

Boilermaker Spring Novice

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Packet 8: I'm going off the rails on a crazy train

TOSSUPS

1. In 1991, Typhoon **Yunya** (“*yoon-ya*”) struck the Philippines at the same time as one of these events, creating massive **lahars**. (“*law-hars*”). Photographer Robert Landsburg laid on top of his camera before dying in one of these events in 1980 that also killed lodge owner Harry R. Truman. USGS employee David A. Johnston was one of 57 people killed by one of these events in (*) Washington State. In 2010, one of these events in Iceland caused the highest level of air travel disruption since World War II. Vivid red sunsets followed one of these events in 1883 that destroyed 70% of an island in Indonesia. For 10 points, name these natural disasters, famous examples of which have occurred at Krakatoa and Mount St Helens.

ANSWER: volcanic **eruptions** [accept any description of a mountain **erupting**]

<VS, History - Other History> [Ed. LM]

2. In this novel, one mention of the word “eye” is replaced with a drawing of an eye. A character in this novel hunts down a man whose red tie may represent homosexuality. Another character in this novel is given a gift described as a “mausoleum of all hope and desire,” and that character is beaten up for befriending an Italian immigrant girl. On April 7, 1928, a character in this novel is told by (*) Luster to stop moaning while watching golfers, and on June 2, 1910, that character’s brother commits suicide after completing a year at Harvard. In this novel, the intellectually-disabled Benjy repeatedly mentions that “Caddy smelled like trees.” For 10 points, name this William Faulkner novel about the declining Compson family.

ANSWER: *The **Sound and the Fury***

<QP, Literature - Novels> [Ed. SB]

3. This artist painted a blue-clothed man seated next to a fireplace with his head in his hands in *At Eternity’s Gate*. It is disputed whether *Wheatfield with Crows* was actually this artist’s final painting. While living in Auvers, this artist painted two portraits of Dr. Gachet. One of this artist’s paintings depicts a family of (*) five peasants huddled around a table for a meal. This artist briefly lived with Paul **Gauguin** (“*go-gan*”) in the Yellow House in Arles, a living situation set up by this artist’s brother, Theo. A cypress tree dominates the left foreground of this artist’s painting of a swirling sky above Saint-Rémy, where they lived after cutting off their own ear. For 10 points, name this Post-Impressionist painter of *The Potato Eaters* and *The Starry Night*.

ANSWER: Vincent (Willem) **van Gogh**

<QP, Fine Arts - Painting and Sculpture> [Ed. SB]

4. In China, participants in these events undergo trials like eating sour, spicy, sweet and bitter foods in a tradition known as *chuangmen*, or “door games.” The results of these events can be reversed by *talaq* or *khul’*. In Shintoism, these events involve taking three sips each from three cups of sake. Hindu participants in these events perform the *Saptapadi* after circling a (*) fire seven times. In Judaism, participants in these events sign a *ketubah*, stand under a *chuppah*, and step on a wine glass. For Catholics, the results of these events can only be ended by death or annulment. For 10 points, name these ceremonies where, in Jewish and Christian communities, a veil is usually worn by the bride.

ANSWER: weddings [or marriage, or vivaha, or lagna, or kalyanam, or nikah, or nissuin, or matrimony, accept equivalents]

<QP, Beliefs - Practices> [ed. DC]

5. The shaft variety of this quantity is notably demonstrated by Joule’s experiment with paddle wheels and is also called an isochoric variety of this quantity since it doesn’t change the shape of the system. The efficiency of a heat engine is calculated by this singular quantity divided by the input heat and the net amount for an engine is by convention negative. This quantity subtracts from heat to equal change in internal energy in the (*) first law of thermodynamics and is otherwise calculated as the pressure times the change in volume. This quantity is path independent for a conservative force and its rate is power. For 10 points, name this quantity classically defined as the energy transferred by a force along a distance.

ANSWER: work [accept change in work, prompt on W]

<QP, Science - Physics> [Ed. JF]

6. This thinker said that they were awed by “the starry heavens above me and the moral law within me.” This thinker explained the concept of radical evil in *Religion within the Bounds of Reason Alone*. A work by David Hume awoke this thinker from a self-described “dogmatic slumber.” This thinker developed a famous deontological ethical principle in their (*) *Groundwork of the Metaphysics of Morals*. This thinker used statements like “five plus seven equals twelve” as examples of *a priori* knowledge. One should only act by maxims that could become universal law according to this thinker’s categorical imperative. For 10 points, name this German Enlightenment philosopher who wrote *Critique of Pure Reason*.

ANSWER: Immanuel Kant

<QP, Social Sciences - Philosophy> [Ed. QP]

7. The first woman to head this agency, Megan Brennan, stepped down from the role in 2020. A Reform Act passed in March 2022 targeted toward this agency partially repealed 2006 PAEA Act, which had been largely blamed for this agency’s historical financial woes. In February 2021, this agency announced that its Grumman LLVs would be replaced by Oshkosh Defense’s (*) Next Generation Vehicles by 2023. This organization’s current head earned the derisive name “Louis DeLay” after it was revealed that he ordered the removal of sorting machines prior to the 2020 election, possibly affecting the delivery of ballots. For 10 points, name this federal mail service organization.

