country.

ANSWER: 1973 Chilean coup d’état [or Augusto Pinochet’s coup d’état; accept answers like overthrow of Salvador Allende until it is read; prompt on Operation Condor] (Jaime Guzmán influenced guildism, or *gremialismo*, during the Pinochet regime.)
<GP, World History>

12. A 2007 rebellion of these people protested the impacts of mining in Arlit and a lack of action on demands made by Mano Dayak a decade earlier. Abderrahmane Sissako's most famous film fictionalizes the execution of a cattle herder of this ethnicity in the title city. A 2015 shooting at a Radisson Blu hotel occurred during an insurgency of members of this ethnic group, whose fight against the Toubou led to the formation of (*) Tinariwen. France's recently-ended Operation Barkhane and earlier Operation Serval aimed to end an insurgency of these people led by figures like Iyad ag Ghaly, the founder of Ansar Dine ("DEEN"). In 2012, members of this ethnic group declared the territory of Azawad independent and claimed cities like Gao and Timbuktu. For 10 points, name this nomadic Berber group of the Sahara Desert.

ANSWER: Tuaregs [or Imohaghs; accept Amashegh or Tamasheq or Targui; accept Ifoghas or Kel Adagh; prompt on Berbers until read; prompt on Imazighen or Amazigh]
<AS, Current Events>

13. Yājñavalkya ("yaj-n'yuh-VULK-yuh") argues that since this thing cannot be found among any of the objects of consciousness, it cannot be spoken of, meaning all one can say of it is "not, not." The Pudgala-vādins school draws on the *Bhāra-hāra-sūtra* to argue that persons exist and are distinct from this concept. Vasubandhu compares the "conventional" reality of this concept to the conventional reality of armies and chariots. The Buddhist attempt to reduce this concept to a mere aggregate of sensations is often compared to David Hume's (*) bundle theory of this concept. The persistence of this concept is explored in thought experiments in which a person is completely destroyed while an exact copy of them is made at a new location. For 10 points, name this concept whose existence is rejected by Buddhists, who argue that there is no unchanging essence of individuals.

ANSWER: ātman [or atta or the self; accept soul; accept personal identity]
<MB, Philosophy>

14. One complication of surgeries that replace this structure is the appearance of an "Argentinian flag" sign. Sanduk Ruit developed both a cheap replacement for these structures and an small incision surgical procedure for replacing them, which is preferred in lower-income regions to phaco-emulsification. This structure's major physical property results from its fibers' lack of nuclei, mitochondria and endoplasmic reticulum as well as tightly-packed aggregates of beta and gamma (*) crystallin. The zonules of Zinn attach ciliary bodies to this structure, whose thickness and curvature is changed by the movement of the ciliary muscles in a process called accommodation. Nuclear sclerosis and other opacities in this structure are called cataracts. For 10 points, name this transparent structure that focuses light onto the retina.

ANSWER: crystalline lens [prompt on eyes]
<AS, Biology>

15. The narrator receives one of these objects from a friend who went to Cannes to die in a short story in which Cyril shoots himself after he lies about finding it nailed to a chest in a farmhouse. One of these objects is falsely used to support the theory that Willie Hughes was Shakespeare's Mr. W. H. in an 1889 short story. The preface of a novel titled for one of these objects mentions "the rage of Caliban" seeing himself in a glass. This object titles a novel in which the protagonist rejects a woman who called him (*) "Prince Charming" after she acts poorly in a performance of *Romeo and Juliet*. A novel ends with the protagonist's servants finding his aged, hideous corpse after he stabs one of these objects, which was first made by a friend of Lord Henry Wotton. For 10 points, Basil Hallward creates what kind of object depicting Dorian Gray?

