

Boilermaker Spring Novice

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Packet 4: People all over the world, join hands, start a love train

TOSSUPS

1. **Pearlite, bainite, and martensite are types of this material formed after cooling austenite below its eutectoid point. Sphere-like particles form to reduce interfacial area when heat treating this material for more than 24 hours. Tungsten is a major alloying element for the “tool” variety of this material. 11 percent chromium can be added to this material to create a (*) corrosion-resistant variety.** This material is produced by burning out impurities from a crude “pig” substance in an open-hearth furnace. A modern method of producing this material involves blowing oxygen into a molten ore to reduce excess carbon. For 10 points, name this alloy made of iron infused with carbon that includes a “stainless” variety.

ANSWER: steel [accept stainless **steel**; prompt on pig **iron** before “iron”]

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

2. **Upon its completion in 1930, an American skyscraper created by a company in this industry was the tallest building in the world until the Empire State Building eclipsed it a year later. Walter Reuther was among the employees in this industry who engaged in a 1936 sit-down strike at Fisher Body Plant Number One.**

Numerous antisemitic articles were published in a newspaper run by a leader in this industry named the (*) *Dearborn Independent*. That leader in this industry instituted a notably large five dollar a day wage in 1914, and was inspired by how carcasses were butchered on a conveyor belt to incorporate the assembly line. For 10 points, name this industry whose titans included Walter Chrysler and Henry Ford.

ANSWER: automotive industry [accept equivalents like the **car** or **automobile industry**]

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

3. **Erik Lindahl names a type of this policy which is based upon the benefit principle. The single-agent Ramsey type of this policy aims to satisfy a revenue requirement for public goods. In *Capitalism and Freedom*, Milton and Rose Friedman proposed a “negative” variant of this policy that would function similarly to universal basic income. James Mirrlees argued that under an incentive compatible system, the (*) “flat” type of this policy is closest to optimal. This policy seeks to minimize excess burden, and it applies in “marginal” rates in progressive systems, where this policy may exist in brackets. For 10 points, name this policy, a mandatory charge used to fund government spending.**

ANSWER: income tax [or **taxation**; accept Pigouvian **taxes**, progressive **taxation**, or **tax** brackets]

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

4. One author from this country wrote “It’s far easier to make a bomb than to educate 400 million people” in her anti-nuke essay, “The End of Imagination.” A narrator originally from this country leaves London and lodges with the 103-year-old Mrs. Croft in “The Third and Final Continent.” An author from this country described an incestuous relationship between the (*) twins Estha and Rahel. In a short story, Miranda is smitten when an immigrant from this country tells her she is “Sexy,” while another story from the same collection sees a child in this country saved from attacking monkeys by the Interpreter of Maladies. Many of Jhumpa (“joom-pa”) Lahiri’s characters emigrate from, for 10 points, what home country of Arundhati (“a-roond-ha-tee”) Roy?

ANSWER: The Republic of **India**

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

5. J.S. Bach’s youngest son, Johann Christian, was called the Bach of this city for spending most of his professional life there. Joseph Haydn’s 1791 visit to this city was organized by Johann Peter Salomon; his next twelve symphonies were nicknamed for this city. In this city, outdoor rehearsals of one suite caused a three-hour traffic jam of carriages and a soldier to have his hand (*) blown off. One theater in this city was built specifically for the premiere of operettas including *The Yeomen of the Guard* and *The Mikado*. For 10 points, name this city where many of Gilbert and Sullivan’s works premiered at the Savoy Theater, whose other venues include Covent Garden and the Royal Albert Hall.

ANSWER: **London** (the suite rehearsed outdoor was *Music for the Royal Fireworks* by George Frederic Handel)

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

6. Achilles acquired the epithet “swift-footed” from one of these things Zeus took from Arke. After she was decapitated, Chrysaor (“krise-aye-or”) and an animal with this notable feature sprung from Medusa’s neck. Perseus is given a knapsack with gifts from Zeus, Hades, and Athena as well as an object that had this feature. The Olympian deity who wields the caduceus staff also wears a *petasos* helmet (*) adorned with this feature. Bellerophon attempted to reach Mount Olympus on a creature with this notable feature. The designer of the labyrinth and his son escaped Crete using these things held together with wax. Hermes possessed sandals with, for 10 points, what things that fell apart when Icarus flew too close to the sun?