ANSWER: USPS [accept United States Postal Service or the United States Post Office]

<PQ, The World - Current Events> [ed. KJ]

8. This character adopted the identity of Captain Krakoa to hide the secret of their resurrection. To protect San Francisco from a Skrull invasion, this character ordered the use of the Legacy Virus. As a child, this character was experimented on by Mr. Sinister, who separated them from their brother Alex. After this character was killed by the Terrigen Mists, (*) Emma Frost created a mental projection of them to further her war against the Inhumans. This character frequently clashes with Wolverine over leadership of the X-Men and the affections of Jean Grey. For 10 points, name this mutant superhero who shoots concussive beams out of a visor worn over his eyes.

ANSWER: Cyclops [or Scott Summers, prompt on partial]

<AG, Pop Culture - Other> [Ed. SB]

9. Roger Scruton wrote a guide on “How to be a [member of this school of thought].” In an essay, Friedrich Hayek wrote he was “unrepentant Old Whig” to explain the title “Why I’m Not A [member of this school].” Based on his negative opinions of the French Revolution, Edmund Burke is considered the philosophical founder of this school, and William F. Buckley Jr. founded the *National* (*) *Review* to spread the ideas of this school. Following an ideological split on Vietnam war intervention, the “paleo” and “neo” groups of this school were coined. For 10 points, name this political school that, in modern usage, clashes with liberals.

ANSWER: conservative [prompt on right wing]

<PQ, Social Science - Other> [ed. RR]

10. It’s not distillation, but the amount of nitrogen in an organic substance can be determined by reacting samples with sulfuric acid and then using this technique in the Kjeldahl (“*kale-dall*”) method. Thiosulfate is reacted with a mixture of iodine and starch in a common example of the redox form of this technique. An inflection point indicates the (*) endpoint on this technique’s namesake curve, which is a graph of pH versus volume. Phenolphthalein (“*phenol-thale-een*”) can be used as an indicator in the acid-base form of this technique, and a burette is used to add a solution of known concentration dropwise in this technique. For 10 points, identify this lab technique used to determine the concentration of an unknown solution.

ANSWER: titration [accept acid-base titration or redox titration]

<MS, Science - Chemistry> [Ed. MS]

11. A radical group for this cause got support from Germany in their planned Ghadar mutiny during World War I. A call to “Do or Die” appeared in a speech for a movement towards this cause whose name included the word “Quit.” People who were celebrating a festival and protesting the arrest of supporters for this cause were gunned down by soldiers under Reginald Dyer in the (*) Jallianwala Bagh (“*jul-yan-wa-la bog*”) massacre. A former attorney in South Africa started a Non-Cooperation movement for this cause based on his principle of *satyagraha*. (“*set-yah-greh-ha*”). The achievement of this cause’s goal was described as “the soul of a nation, long suppressed, finds utterance” in a speech by Jawaharlal Nehru. (“*jeh-va-her-lal nay-roo*”). For 10 points, give this cause that sought to free a South Asian country from British rule.

ANSWER: Indian independence [accept answers describing freeing India from Britain or decolonizing India; accept Quit India; prompt on answers like decolonization or freedom that don’t mention India]

<LM, History - World History>

12. A guard in this play returns to a place he insisted he'd never go back to after finding the person he saw pour wine on the ground. After being told he'd make "excellent King" but "in a desert," a character in this play calls his son a "woman's slave." After hearing the birds attack each other and failing to burn his offerings, the blind prophet (*) Tiresias attempts to warn the king in this play. A woman in this play says she would not have done what she did for a husband or child, but that she can have no more brothers. In this play, Haemon kills himself after finding his entombed bride had died. Ismene refuses to defy Creon's edict in this play and does not help her sister bury Polyneices. For 10 points, name this tragedy by Sophocles about the title daughter of Oedipus.

ANSWER: Antigone

<QP, Literature - Drama> [Ed. PS]

HALFTIME

13. A song addressed to this object is the most popular piece from Dvořak's ("d'vor-jock's") opera *Rusalka*. The *Pierrot* ("p'yer-ro") ensemble was introduced by a 21-movement Schoenberg ("shern-berg") work named for *Pierrot* and this object. An eighth-note triplet arpeggio is repeated *senza sordino*, or "without damper," throughout the first movement of a piano sonata nicknamed after this object. A poem by Paul Verlaine titled for this object inspired the third and most famous movement of (*) *Suite Bergamasque*, which is also titled for this object. This object nicknames Beethoven's Piano Sonata No. 14, which is marked with the phrase *quasi una fantasia*. For 10 points, name this astronomical object whose light names Claude Debussy's piano piece "Clair de lune."