ANSWER: portraits [accept picture or paintings; accept "The Portrait of Mr. W. H."; accept *The Picture of Dorian Gray*; prompt on artworks; reject "self-portraits"]
<CM, British Literature>

16. Groups of women in this country sing a working song while rhythmically beating cloth against a table, called a waulking song. A genre of music from this country starts with an embellished *ùrlar* ("OOR-ler"),

which can develop into a *siubhal* (“SHOO-uhl”) or *dithis* (“TEE-ish”). People in a circle give their right hand to the person on their left and turn outward while singing the last verse of a song from this country at Hogmanay (“HOG-muh-nay”) celebrations. In the chorus of a song from this country, the singer instructs, “Take the (*) high road and I’ll take the low road, I’ll be in [this country] afore [you].” A short-long dotted rhythm comprises this country’s namesake “snap.” This country’s *piobaireachd* (“PEE-pair-uck”) music is played by a “Great” instrument that uses a chanter to play melodies and drones to play pedal tones. For 10 points, “Loch Lomond” is a song from what country whose Highlands are synonymous with bagpipes?
ANSWER: **Scotland** [or **Alba**; prompt on United Kingdom or UK or Great Britain]
<EG, Auditory Arts>

17. The unusual presence of the *sha* on these things belonging to the pharaohs Peribsen and Khasekhemwy (“khah-suh-KHEM-wee”) may imply that Seth’s cult was favored during their reigns. A *horus* falcon mounted a royal example of these things known as *serekh*, which is an enclosed, rectangular, niched palace facade. “The evil day on which nothing can be conceived or born” was one of these things belonging to Seth, who gave it to Horus for healing. The *nebti* and Golden Horus were two of five of these things that made up the Royal (*) Titulary. The *Litany of Ra* recorded the god having seventy-five of these things. Cartouches contained these things. Isis crafted a poisonous serpent from spit, forcing Ra to reveal his “true” one of these things. For 10 points, identify these things, regnal examples of which were used by pharaohs.
ANSWER: **names** [accept true **names** or secret **names** or **royal** names or throne **names** or regnal **names**; accept **forms** or **manifestations** or **emanations**; accept **serekh** until read; prompt on epithets or titles; prompt on hieroglyphs by asking, “What do those hieroglyphs represent?”] (*Peribsen’s serekh featured only the sha while Khasekhemwy featured both the Horus falcon and the sha, potentially indicating an equivalent patronage between Horus and Seth during his reign.*)
<KT, Beliefs>

18. This commander restored the sacred treasures that he had robbed from Locris’s Temple of Persephone after a storm damaged his navy. This commander released his prisoners of war without ransom after Gaius Fabricius demonstrated Roman virtue by refusing to accept bribes from him and informing this general of his physician’s plot to poison him. Rome utilized iron tridents and caltrops alongside their ox-drawn wagons to counter this general’s (*) elephants. Tarentum requested aid from this commander who would later wage a failed campaign against the Carthaginians in Sicily. This loser at Beneventum famously declared, “Another such victory and we are undone,” following his earlier victories at Asculum and Heraclea. For 10 points, name this Greek king of Epirus whose name refers to a “costly victory.”
ANSWER: **Pyrrhus** of Epirus
<KT, Other History: Ancient>

19. An author from this country noted a woman’s imperfect makeup as she gave birth in a diary that begins with a description of a mansion in autumn. Another book from this country opens by describing “the dawn in spring” and refers to a birthing room where the baby has died as “dispiriting.” The *Essays in Idleness* exemplify a genre from this country inspired by a collection that describes sparrows feeding their young as a thing that “makes the heart beat faster,” and includes lists such as (*) “splendid things” and “hateful things.” An author from this country, whose name translates as “violet,” wrote a novel whose protagonist is implied to die in a completely blank chapter. For 10 points, name this country whose medieval authors included ladies-in-waiting like Sei Shōnagon and Lady Murasaki.
ANSWER: **Japan** [or **Nippon**] (*The first clue refers to Lady Murasaki’s diary The unnamed genre is zuihitsu. The collection is The Pillow Book and the novel is The Tale of Genji.*)
<HG, World Literature>

20. A heat pump that uses these entities in place of mechanical moving parts operates in two main modes sometimes modeled with the Stirling cycle. The Gruneisen parameter helps model the magnitude of an effect in which these entities are created following the absorption of pulsed laser light by a sample. These non-engine entities undergo adiabatic (*) compression and expansion cycles. In one effect, light is created when these entities cause a bubble to implode. The square root of the bulk modulus divided by the density gives the velocity of these entities, which can be compared with fluid flow speeds by the Mach number. For 10 points, name these entities that are longitudinal waves in air and can be characterized by their pitch and timbre.