ANSWER: **wings** [prompt on feathers]

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

7. This country is home to the oldest operating amusement park in the world, as well as the southern portion of Medicon Valley, a leading cluster of life science companies. Urban development in this country’s capital follows the Finger Plan. The ruins of Hammershus (“hammers-hoose”) are located on an island in this country, Bornholm. This country’s capital is home to (*) Tivoli Gardens and is located on the island of Zealand in the Øresund (“air-uh-sund”) Region. This country’s flag, the oldest continuously used national flag, was the first to feature a Nordic Cross. The mainland part of this country is located on the Jutland Peninsula. For 10 points, name this Scandinavian country whose capital is Copenhagen.

ANSWER: Kingdom of **Denmark** [or *Kongeriget Danmark*]

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

8. A 2019 apology Tweet by a team from this city admitted “we don’t have any words and we know you don’t want to hear them.” Randy Arozarena (“a-ro-za-ray-na”) hit 10 home runs in the 2020 postseason as a rookie for a team representing this city. Defense from Victor Hedman and Andrei Vasilevskiy helped propel an NHL team from this city to two (*) consecutive Stanley Cup titles in 2020 and 2021. After he took his jersey off in the middle of a game, Antonio Brown was cut from a team from this city, where he played alongside fellow wide receivers Mike Evans and Chris Godwin. For 10 points, name this city home to the Lightning and the Rays, as well as an NFL team that won Super Bowl LV (“55”) after signing Tom Brady, the Buccaneers.

ANSWER: **Tampa** Bay [accept **St. Petersburg**, where the Tampa Bay Rays play]

<SB, Pop Culture - Sports> [Ed. SB]

9. A non-digestible isomer of this sugar is used as a laxative to treat **hepatic encephalopathy** (“*hep-pad-ic en-seffa-lop-a-thee*”) by lowering the amount of ammonia in the patient’s bloodstream. A sequence that cleaves this sugar’s glycosidic linkage is initiated when an isomer of this sugar binds to a repressor; that allows RNA polymerase to bind to the promoter and transcribe the Z, Y, and A genes of an associated (*) operon. The “persistence” of an enzyme that breaks down this sugar is disproportionately common in descendants of herding cultures. The first operon to be discovered helps *E. coli* digest this sugar in the absence of glucose. Most people’s ability to digest this sugar reduces drastically after they are weaned off breast milk. For 10 points, name this sugar found in dairy products.

ANSWER: **lactose** [accept lactose operon; prompt on lac operon with “what sugar does that help metabolize?”]
<SB, Science - Biology> [ed. JF]

Omote are wood-carved types of these objects that, in *kyogen*, are largely reserved for representing animals and gods. While *waki* generally do not use these objects, *shite* (“*shee-tay*”) spend several minutes staring at one of these objects before performances in an effort to become their character. **Onna** types of these objects are specifically used to represent women. It’s not skin paint, but these objects are color-coded in (*) Peking opera to indicate character archetypes. *Noh* theater features many iconic versions of these objects, including ones that depict *oni* with large protruding horns and fangs. A pair of these objects represents comic and tragic theater. For 10 points, name these objects that actors might wear to cover their face.

ANSWER: face **mask** [prompt on answers like face covering]
<LM, Literature - Drama> [Ed. PS]

11. This thinker coined the term “technological determinism,” and their namesake dichotomy separates a society’s technology from its institutions. This thinker’s most well-known theory was mocked by scholars until it was vindicated by Robert and Helen Lynd’s landmark Middletown studies, which found empirical evidence of phenomena like (*) pecuniary emulation. Similar to Giffen goods, luxury goods named after this man will counterintuitively rise in demand when they rise in price. This thinker argued that the upper class communicates their status via gratuitous displays of wealth. For 10 points, name this sociologist who described “conspicuous consumption” in his book *The Theory of the Leisure Class*.