ANSWER: the moon [accept moonlight or descriptions like "light of the moon"; accept "Song to the Moon," *Pierrot lunaire*, or Moonlight Sonata; prompt on "Clair de lune" before mention]

<LM, Fine Arts - Classical Music> [Ed. SB]

14. A war poem in this language ends with an image of how "New ghosts complain and old ghosts weep." A light is likened to "frost on the ground" in a poem in this language that concludes "I lower my head and think of home." Despite not being fluent in it, poems in this language were translated by the Imagist poet (*) Ezra Pound, who was inspired by this language to develop the ideogrammic ("idio-grammic") method. The "rapt with wine" motif in this language's classical poetry is exemplified by "Drinking Alone under the Moon," a poem by the same "Immortal Poet" of "Quiet Night Thought." For 10 points, give this language used by the poets Du Fu and Li Bai during the Tang dynasty.

ANSWER: Classical Chinese [or Literary Chinese; accept Mandarin]

<PQ, Literature - Poetry> [Ed. SB]

15. Susan Sontag claimed that cannonballs were staged in a prominent photo from this war called the "Valley of the Shadow of Death". One participant in this war developed namesake "rose diagrams" to visualize the causes of death among soldiers in a field hospital. The materials for the Victoria Cross medals were said to have come from cannons captured at the Siege of (*) Sevastopol in this conflict. The "Lady with the Lamp", Florence Nightingale, was a prominent nurse in this conflict, where a miscommunication led the British Light Brigade to disastrously charge straight towards Russian forces. For 10 points, name this mid-19th century conflict fought on and named for a Black Sea peninsula.

ANSWER: Crimean War

<LM, History - European History> [Ed. LM]

16. **Zetes (“zeet-eez”) and Calais, (“cah-lie-iss”), two brothers named after a god of this domain who was their father, chased harpies away from Phineas while with the Argonauts. Book one of the *Aeneid* opens with Juno asking a god of this domain to summon a phenomenon to destroy Aeneas’ forces. A jealous god of this phenomenon caused Apollo’s lover Hyacinthus to be killed with a discus. With the Titan Astraeus, Eos gave birth to the (*) four primary gods of this domain. Aeolus gives Odysseus a bag containing this phenomenon that was supposed to help him get home. Boreas and Zephyrus are the north and west forms of, for 10 points, what weather phenomenon that allowed Greek warships to sail to Troy?**

ANSWER: wind [accept wind gods, or Anemoi, prompt on weather, prompt on air] (Zeetes and Calais are the *Boreads*)

<MS, Beliefs - Stories> [Ed. LM]

17. **A one-form is a functional with this property. Functions with this property have homogeneity of degree one and are additive. An affine function equals the sum of a constant function and a function with this property. The span of a set of vectors X is the set of all “combinations” named for this property of vectors in X . A “general” group named for this property contains all invertible n -by- n (*) matrices, for some natural number n . Matrices represent transformations between vector spaces with this property. Matrices are primarily studied in a field of mathematics named for “algebra” with this property. For 10 points, name this property that describes the graph of the equation y equals $m x$ plus b .**

ANSWER: linearity [accept linear functionals, linear combinations, general linear groups, linear transformations, or linear algebra; accept lines after the entire tossup has been read; prompt on GLN]

<DB, Science - Math> [Ed. DB]

18. **The Dodo bird verdict is the controversial claim that various methods of this practice all produce the same result. The empty chair and two-chair techniques are methods in the gestalt school of this practice, developed by Fritz Perls. Alfred Javnov created a “primal” form of this practice that involves a lot of screaming. In the 1930’s, Carl Rogers pioneered the (*) person-centered approach to this practice. As a form of counterconditioning, VR headsets have been incorporated into the “exposure” type of this practice that is often recommended for PTSD. CBT is the most popular form of, for 10 points, what technique used to treat conditions like depression and anxiety?**

ANSWER: psychotherapy [or talking therapy, prompt on psychology, psychiatry, or psychoanalysis by asking “what specific treatment method?”]

<PQ, Social Science - Psychology> [Ed. SB]

19. **At the end of one of these events in 2001, a glass cube unfolded to reveal a nude masked woman surrounded by moths. A supermarket was constructed in the Grand Palais to host one of these events, organized by a man who had the chairs at another of these events emblazoned with the words “and the beat goes on” instead of holding a funeral in 2019. The “Big Four” cities of London, New York, Paris, and (*) Milan host the most influential of these events during biannual namesake “weeks”. Karl Lagerfeld and Alexander McQueen organized these events to promote the products of houses like Chanel and Givenchy (“jee-von-SHEE”). For 10 points, name these events where models show off a collection of apparel on a runway.**

ANSWER: fashion shows [accept défilé de mode, accept runway show before mention]

<PQ, Fine Arts - Other Visual> [ed. DC]

20. A synthetase named for this molecule binds to its D arm. Rules explaining how this molecule binds to smaller parts of another molecule are provided by the wobble hypothesis, which describes the role of inosine in this molecule in three of the four wobble base pairs. Class I release factors mimic this molecule to bind to a certain site blocking this molecule from binding. The (*) cloverleaf model describes the secondary structure of this molecule. The A-, P-, and E-sites of a certain organelle are binding sites for this molecule. During translation, codons are recognized by anticodons on the “aminoacyl” type of this molecule. For 10 points, name this molecule that brings amino acids to the ribosome during translation.