ANSWER: acoustic waves [accept thermoacoustic waves, photoacoustic waves, sound waves, or vibrations; prompt on phonons by asking, "What are phonons quanta of?"]

<JF, Physics>

Bonuses

1. As music director of the New York Philharmonic, this composer popularized a piece based on an Afro-Cuban “Chant for Killing a Snake” in which a 7/8 bassoon and percussion ostinato states, “¡Mayombe-bombe-mayombé!” For 10 points each:

[10e] Name this composer who included a mambo in his music for *West Side Story*.

ANSWER: Leonard **Bernstein**

[10m] Bernstein programmed his mambo and Silvestre Revueltas’s *Sensemaya* (“sen-seh-mah-YAH”) on one of these events titled “The Latin American Spirit.” CBS televised Bernstein’s set of these family performance-lectures, which the New York Philharmonic still hosts today.

ANSWER: **Young People’s Concerts**

[10h] After linking the spirits of Mexico and Cuba with *Sensemaya*, Bernstein conducted a Copland piece in this genre. Gustavo Dudamel popularized another piece in this genre with the Simón Bolívar Youth Orchestra.

ANSWER: **danzón** [accept **Danzón** *Cubano*; accept **Danzón** *No. 2*]

<JE, Auditory Arts>

2. During World War II, Marines recruiters targeted impoverished teenagers in this territory, creating a culture that gives this territory the highest enlistment rate in the United States today. For 10 points each:

[10m] Name this birthplace of the first Hindu member of Congress, a female Iraq War veteran better known for a brief 2020 campaign for the democratic presidential nomination.

ANSWER: **American Samoa** [or **Amerika Sāmoa**; reject “Samoa”] (*The member of Congress is Tulsi Gabbard.*)

[10h] Palau, Micronesia, and the Marshall Islands also have high enlistment rates made possible by a 1986 “Compact” that puts them in this type of political partnership with the United States, which exchanges military access for protection.

ANSWER: **free association** [accept **Compact of Free Association** or **COFA**; prompt on association; prompt on associated states]

[10e] A Pacific Islander adage claims that to escape poverty, one must join the army or play this sport. The president’s nuclear attack codes are carried in a briefcase nicknamed for this sport.

ANSWER: American **football** [or gridiron **football**; accept nuclear **football** or atomic **football**]

<AS, American History>

3. Hunters in this physical region must be conservative when hunting prey or else risk being led astray by the *curupira*’s backward footprints. For 10 points each:

[10h] Name this physical region whose other protectors include a hairy, belly-mouthed cyclopean creature known as the Mapinguari. Dolphins in this region forcibly impregnate women by shapeshifting into humans.

ANSWER: **Amazon** Rainforest [accept **Amazon** River Basin]

[10e] The Yacumama, with an immobilizing gaze, is modeled off this species of semi-aquatic snakes. Cryptid hunters believe that fifty-foot long “giant” examples of these heavy snakes live in the Amazon.

ANSWER: **anaconda** [or green **anaconda**]

[10m] In another legend, a serpent god formed a type of this feature to engulf Naipi and her mortal love. Sun Wukong became the Monkey King after running through a type of this feature.

ANSWER: water**fall** [prompt on river]

<KT, Beliefs>

4. Common carabiners used for rope climbing or carrying keys may feature a dyed surface that has undergone this electrolytic process. For 10 points each:

[10h] Name this process of converting a metal surface into a durable, corrosion-resistant oxide finish through controlled oxidation.

ANSWER: **anodization** [or **anodizing**; prompt on **passivation** or **electropassivation** or **electroplating**; reject “galvanization” or “electrogalvanization”]

[10e] Dyed carabiners may use dyes infused into a corrosive-resistant film of this metal element’s oxide, which contains two atoms of this element for every three oxygen atoms. This element is commonly found in soda cans.