ANSWER: Thorstein **Veblen**
<PQ, Social Science - Other> [ed. RR]

12. Cornelli Barnett remarked that this document was “hardly a slap on the wrist” compared to the Treaty of Brest-Litovsk eight months earlier. A letter from Wilhelm I to Empress Eugénie that was revealed during the composition of this document allowed this document to transfer control of Alsace-Lorraine. Kamerun and Togoland were among the African colonies (*) stripped from a colonial power by this document. Ferdinand Foch commented on this document “This is not peace. This is an armistice for 20 years,” which was true. The Weimar Republic experienced hyperinflation from attempting to pay reparations imposed by this document. For 10 points, name this treaty that ended World War I.

ANSWER: Treaty of **Versailles** [prompt on Paris Peace Conference with “what document resulted from that?”]
<LM, History - European History> [Ed. LM]

HALFTIME

13. This activity was the centerpoint of a high schooler’s 2018 congressional testimony regarding a visit from the company Pax Labs, which prompted the formation of the activist group PAVE. One company was fined \$40 million in a 2021 class-action lawsuit whose central evidence were advertisements on (*) *Cartoon Network* and *Nickelodeon* promoting this activity. Unregulated vitamin E acetate products are the likely cause of illness outbreaks connected to this activity. The Trump administration banned fruit, dessert and mint flavors to curb the rise of this activity among teens. For 10 points, name this activity most commonly done using Juuls.

ANSWER: vaping [or word forms of vape; accept e-cigarettes; accept Juuls before mention; prompt on smoking, or weed and any of its synonyms; reject “cigarettes”]

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

14. Under certain conditions, this practice can be modified through *Qasr* and *Jam’*. The presence of recording angels on both sides justifies the performance of *taslim* during this practice. This practice involves repetitions of *rakat*. Flatulence, menstruation, and deep sleep all require one to perform *wudu* before engaging in this practice. The *Fajr* variety of this practice is sometimes accompanied by the phrase “[this practice] is better than (*) sleep.” The *Zuhr* form of this practice is replaced with *Jumu’ah* on Fridays. Muezzins issue the *adhan* from minarets to call Muslims to perform this practice, the second pillar of Islam. For 10 points, name this Islamic practice, performed five times a day in the direction of Mecca.

ANSWER: salah [or salat, accept namāz, accept prayer]

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

15. This empire, which built an extensive irrigation system at Tipón, acquired coastal territory by conquering the Chimú Empire. This empire’s indigenous name references the four *suyu* that comprise it. Hiram Bingham III (“the 3rd”) discovered a site built by this empire which contained a cave where the Royal Festival of the Sun was celebrated as well as the (*) *Intihuatana* (“inti watana”) stones that pointed at the sun during the winter solstice. This empire recorded information using a system of knotted strings. A civil war in this empire fought between half-brothers Huáscar and Atahualpa occurred just before the arrival of conquistadors led by Francisco Pizarro. The citadel of Machu Picchu was part of, for 10 points, what pre-Columbian empire centered in the Andes Mountains?

ANSWER: Incan Empire [or Tawantinsuyu]

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

16. A parody of this painting by Fernando Botero depicts its subject at “Age Twelve.” A postcard depicting this painting was defaced with letters meaning “she has a hot booty” in a work by Marcel Duchamp that also added a mustache and goatee. Guillaume Apollinaire implicated Pablo Picasso in the theft of this painting in 1911. This painting’s blurry shading around the subject’s eyes is characteristic of the (*) *sfumato* technique, which also creates a smile that seems to vanish when directly viewed. Scans by Pascal Cotte showed that the subject of this painting originally had visible eyebrows, but they had faded over time. For 10 points, name this portrait of an enigmatic Italian noblewoman by Leonardo da Vinci.