ANSWER: tRNA [or aminoacyl-tRNA; accept aminoacyl-tRNA synthetase; prompt on RNA; accept aforementioned answers with “ribonucleic acid” instead of “RNA” or “transfer” instead of “t”]
<DB, Science - Biology> [Ed. JF]

21. Two hideouts codenamed “Wolverine 1 and 2” were raided in this conflict during Operation Red Dawn. French fries in the Congressional cafeterias were renamed to “freedom fries” due to France not supporting this conflict. A prominent battle in this conflict occurred in response to the brutal murder of four Blackwater contractors. A photo of an outstretched man draped in black was taken at (*) Abu Ghraib prison during this conflict. An “end of major combat operations” in this conflict was declared in front of a banner reading “Mission Accomplished”, although it didn’t officially end for eight more years. Supposed possession of WMDs was the rationale of, for 10 points, what conflict which saw an American-led coalition depose Saddam Hussein?

ANSWER: Iraq War [accept War in Iraq, accept answers describing the 2003 Invasion of Iraq]
<LM, History - American History> [Ed. LM]

22. A strong wind called *Xocomil* (“*show-co-meel*”) occurs on one of these geographic features, a major Guatemalan tourist attraction named Atilán. *Cocibolca* (“*co-see-bowl-ca*”) is the Nahuatl (“*nah-waddle*”) name of the largest one of these features in Central America, located next to the city of Granada in Nicaragua. A Bolivian one of these features named *Poopó* (“*poh-poh*”) has disappeared due to climate change, mining, and agriculture. The Aztecs built (*) chinampas on these features. The Quechua (“*keh-chwa*”) and Aymara (“*ai-mah-ra*”) people live near the highest navigable one of these features in the world, located on the Bolivia-Peru border and named Titicaca. For 10 points, identify these bodies of water, exemplified by the Texcoco one on which Tenochtitlan was built.

ANSWER: lakes [or lagos]
<QP, The World - Geography> [Ed. QP]

23. A circus performer admits his success is due to his hatred of food in a story this author wrote while dying of starvation. In a different story by this author, the Officer dies after a torture machine malfunctions while carving the words “Be Just” into his back. In the most famous work by this author of “A Hunger Artist” and “In the (*) Penal Colony”, the sound of *Grete* (“*greh-tuh*”) playing violin for three tenants lures the protagonist from his hiding place under the sofa. The protagonist of this story was gravely wounded by apples thrown at him by his father. For ten points, name this author who created Gregor Samsa, who awakens one day as a “monstrous vermin” in his work “The Metamorphosis”.

ANSWER: Franz Kafka
<BD, Literature - Short Stories/Other> [Ed. SB]

24. **This company worked alongside Philips to develop the CD-i format. A hugely-successful line of controllers produced by this company is named for using two motors in its handles to produce vibrations. This company's Santa Monica Studio created a series in which the title figure forges the Blades of Chaos for the Ghost of Sparta. This company's (*) Sackboy mascot originates from a game series exclusive to this company's consoles, *LittleBigPlanet*. This company, which produces DualSense and DualShock controllers for its home consoles, developed a handheld called the Vita to compete with Nintendo's 3DS. For 10 points, name this technology company that produces the PlayStation.**

ANSWER: Sony Computer Entertainment [accept Sony Santa Monica Studio]

<LM, Pop Culture - Games> [Ed. SB]

BONUSES

1. The Big Mac Index measures this relative comparative measure across countries. For 10 points each:

[10h] Name this measure. The Law of One Price theorizes that arbitrage opportunities should eliminate this measure for all market baskets, as the basket price should be equal in all locations.

ANSWER: purchasing power parity

[10e] The form of this value calculated from purchasing power parity is preferred for use in long-run comparisons over the more volatile “market” type of this value. This value can be “floating” or “fixed” for a currency.

ANSWER: exchange rate

[10m] Given an increase in the exchange rate, it is predicted that net exports will increase, in turn increasing this quantity. This quantity is the sum of consumption, investment, government expenditure, and net exports.

ANSWER: aggregate demand [accept real **G**ross **D**omestic **P**roduct]

<KJ, Social Sciences- Economics> [Ed. KJ]

2. John Lackland launched a failed rebellion against this king while he was away on the Third Crusade, but ended up succeeding him after he died from a crossbow bolt to the shoulder. For 10 points each:

[10e] Name this English king who fought against Saladin in the aforementioned Third Crusade. While putting down the barons that revolted against his father Henry II, this king was nicknamed after a big cat.