ANSWER: **aluminum** [or **Al**; accept **aluminum** oxide or **Al₂O₃**]

[10m] Type I aluminum anodization uses this acid to produce a relatively thin film. This strongly oxidizing acid has a metal center with a +6 (“plus six”) oxidation state.

ANSWER: **chromic** acid [or **H₂CrO₄**; accept **chromate**; accept **dichromic** acid or **dichromate** or **H₂Cr₂O₇**; accept **di hydroxido dioxido chromium** or **tetra oxo chromic** acid]

<JZ, Chemistry>

5. S.S. Kotliansky and Virginia Woolf’s translation of this chapter includes a footnote explaining that its author was unhappy with its climax, in which the protagonist calls a man a “cursed psychologist.” For 10 points each:

[10h] Name or describe this chapter in which Nikolai Stavrogin gives a monk a lengthy document in which he admits to raping an 11-year-old girl who later committed suicide.

ANSWER: **“At Tikhon’s”** [or Chapter **Nine** of Part II from **The Possessed**; accept descriptions of the **censored** chapter from **The Possessed**; accept **Demons** or **Besy** in place of “*The Possessed*”; accept answers like Nikolai **confessing** to **Tikhon**; prompt on Nikolai’s **confession**; reject answers like “Tikhon’s confession” which imply that Tikhon is doing the confessing]

[10e] Publisher Mikhail Katkov overruled this author’s efforts to include “At Tikhon’s” in his novel *The Possessed*. This author also wrote *The Brothers Karamazov*.

ANSWER: Fyodor **Dostoevsky** [or Fyodor Mikhaylovich **Dostoevsky**]

[10m] The real life Tikhon of Zadonsk inspired both Tikhon and Father Zosima, this Dostoevsky character’s religious mentor. This character kisses his brother after that brother tells him “The Parable of the Grand Inquisitor.”

ANSWER: **Alvasha** Karamazov [or **Alexei** Karamazov]

<HG, European Literature>

6. The Smith chart can be used to visualize how well this quantity is matched across circuit components. For 10 points each:

[10m] Name this quantity whose load form equals the complex conjugate of its source form when maximizing power transfer in an AC circuit according to Moritz von Jacobi.

ANSWER: **impedance**

[10h] An impedance mismatch across transmission lines results in a high incidence of these phenomena, leading to a measure of their namesake ratio. Faraday names a nonlinear example of these phenomena that can take the shape of close-packed hexagons.

ANSWER: **standing waves** [accept voltage **standing wave** ratio, accept **standing wave** ratio; prompt on **waves**, prompt on Faraday **ripples**]

[10e] These devices can be used for impedance matching by converting alternating current at two different voltages to the same waveform. In power lines, these devices are used to either step-up or step-down the voltage.

ANSWER: **transformers**

<KJ, Physics>

7. While posing as a fictionalized version of this author, the protagonist discovers him writing an article on the authorship of *Don Quixote*. For 10 points each:

[10h] Name this author who gave his own name to a detective whose identity is assumed by the mystery writer Daniel Quinn in his novel *City of Glass*.

ANSWER: Paul **Auster** [or Paul Benjamin **Auster**]

[10m] Daniel Quinn shares his name with an author whose most famous novel is titled for a gorilla with this name. Another character with this name describes a “damp, drizzly November in my soul” in a novel’s opening paragraph.

ANSWER: Ishmael

[10e] In the final novel of Auster’s *New York Trilogy*, an unnamed writer takes the place of his friend Fanshawe, who is named for a novel by this author. This author also wrote *The Scarlet Letter*.

ANSWER: Nathaniel Hawthorne

<HG, American Literature>

8. Reflexive pronouns are dependent on antecedents, such as in “John’s father criticized himself,” in which the antecedent “John’s father” has this relation to “himself.” For 10 points each:

[10h] Name this relation. A node x has this relation to y if and only if they are independent and every branching node that strictly dominates x also dominates y .

ANSWER: c-command [or constituent command]

[10e] Tanya Reinhart first introduced c-command, which this linguist used later in his government and binding theory. This MIT linguist argued for the existence of a universal grammar.