ANSWER: the Mona Lisa [or la Gioconda, la Monna Lisa, or la Joconde]

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

17. The protagonist's friend is nicknamed for these animals in Haruki Murakami's first three novels. Hearing about these creatures attacking babies in London prompts a character to shout "don't go on!" in a scene set in a secret room above Mr. Charrington's shop. Dr. Bernard Rieux ("ree-you") notices these animals dying in droves at the beginning of Albert Camus' novel *The (*) Plague*. After promising "the worst thing in the world," O'Brien places these creatures on the other side of a wall in a method designed to emulate his victim's recurring nightmares. In Room 101, the protagonist of a novel is tortured by the thought of these animals eating his face, forcing him to betray Julia. For 10 points, name these animals, which are Winston Smith's worst fear in the novel *1984*.

ANSWER: rats [prompt on rodents; do not accept or prompt on "mice"]
<PQ, Literature - Novels> [Ed. SB]

18. The general form of a law named for this physicist combines the Biot-Savart ("bee-oh sa-var") law and Lorentz force equation into an iterated line integral. By analyzing a discovery by Hans Oersted, ("er-sted"), this physicist derived their namesake force law to describe how parallel current-carrying wires attract or repel each other. James Clerk Maxwell generalized a law named for this physicist by adding a term for the displacement current. That law named for this physicist relates the (*) magnetic field along a closed path to the current enclosed by the surface. A unit named for this physicist is equal to one coulomb per second. For 10 points, name this French physicist who names the SI unit of electric current.

ANSWER: André-Marie Ampère [accept Ampère's law, Ampère's force law, Ampère's circuital law, or the Maxwell-Ampère law; prompt on amps]
<LM, Science - Physics> [Ed. SB]

19. A seminal book in this school of thought uses the example of a hammer to contrast "present at hand" with "ready at hand." Another book in this school of thought uses an example of a waiter who exhibits "bad faith" by seeing himself only as a waiter, confusing his being-in-itself with being-for-itself. A third book in this school of thought emphasizes the need for a (*) "leap of faith" and asks if there is a "teleological suspension of the ethical." Those books in this school of thought are *Being and Time*, *Fear and Trembling*, and *Being and Nothingness*, written respectively by Martin Heidegger, Søren Kierkegaard, and Jean-Paul Sartre. For 10 points, name this school of thought that also names a type of dread or crisis when one questions whether life has meaning.

ANSWER: existentialism [accept word forms like existentialists, accept existential dread, accept existential crisis]
<QP, Social Sciences - Philosophy> [Ed. QP]

20. This scientist's practices stood in contrast to the Knidian ("nid-ee-an") school which was more in line with modern practices. Under Herodicus of Selymbria, this native of Kos likely began their training at the city's *asklepieion*. A core component of this scientist's theories was the "crisis", after which a person would die or (*) recover. This scientist is credited with developing a model in which the body desires a balance between the four humors. A saying named for this man included a pledge to "abstain from all intentional wrong-doing" and was rewritten into a modern version noting that "prevention is preferable to cure." For 10 points, name this "father of medicine" who names an oath doctors swear to.

ANSWER: Hippocrates of Kos [accept Hippocratic Oath]
<LM, History - Other History> [Ed. LM]

21. A 2021 festival dedicated to this composer included a virtual-reality game in which players fight a dragon. A dissonant chord with the notes F, B, D-sharp, and G-sharp opens an opera by this composer in which a character dies while under the effects of a love potion, leading his lover to sing the “Liebestod” (“lee-bes-toad”) aria. Another opera by this composer includes the (*) “Bridal Chorus.” In the finale of another opera by this composer, the Rhine overflows after a warrior rides her horse into the funeral pyre of her husband, Siegfried. For 10 points, name this German composer of *Lohengrin* (“lo-en-grin”) and *Tristan und Isolde*, whose cycle *Der Ring des Nibelungen* contains the “Ride of the Valkyries.”