ANSWER: Richard the Lionheart [or **Richard I**, prompt on **Richard**]

[10m] As king, John Lackland is best known for sealing this document in 1215 that limited the rights of the English monarchy. Principles in this document such as *Habeas Corpus* would become staples of English and American law.

ANSWER: Magna Carta Libertatum

[10h] Despite marrying his daughter Joan to him, John had a volatile relationship with king Llywelyn the Great of this country. This country has the most castles per square mile of any country.

ANSWER: Wales

<LM, History - European History> [Ed. LM]

3. In 2021, a first-of-its-kind federal water shortage was declared on the Colorado River. Answer some questions about it, for 10 points each:

[10h] Both Lake Powell and this other reservoir on the Colorado are predicted to never fully fill again due to overuse of the region’s limited water resources. This lake submerged the town of St. Thomas during its creation.

ANSWER: Lake Mead

[10m] The tier-1 shortage primarily affected these two states. Lake Mead and Hoover Dam are both located on the border of these two states. Name both.

ANSWER: Nevada AND Arizona

[10e] A \$1.5 billion dollar tunnel built in 2015 ensured that this city could maximize extraction from Lake Mead. The Bellagio Hotel’s fountains on this city’s namesake “Strip” consume around 12 million gallons of water a year.

ANSWER: Las Vegas [accept the Las **Vegas** Strip]

<VS, The World - Geography> [Ed. QP]

4. This phrase titles a genre of poetry exemplified by Robert Herrick's poem "To the Virgins, to Make Much of Time." For 10 points each:

[10e] Give this phrase followed by "trust tomorrow as little as possible," which is usually translated into English as "seize the day."

ANSWER: carpe diem ("carp-ay dee-um")

[10m] *Carpe diem* was coined by this Golden Age Latin poet in their *Odes*. This poet ended the third book of *Odes* by declaring that their work is "a monument more lasting than bronze."

ANSWER: Horace [or Quintus Horatius Flaccus]

[10h] Horace coined commonly-used phrases like "*in medias res*" and "*ab ovo*" in this work. Originally composed as a letter to Piso and his sons, this treatise was written as advice to writers of the title genre.

ANSWER: Ars Poetica [or *The Art of Poetry*]

<MS, Literature - Poetry> [Ed. PS]

5. Orpheus ducks and weaves through hanging lamps swung by coal miners on his way to the titular place during this musical's number "Wait for Me." For 10 points each:

[10m] Name this musical that retells the story of Orpheus in a Great Depression-era setting, in which his relationship with Eurydice parallels Hades and Persephone's relationship. This musical won 8 awards at the 2019 Tonys.

ANSWER: Hadestown

[10h] These objects symbolize Orpheus' love for Eurydice in the show. One is depicted on the musical's playbill, and these objects are the only thing Eurydice can remember in Hadestown even after forgetting Orpheus' name.

ANSWER: flowers

[10e] This trio vocalizes characters' doubts throughout the show, asking Orpheus "Where do you think you're going?" in "Wait for Me." These three women are the personification of destiny in classical mythology.

ANSWER: the Fates [or the Moirai]

<QP, Fine Arts - Other Auditory> [Edited]

6. You are a triceratops. For 10 points each:

[10e] Your fiercest predator is this large, bipedal, tiny-armed carnivore, whose name translates as "tyrant lizard king."

ANSWER: Tyrannosaurus rex [or T.rex]

[10h] You might also encounter this other genus of dinosaur, whose name "fused lizard" refers to its fused bones that increased their strength. This dinosaur's tail club was capable of breaking bones in combat.

ANSWER: Ankylosaurus

[10m] While you're busy fighting other dinosaurs, you fail to notice the asteroid whose impact at the Chicxulub crater ends both your life and this geological period, the last of the Mesozoic Era.

ANSWER: Cretaceous Period

<QP, Science - Other Science (Earth Science)> [Ed. MS]

7. The people of this city follow the Esoteric Order of Dagon. For 10 points each:

[10h] Name this Massachusetts city populated by half-human hybrids with fishlike eyes and gills. Its citizens leave to live underwater alongside the Deep Ones in a novella whose title describes a shadow over this city.

ANSWER: Innsmouth [accept *The Shadow Over Innsmouth*]

[10m] *The Shadow Over Innsmouth* is a novella by this author, who also wrote *At the Mountains of Madness*. His early short stories were published in the pulp magazine *Weird Tales*.

ANSWER: H.P. Lovecraft [or Howard Phillips Lovecraft]

[10e] Lovecraft's first short story in *Weird Tales* was about this Great Old One, who is described as having an octopus-like head and dragon-like wings.

ANSWER: Cthulhu [accept Khlûl'-hloo, Katulu, or Kutulu]

<SB, Literature - Short Stories> [Ed. SB]

8. The *Siete Leyes*, or Seven Laws, merged this region with its southern neighbor, a move that was undone ten years later. For 10 points each:

[10h] Name this province of New Spain bordering the Pacific Ocean whose name differentiated it from a “Baja” peninsula directly south of it.