ANSWER: Noam Chomsky [or Avram Noam Chomsky]

[10m] Chomsky developed a model of generative grammar with this name, which replaced x-bar theory in favor of a bare phrase structure. “Pairs” with this name are a set of words that differ by one phoneme, like “seal” and “zeal.”

ANSWER: minimalism [accept word forms like minimalist; accept minimalist program or minimalist model; accept minimal pairs]

<IH, Social Science>

9. These people circulated Yirrkala Bark Petitions to raise concerns about the sale of land to bauxite-mining companies and set up a “tent embassy” in Canberra to oppose it. For 10 points each:

[10e] Name these people whose “Stolen Generations” of children were forcibly assimilated into Australian society.

ANSWER: Indigenous Australians [or Aboriginal Australians; accept Yolngu; accept Torres Strait Islanders]

[10m] The native titles of Indigenous Australians were invalidated in the case *Milirrpum* (“MILL-lir-pum”) v. *Nabalco*, a legal principle commonly referred to by this two-word Latin term. This doctrine, used to argue against Indigenous claims to land, was overturned in the second *Mabo v Queensland* decision.

ANSWER: terra nullius

[10h] This Labor prime minister, who gave the Redfern Park Speech to reconcile with Indigenous Australians, passed the 1993 *Native Title Act* following the *Mabo* decision, although the bill was later watered down by his Liberal successor John Howard.

ANSWER: Paul Keating [or Paul John Keating]

<GP, Other History: British>

10. As a secondary benefit of countering this phenomenon, the SWIFT initiative de-pollutes the Chesapeake Bay by pumping up to 40 million gallons of treated wastewater per day into a Hampton Roads aquifer. For 10 points each:

[10m] Name this fate that Hampton Roads faces due to groundwater overuse. On Borneo, Nusantara will replace a city that is undergoing this fate because residential wells have depleted its groundwater.

ANSWER: sinking [or land subsidence; accept word forms; prompt on going underwater or equivalent descriptions by asking, “As a result of what process?”; reject “sea level rise” or equivalents] ([The unnamed city is Jakarta.](#))

[10e] Since sinking has also made this city more susceptible to flooding, this city built steel gates around its lagoon to dam the Adriatic Sea. During those floods, boats are banned from this city’s Grand Canal.

ANSWER: Venice [or Venezia or Venesia]

[10h] Groundwater drilling has also caused the bed of this former body of water to crack. The drainage of this lake into the Pánuco River has endangered a mole salamander species living nearby in former Lake Chalco.

ANSWER: Lake Texcoco [or Lago de Texcoco] ([The salamander species is the axolotl.](#))

<JE, Geography>

11. Answer the following about designing reliable flight control systems, for 10 points each.

[10h] This self-stabilizing property is key for flight control systems because they are safety-critical. Systems with this property are able to ensure continued correct execution even if one or more components fail.

ANSWER: **fault-tolerance** [accept word forms like **fault-tolerant**]

[10m] The Apollo control system implements fault tolerance using the “triple modular” form of this technique. In this technique, the system has multiple instances of key hardware and software components to reduce the effect of individual failures.

ANSWER: **redundancy** [accept word forms like **redundant**]

[10e] Control inputs are obtained via bitwise consensus of the outputs of many redundant computers in NASA’s F-8 DFBW system, the first fly-by-wire system with this property. Modern controllers receive this type of signal, rather than continuous analog signals.

ANSWER: **digital**

<KJ, Other Science: Misc.>

12. The narrator of this novel repeatedly discovers dead fish in the aquarium and notices two suns and two moons in the sky. For 10 points each:

[10h] Name this novel in which the narrator uses the title object, which can record and reproduce reality, to make it appear that he and Faustine are in love on the island of Villings.

ANSWER: *The **Invention of Morel*** [or *La **invención de Morel*** or ***Morel’s Invention***] (by Adolfo Bioy Casares)

[10e] The title of *The Invention of Morel* alludes to this author’s *The Island of Doctor Moreau*. The narrator meets the Eloi and the Morlocks in this British author’s novel *The Time Machine*.