ANSWER: (Wilhelm) Richard **Wagner**

<SB, Fine Arts - Other Auditory> [Ed. QP]

22. This artist’s childhood on their father’s farm inspired their 2019 song “Christmas Tree Farm.” This artist sang about the life of philanthropist Rebekah Harkness in their song “The Last Great American Dynasty.” Phoebe Bridgers features on this artist’s song “Nothing New,” one of many songs by this artist subtitled “From The Vault.” This artist’s song (*) “betty” is written from the opposite point of view of a song that describes how “you put me on and said I was your favorite.” This artist added the lyrics “I’ll get older but your lovers stay my age” to a 10-minute version of their song “All Too Well.” For 10 points, name this artist who, in 2021, released re-recordings of her albums *Fearless* and *Red*.

ANSWER: Taylor **Swift** [or Taylor Alison **Swift**]

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

23. One type of these structures is the subject of Hartmann and Larson’s fixed temperature hypothesis. Congestus examples of one type of these structures can form a flanking line. The formation of these structures can be triggered by sulfur-containing aerosols that act as namesake condensation nuclei. An overshooting top can form above the upper (*) anvil-shaped portion of one type of these structures. Adding silver iodide to these structures can be used to induce seeding. One type of these structures can develop into a supercell and is associated with thunderstorms. For 10 points, name these masses of water and ice suspended in the atmosphere whose types include cumulonimbus and cumulus.

ANSWER: **clouds** [accept cumulonimbus **clouds** or cumulus **clouds** until read; accept **cloud** condensation nuclei; prompt on **CCN**]

<SM, Science – Other Science (Earth Science)> [Ed. JF]

24. While “formulated” and “sprawling on a pin,” this character wonders “how should I begin / To spit out all the butt-ends of my days and ways?” This character observes yellow smoke rubbing against the window panes, and concludes “there will be time.” This character laments “restless nights in one-night cheap hotels,” claiming “I have measured out my life in (*) coffee spoons.” This character ponders an “overwhelming question” and frets about his advancing age in a room where “the women come and go / Talking of Michelangelo.” For 10 points, name this character who entertains the reader “Let us go then, you and I,” in a “Love Song” by T. S. Eliot.

ANSWER: J. Alfred **Prufrock** [accept “The Love Song of J. Alfred **Prufrock**”]

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

BONUSES

1. Lily Melissa Owens notices these animals in her bedroom at the beginning of a 2001 novel. For 10 points each:

[10h] Name these animals owned by the Boatwright family in a Sue Monk Kidd novel about their “secret life.”

ANSWER: bees [accept honeybees, accept Anthophila, accept *The Secret Life of Bees*]

[10e] This literary character becomes a beekeeper after retiring as a detective. This character was presumed dead for 3 years after a battle at Reichenbach Falls with his rival, Professor Moriarty.

ANSWER: Sherlock Holmes [accept either underlined portion]

[10m] Janet has a religious epiphany after being swarmed by bees in *Remembering Babylon* by David Malouf, (“*ma-loof*”), an author from this country. This country was also home to Patrick White, the author of *Voss*. (“*foss*”).

ANSWER: Commonwealth of Australia

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

2. Hungry? For 10 points each, answer the following about food-derived terms in physics.

[10h] Name this property of an elementary particle that distinguishes it either from other leptons or from other quarks. A quark can have this property changed via a W boson interaction, but not a Z boson interaction.

ANSWER: flavor [or flavor quantum number]

[10e] J. J. Thomson proposed this atomic model in which electrons are embedded in a solid, positively charged substance. This atomic model was replaced by the Rutherford model.

ANSWER: plum pudding [prompt on partial answers]

[10m] Stephen Hawking used this food to describe what happens to an astronaut near a black hole as the non-homogeneous gravitational field induces vertical stretching.