ANSWER: Alta California [prompt on just California]

[10e] Alta California fell under American control following a revolt named for a flag depicting one of these animals. One of these animals features on California’s current flag.

ANSWER: California grizzly bear [accept Bear Flag Revolt]

[10m] Shortly after its official annexation into the US, California’s population exploded due to a gold rush, leading it to be admitted as a free state in this year as part of a compromise that also strengthened the Fugitive Slave Act.

ANSWER: 1850 [accept Compromise of 1850]

<LM, History - American History> [Ed. SB]

9. In preparation for this technique, a comb is used to create wells in an agarose matrix. For 10 points each:

[10m] Name this lab technique that separates macromolecules such as nucleic acids by their mass and charge by allowing them to drift between a cathode and an anode.

ANSWER: gel electrophoresis [accept affinity electrophoresis; prompt on answers like “running a gel”]

[10e] Electrophoresis can also be used to separate proteins, such as the albumins and globulins of this fluid’s serum, in a procedure called SPEP. This fluid also contains clotting factors and cells that contain hemoglobin.

ANSWER: blood [accept red blood cells; prompt on platelets with “what are those a part of?”]

[10h] An M-spike on an SPEP readout indicates the presence of these proteins, which are created by hybridomas, or B-cells infected with myeloma. These proteins only bind to a single epitope.

ANSWER: monoclonal antibodies [or monoclonal antibody; prompt on antibodies or antibody; reject “polyclonal”]

<SB, Science - Biology> [Ed. SB + MS]

10. This show’s NDN Mafia wear both red and blue because they can’t decide between Bloods or Crips. For 10 points each:

[10h] Name this 2021 Hulu show about a squad of Native American bandits. This show’s fully-Indigenous cast, crew, and writing team collaborated with the Muscogee nation while filming in Oklahoma.

ANSWER: Reservation Dogs [accept Rez Dogs]

[10e] The Rez Dogs aim to get enough money to leave Oklahoma and head to this other state. In *Brand New Cherry Flavor*, Lisa Nova tries to enter the film industry by moving to a neighborhood in the south of this state.

ANSWER: California [or CA]

[10m] *Reservation Dogs* was produced by this TV channel as part of its collaboration with Hulu. This two-letter channel also broadcasts *American Horror Story*.

ANSWER: FX Networks, LLC

<PQ, Pop Culture - TV> [Ed. SB]

11. For 10 points, answer these questions about composers whose fourth symphonies earned nicknames:

[10e] Tchaikovsky's fourth symphony is occasionally nicknamed for this concept. A personification of this concept is supposedly "knocking at the door" in the opening measure of Beethoven's Fifth Symphony.

ANSWER: fate

[10h] This Austrian dubbed their fourth symphony the "Romantic." Better known in their day as an organist, their expansive **Wagnerian** ("vag-nair-ian") symphonies inspired the approach later taken by their friend Gustav Mahler.

ANSWER: Anton Bruckner

[10m] This other Austrian composer's posthumously-premiered *Symphony no. 4* in C minor was nicknamed *Tragic*. Today, they are better known for many German art songs, the Trout Quintet, and an "Unfinished" symphony.

ANSWER: Franz (Peter) Schubert

<AP, Fine Arts - Classical Music> [Ed. AP]

12. For 10 points each, answer the following about Ra's journey across the sky and through the underworld.

[10e] Ra traveled across the sky and underworld in one of these vehicles called Atet.

ANSWER: solar barge [Accept equivalents like **boat** or **ship**]

[10m] Ra battled this personification of chaos during his time in the underworld. Set accompanied Ra on his journey to help defeat this dark serpent.

ANSWER: Apophis [or **Apep**, or **Apepi**, or **Aapep**, or **Rerek**]

[10h] At the end of his nightly journey, Ra emerged in the form of this scarab-headed god, who rolled the sun around like a ball of dung. Unlike Khnum, this aspect of Ra represents the morning sun.

ANSWER: Khepri [accept **Khepera**, **Kheper**, **Khepra**, or **Chepri**]

<MS, Beliefs - Stories> [Ed. LM]

13. In January 2021, President Joe Biden rescinded the Mexico City Policy, which had blocked funding to non-governmental organizations that promote or perform this practice. For 10 points each:

[10h] Name this practice which was decriminalized by the Supreme Court of Mexico in September 2021. The ongoing "Green Wave" sweeping across Latin America concerns declaring this practice legal.

ANSWER: abortion

[10m] One week earlier, the U.S. Supreme Court denied a preliminary injunction challenging enforcement of a Texas bill named after this phenomenon typically detected 6-7 weeks after gestation

ANSWER: heartbeat [accept fetal **heartbeat** bill, Texas **Heartbeat** Act]

[10e] This non-profit organization has recently expanded their efforts in Mexico and Texas. This organization, the most common abortion service in the U.S., was founded by Margaret Sanger.