ANSWER: H. G. **Wells** [or Herbert George **Wells**]

[10m] Carlota questions her father’s hybrid experiments in the Wells-inspired *The Daughter of Doctor Moreau*, a novel set in this country. The journalist Oscar Fate researches a series of murders in this country in the novel 2666.

ANSWER: **Mexico** (*The Daughter of Doctor Moreau* is by Silvia Moreno-Garcia; 2666 is by Roberto Bolaño.)

<CM, World Literature>

13. A 2016–2017 series of photographs by Heji Shin focuses on the faces of these people, framed by gloves and legs. For 10 points each:

[10m] Name these people. In 2022, Spencer Elden sued an artist’s estate for his depiction as one of these people following a dollar bill attached to a fish hook in a Robert Fischer photo.

ANSWER: **babies** [or **infants** or **newborns**; accept **toddlers**; prompt on **children**] (Spencer Elden is the baby from the cover art for Nirvana’s *Nevermind*.)

[10e] Diane Arbus photographed a young boy with a hand grenade in a park in this city. The Irish-language documentary *Men at Lunch* confirms the authenticity of a photo of eleven workers sitting on a beam over this city.

ANSWER: **New York** City [or **NYC**; accept **Manhattan**]

[10h] Anne Geddes gained fame for *Down in the Garden*, a photo collection of horticulturally-dressed babies in this genre. A close-up of Madonna’s face appears on her collection *Sex*, one of the best-selling books ever in this genre.

ANSWER: **coffee table** books [accept **cocktail table** books]

<AY, Other Arts: Visual>

14. The 12th-century “Rolls of Oléron” (“oh-lay-RAWN”) was an early European example of this type of law. For 10 points each:

[10e] Name this field of international law studied by Hugo Grotius, whose idea of *mare* (“MAH-ray”) *liberum* sought to ensure free trade and prevent conflicts in international waters.

ANSWER: **maritime** law [or **admiralty** law, or **naval** law; accept law of the **sea**]

[10h] This writer of *The Principal Navigations, Voyages, and Discoveries of the English Nations* first translated Grotius's *Mare Liberum* into English. He names a London-based society that publishes primary accounts of historic maritime voyages.

ANSWER: Richard Hakluyt ("HACK-lit") [accept Hakluyt Society]

[10m] The "Rolls of Oléron" inspired the formation of the Consulate of the Sea in this kingdom to adjudicate maritime law. As ruler of this kingdom, James I the Conqueror promoted the Catalan language.

ANSWER: Kingdom of Aragon

<GP, European History>

15. The Lucas puzzle observes that contrary to what this model predicts, the economies of developing and developed countries do not converge to a uniform steady-state equilibrium in the long run. For 10 points each:

[10m] Name this neoclassical model which proposes that the capital-output ratio of a system is determined by the natural rate of growth, allowing infinite increases in the standard of living.

ANSWER: Solow-Swan model [or exogenous growth model]

[10e] The Solow-Swan model asserts that higher rates of investment and this behavior have no effect on the rate of growth in the long-run. This behavior is contrasted with spending.

ANSWER: saving

[10h] A later model named for this economist endogenized the savings rate, defining it as equal to investment. This economist names a pricing problem where a public monopoly seeks to maximize social welfare and minimize costs.

ANSWER: Frank Ramsey [or Frank Plumpton Ramsey]

<KJ, Social Science>

16. In this country, Jacobina Mentz Maurer led a fanatical sect called the Muckers in a bloody revolt, killing multiple families, after announcing the end of the world. For 10 points each:

[10h] Name this country where Muslims wearing necklaces depicting Haitian leader Jean-Jacques Dessalines rebelled in the Malê ("mah-LAY") revolt.

ANSWER: Brazil [or Empire of Brazil or Império do Brasil]

[10m] The Revolt of the Muckers occurred among German immigrants who were encouraged to settle in Brazil by the Austrian wife of this leader. This leader gave the "Fico" speech and uttered the Cry of Ipiranga.