ANSWER: spaghetti [accept spaghettification, noodles, or noddle effect]

<PQ, Science - Physics> [Ed. DB]

3. A week after this city’s Hospital Juárez collapsed in an earthquake, all the newborns in the nursery were pulled from the wreckage unscathed, leading them to be dubbed the “Miracle Babies.” For 10 points each:

[10m] Name this Latin American capital city, where an insufficient response to a devastating 1985 earthquake weakened the reputation of the historically-dominant Institutional Revolutionary Party, or PRI.

ANSWER: Mexico City [or Ciudad de México]

[10e] In 1960, the most powerful earthquake ever recorded hit the city of Valdivia in this seismically-active South American country, which shares the southern Andes with Argentina.

ANSWER: Republic of Chile

[10h] This influential couple first met in 1944 at a gala in Luna Park Stadium to raise money for victims of a deadly earthquake that struck the non-Puerto Rican city of San Juan. *Name both people.*

ANSWER: Juan and Eva Perón [accept in either order; full names Juan Domingo Perón and María Eva Duarte de Perón; accept María Eva Duarte or Evita in place of “Eva Perón”]

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

4. For 10 points each, answer the following about Phaedrus, an Athenian nobleman who appears in several philosophical works:

[10m] Phaedrus was a follower of this philosopher. In the *Symposium*, Phaedrus and this philosopher give speeches praising the god Eros.

ANSWER: Socrates

[10e] In his namesake dialogue, Phaedrus discusses this concept with Socrates. The *Symposium* explores Eros, a form of this concept, as well as this concept's platonic form.

ANSWER: love [accept equivalents like romance, prompt on relationships with "Relationships based on what?"]

[10h] Phaedrus is also the name given to the narrator's past self in this book by Robert Pirsig. In this book, the narrator discusses the ideas of quality and gumption while on a trip to California on the title vehicle.

ANSWER: Zen and the Art of Motorcycle Maintenance: An Inquiry into Values
<SB, Social Sciences - Philosophy> [Ed. QP]

5. For 10 points each, name some cartoons featuring children with divorced parents:

[10m] In this show, Joey Wheeler and his sister Serenity were separated after their parents' divorce. Joey has a vendetta against Seto Kaiba after watching him defeat Solomon Muto in this show.

ANSWER: Yu-Gi-Oh! Duel Monsters

[10e] This character's best friend, a white rabbit named Buster, lives with his mom and regularly visits his dad. This aardvark has younger sisters named Kate and D.W.

ANSWER: Arthur Read [accept either underlined portion; accept Arthur the Aardvark]

[10h] Tulip Olsen struggles to cope with her parents' divorce in Book One of this show, where she attempts to travel to a game design camp on her own.

ANSWER: Infinity Train

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

6. In 2016, this museum displayed Shigetaka Kurita's 176 original emojis, arguing that they "reassert the human in the abstract space of electronic communication." For ten points each:

[10e] Name this Manhattan museum that specializes in art produced from the late 19th century onwards.

ANSWER: Museum of Modern Art [or the MoMA; do not accept or prompt on "SFMOMA"]

[10m] Almost every messaging system includes an aghast emoji inspired by *The Scream*, a painting by this Norwegian expressionist whose other haunting works include *The Sick Child*.

ANSWER: Edvard Munch

[10h] Apple's "water wave" emoji features clawlike foamy crests reminiscent of Hokusai's 1831 *Great Wave Off Kanagawa*, a print in this Edo-period genre of Japanese art that translates to "pictures of the floating world."

ANSWER: ukiyo-e

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

7. A group of 24 priests of this deity known as the *salii* ("sall-ih-ee") were so named because they leapt and danced during this deity's festivals, many of which occurred at a *campus*, or field, named for this god. For 10 points each:

[10m] Name this god. The Lupercalia festival was celebrated in February in honor of the she-wolf that suckled two sons of this god.

ANSWER: Mars [accept Campus Martius, do not accept or prompt on "Ares"]

[10e] Mars, along with deities like Jupiter and Minerva, was worshiped by the people of this city. People of this city sacrificed at temples like the Pantheon and those on the Capitoline Hill.