ANSWER: Planned Parenthood

<PQ, The World - Current Events> [ed. KJ]

14. Billie Eilish performed in front of a cardboard cutout of a cluttered bookshelf for one of these events. For 10 points each:

[10h] Name these events in which musicians perform short, stripped-down concerts for a small audience. The venue for these events is provided by Bob Boilen, who also hosts the online music show *All Songs Considered*.

ANSWER: NPR Music Tiny Desk Concerts

[10m] This R&B singer and drummer performed "Come Down" and "Heart Don't Stand a Chance" in the most-viewed Tiny Desk Concert. This singer formed the duo Silk Sonic with Bruno Mars.

ANSWER: Anderson .Paak [or Brandon **Paak** Anderson]

[10e] This seven-member boy band performed "Dynamite" to open their Tiny Desk (Home) Concert, which they performed at a record shop in Seoul.

ANSWER: BTS [or **Bangtan Sonyeondan**, or **Bangtan Boys**]

<QP, Pop Culture - Music> [Ed. SB]

15. Hopefully you don't find this bonus too stressful. For 10 points each, answer some questions about mechanical stress:

[10m] Stress is often plotted against this other quantity on a curve describing a material's behavior in a tensile test. This dimensionless quantity is the ratio of the body's change in length to its original length.

ANSWER: strain [accept stress-**strain** curves; prompt on deformation]

[10h] Within the linear region of a stress-strain curve, the slope represents this quantity. This quantity is analogous to the spring constant in the "f equals k times x" formulation of Hooke's law.

ANSWER: Young's modulus [or **Young modulus**, or **modulus of elasticity**, prompt on E]

[10e] Both stress and Young's modulus have the same units as this quantity, which is defined as force divided by area and can be measured using a barometer.

ANSWER: pressure [prompt on P]

<QP, Science - Physics> [Ed. SB]

16. This thinker legendarily studied the Perfection of Wisdom Sutras while in the serpent kingdom at the bottom of the ocean. For 10 points each:

[10h] Name this Indian philosopher who emphasized the concept of *sunyata*, or emptiness, and founded the madhyamaka school of Buddhist philosophy.

ANSWER: Nagarjuna

[10m] Nagarjuna was a member of this branch of Buddhism. This branch emphasizes the Bodhisattva path, which starts with bodhicitta, a spontaneous wish to help all sentient beings, unlike Theravada Buddhism.

ANSWER: Mahayana Buddhism

[10e] Another aspect of Buddhist ethics is this many "good actions," divided into groups of bodily, verbal, and mental actions. Christians and Jews follow this many Commandments.

ANSWER: ten

<QP, Social Sciences - Philosophy> [Ed. QP]

17. For 10 points each, answer the following about the First Nations.

[10e] The First Nations are the indigenous peoples of this country, where they gained greater access to healthcare after an outbreak of mercury poisoning in its province of Ontario.

ANSWER: Canada

[10m] The Truth and Reconciliation Commission found that cultural genocide against the First Nations occurred at these institutions. The last of these church-run institutions were closed in 1996.

ANSWER: Indian residential schools [accept answers like boarding **schools**]

[10h] These people, who are of mixed First Nations and European descent, were led by Louis Riel in the Red River Rebellion that led to the founding of Manitoba.

ANSWER: Metis

<QP, History - Other History> [Ed. LM]

18. In this novel, a recipe for quail in rose petal sauce is followed by a scene in which the dish makes Gertrudis's ("hair-troo-diss's") body produce pink steam. For 10 points each:

[10h] Name this novel by Laura Esquivel. ("lao-ra es-kee-vell"). This magical realist novel about Tita's love of cooking frames each of its 12 month-based chapters with an opening recipe.

ANSWER: Like Water for Chocolate [accept Como agua para chocolate]

[10e] The recipes in *Like Water for Chocolate* are often dishes from this country, the home of Laura Esquivel. This North-American country was also home to Octavio Paz and Carlos Fuentes.

ANSWER: Mexico [or United Mexican States, or *Estados Unidos* Mexicanos]

[10m] This author's Southern cookbook *Hallelujah! The Welcome Table* contains memories of growing up in Stamps, Arkansas. A memoir by this author is named for a line from a Paul Laurence Dunbar poem.

ANSWER: Maya Angelou [accept Marguerite Johnson or Marguerite Annie Johnson; prompt on Johnson]
<PQ, Literature - Novels> [Ed. SB]

19. Paintings by this man depicting a green-faced fiddler in his childhood shtetl were inspirations for the musical *Fiddler on the Roof*. For ten points each:

[10m] Name this Jewish painter who depicted his Belarusian hometown in his Cubist dreamscape *I and the Village*

ANSWER: Marc Chagall [or Moishe Shagal]

[10e] In response to *Kristallnacht*, Chagall painted a "White" version of this scene in which Nazis sack a building flying a Lithuanian flag. Chagall emphasized the Jewishness of this scene's central figure, who hangs on the cross.