ANSWER: Pedro I of Brazil [prompt on Pedro]

[10e] German immigration to southern Brazil was split into waves by the Ragamuffin War, which this man and his wife Anita supported. This man raised the Redshirts to fight in the Uruguayan Civil War and later fought for Italian unification with Giuseppe Mazzini.

ANSWER: Giuseppe Garibaldi [or Giuseppe Maria Garibaldi; or Gioseppe Maria Gaibado]

<AS, World History>

17. This poet's "Christmas in India" is used to exemplify the Eurocentric "representative" stage of writing native literature for an English audience in the post-colonial study "The Empire Writes Back." For 10 points each:

[10e] Name this British poet whose alignment with colonizers is reflected in the poem "The White Man's Burden."

ANSWER: Rudyard Kipling [or Joseph Rudyard Kipling]

[10m] This author cited the idea of post-colonial authors "writing back" against British colonialism in "The Empire Writes Back with a Vengeance." This author created the fictional Pakistani town of Q in the novel *Shame*.

ANSWER: Salman Rushdie [or Sir Ahmed Salman Rushdie]

[10h] As an example of using untranslated words in English literature to "write back," the study examines this short story collection's use of the word "hubshi" to describe a Black maid whom Santosh marries to gain citizenship after he immigrates to Washington, D.C. in the story "One Out of Many."

ANSWER: In a Free State (by V.S. Naipaul)

<GP, British Literature>

18. The *AIRE* gene drives this process by allowing mTECs to express thousands of tissue-specific antigens from all over the body. For 10 points each:

[10h] Name this immunological process that achieves central tolerance by eliminating self-reactive immature B and T cells.

ANSWER: negative selection [accept clonal deletion; prompt on clonal selection]

[10e] mTEC cells are a population of stromal cells present in this organ located near the heart. T cells mature in this organ, whose shrinkage in old age is linked to the weakened immune system of the elderly.

ANSWER: thymus

[10m] T cells also undergo positive selection, which they only survive if their TCRs can bind complexes consisting of target peptides and these proteins. Whether the T cell binds to the class I or class II type of these proteins determines whether they become CD8+ or CD4+ cells.

ANSWER: major histocompatibility complexes [or MHCs; accept MHC class I or MHC class II; accept Human Leukocyte Antigens or HLAs]

<KT, Biology>

19. This artist painted harbor scenes on the sides of a chapel-shaped reliquary for the bones of Saint Ursula housed in Bruges ("broozh"). For 10 points each:

[10h] Name this student of Rogier van der Weyden who names a style of Orientalist rugs in Renaissance paintings. Saint Michael holds scales underneath a giant rainbow in this artist's version of *The Last Judgment*.

ANSWER: Hans Memling [accept Memling rugs]

[10e] A non-poet John Donne commissioned one of these artworks by Memling depicting his family praying with musical angels. Robert Campin's *Mérode Altarpiece* is one of these artworks consisting of three folding panels.

ANSWER: triptych [accept the Donne triptych]

[10m] On the outer wings of the St. John Altarpiece, Memling unusually depicted saints in realistic colors instead of this technique, in which figures are drawn in monochromatic shades to emulate statues. The outside of *The Garden of Earthly Delights* depicts the Earth with this technique.

ANSWER: grisaille

<GE, Visual Arts>

20. In *A Dance of Person and Place*, Shawnee philosopher Thomas Norton-Smith reinterprets this thinker's constructivism in the context of American Indian philosophy. For 10 points each:

[10h] Name this thinker whose "irrealism" dissolves the world into versions and argues that facts are constructed within symbolic "systems of description," such as art, philosophy, and science. He wrote *Languages of Art*.

ANSWER: Nelson Goodman [or Henry Nelson Goodman]

[10m] In defending the American Indian world-version as well-made, Norton-Smith rejects this aspect of Goodman's system, arguing that ways of worldmaking are themselves genuine kinds. This view rejects universals.

ANSWER: nominalism

[10e] Goodman defended his nominalism through his "theory of individuals," which he developed with the help of this thinker. This thinker wrote *Word and Object* and "Two Dogmas of Empiricism."

ANSWER: W.V.O. Quine [or Willard Van Orman Quine]

<VD, Philosophy>