ANSWER: crucifixion (accept White Crucifixion)

[10h] Chagall later incorporated a crucifixion into *Peace*, a work of this type created for the United Nations. A work depicting the Passion of Christ is at the center of fifteen massive works of this type at Sainte-Chapelle.

ANSWER: stained glass window (accept either)

<PQ, Fine Arts- Painting and Sculpture> [ed. DC]

20. In 1962, submarine commander Vasily Arkhipov was the single deciding vote against firing nuclear torpedoes off the coast of this country, a choice that narrowly avoided a potential nuclear war. For 10 points each:

[10e] Name this island nation south of Florida that became the site of a Cold War "Missile Crisis" when the Soviet Union began moving warheads to it.

ANSWER: Cuba [or Republic of Cuba or República de Cuba]

[10m] In 1995, this leader became the first ever to activate a nuclear football and nearly retaliated against a Norwegian missile mistakenly believed to be hostile. This leader was president of Russia from 1991 to 1999.

ANSWER: Boris Yeltsin

[10h] In 1983, Stanislav Petrov disobeyed orders to launch a retaliatory nuclear strike just three weeks after the Soviet Union mistakenly shot down passenger Flight 007 from this country, killing 269 civilians.

ANSWER: South Korea

<LM, History - World History> [Ed. LM]

21. Samples are prepared for this technique by being ground into Nujol oil with a mortar and pestle. For 10 points each:

[10m] Name this laboratory technique that measures molecules' vibrational transitions. Complex spectra are found between 1500 and 500 inverse centimeters in this technique's fingerprint region.

ANSWER: infrared spectroscopy [accept **IR spectroscopy**; prompt on "vibrational spectroscopy"; reject other kinds of spectroscopy]

[10e] After being mulled with Nujol oil, the sample in IR spectroscopy is placed between two plates of this compound, which is transparent to infrared light. This edible compound is also used to de-ice roads.

ANSWER: table salt [or **NaCl** or **sodium chloride**]

[10h] An extremely strong peak at around 1700 inverse centimeters in IR spectroscopy indicates one of these functional groups. An organomagnesium halide is added to one of these groups in the Grignard reaction.

ANSWER: carbonyl groups [or **carbonyls**; accept **carbon monoxide** or **CO**]

<SB, Science - Chemistry> [Ed. MS]

22. After the fall of the Soviet Union, the leaders of Kazakhstan and Kyrgyzstan promoted a revival of this native religion as opposed to "foreign" religions. For 10 points each:

[10h] Name either this animistic religion or its namesake chief deity, a sky god worshiped by the Turko-Mongolic people of Central Asia as lord of the blue sky.

ANSWER: Tengrism [or **Tengriism**, or **Tengerism**, or **Tengrianism**]

[10m] This number is sacred to Tengri, as well as to the Kyrgyz, whose name likely refers to this number of tribes. In Christianity, this is the number of days Jesus spent in the wilderness, and thus the number of days in the Lent.

ANSWER: 40

[10e] Tengrist movements have struggled to dislodge this religion as the dominant faith in Central Asia. The Samarkand-born theologian Maturidi influenced the ideas of this religion in the Ottoman Empire and Mughal India.

ANSWER: Sunni Islam

<QP, Beliefs - Practices> [ed. DC]

23. People shopping at Macy's tended to drastically change their pronunciation when asked to repeat this phrase. For 10 points each:

[10h] Give this two-word phrase that William Labov studied in three different New York department stores. Labov got people to produce this highly-rhotic phrase by asking them where to find a certain section of the store.

ANSWER: fourth floor

[10e] Labov's pioneering "fourth floor" study helped to describe the relationships between these varieties of a language, which are usually organized by region.

ANSWER: dialects

[10m] The Macy's shoppers in Labov's study represented this class, which is said to be disappearing or being "hollowed out" in modern America. Labov suggested that people in this class overcorrected their speech to sound more prestigious.

ANSWER: middle class [prompt on **working** class or **proletariat**]

<SB, Social Sciences - Other> [ed. RR]

24. Melodramas frequently featured these kinds of characters including virtuous damsels, satanic villains, and noble heroes. For 10 points each:

[10h] Name these characters that recur within a literary tradition and are interchangeable between plays. Named versions of these characters in commedia dell'arte (“del ar-tay”) include the greedy Pantaloon and the witty Harlequin.

ANSWER: stock characters

[10e] English melodramas and their stock characters were popular during this regnal period. Authors in this 19th century period named for a long-reigning queen circumvented morality restrictions on plays by adding music.

ANSWER: Victorian era [accept Queen **Victoria**]

[10m] One early example of melodrama is this Jean-Jacques Rousseau play where a sculptor falls in love with his statue. This play shares its name with a play where Professor Higgins tries to turn Eliza Doolittle into a proper lady.

ANSWER: Pygmalion

<PQ, Literature - Drama> [Ed. PS]