ANSWER: Rome

[10h] The Romans practiced divination through augury, the study of bird behavior, and haruspicy, involving the study of these objects. A bronze object covered in Etruscan inscriptions found at Piacenza resembles one of these objects.

ANSWER: animal organs (accept liver or other specific organs, prompt on corpses or dead animals)

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

8. *þættir* (“*that-tir*”) are short stories found in the Kings’ type of these texts. For 10 points each:

[10m] Name these stories and histories composed in Nordic countries. The years from 870 to 1056 in one Nordic country are known as the “Age of” these texts.

ANSWER: sagas

[10e] Sagas were primarily written in this Nordic country. This country’s Kings’ sagas told the stories of rulers who lived in Reykjavik.

ANSWER: Iceland [or *Ísland*]

[10h] The Kings’ Saga *Heimskringla* and *Egil’s Saga* were both written by Snorri Sturlson, who also served as the lawspeaker for this Icelandic parliament. Founded in 930 C.E., it is the oldest parliament in the world.

ANSWER: Althingi [or *Alþingi*]

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

9. The *Lebesgue* (“*le-beyg*”) form of this operation can be visualized as stacking horizontal rectangles, while its Riemann form can be visualized with vertical rectangles. For 10 points each:

[10e] Name this operation that gives the area under the curve of a given function.

ANSWER: integration [or **integral**, **Riemann integration**, **Riemann integral**, **Lebesgue integration**, or **Lebesgue integral**]

[10m] Performing Riemann integration with right trapezoids instead of rectangles overestimates the area under the curve where the function has this property. Functions with this property have positive second derivatives.

ANSWER: convex [or **concave up**]

[10h] Riemann integration of a function of the reals is defined on one of these increasing sequences of points, which serve as the horizontal bounds of rectangles. If one of these objects P contains all of the points in Q , then P is a refinement of Q .

ANSWER: partition of an interval [or **refinement** of a **partition**]

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

10. Thick walls and short bell towers are the hallmarks of a “baroque” style found in the Philippines named for these events. For 10 points each;

[10m] Name these events. Frank Lloyd Wright inaccurately described his Tokyo Imperial Hotel as “undamaged” in the aftermath of one of these events in 1923.

ANSWER: earthquakes

[10e] The *shinbashira*, the sturdy central pillar of these structures, makes them incredibly resistant to earthquakes. These multi-tiered towers, found throughout East Asia, often store Buddhist relics.

ANSWER: pagoda

[10h] In the aftermath of the 2011 Christchurch earthquake, this Japanese architect designed the Cardboard Cathedral for displaced worshippers, in line with his focus on temporary and inexpensive post-disaster architecture.

ANSWER: Shigeru Ban

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

11. In March 2022, this company announced its plan to institute a Borrow-A-Cup program to reduce waste, and this company has allegedly sent mysterious “support managers” to some of its locations. For 10 points each:

[10m] That announcement came one day before Kevin Johnson announced that he was retiring as CEO of this company. In February 2022, this company reported that drive-thru and mobile orders accounted for 70% of its sales.

ANSWER: Starbucks

[10e] In recent months, Starbucks baristas around the U.S. have petitioned the National Labor Relations Board to allow elections in an effort to form one of these entities.

ANSWER: labor union

[10h] In December 2021, employees in this city formed the first union at a Starbucks cafe. In August 2019, employees of SPoT Coffee, which is based in this city, formed the largest union of any U.S. restaurant chain.

ANSWER: Buffalo, New York

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

12. The popular “slash and x” notation of this process uses the slash to note stressed syllables and x to note unstressed. For 10 points each:

[10h] Name this process of identifying and marking the meter of a poem.

ANSWER: scansion [accept word forms like **scanning**]

[10e] Scanning a poem identifies these basic, repeating rhythmic units of verse. **Trochee** (“tro-kee”) are stress-unstressed versions of these units, which repeat to determine the meter.

ANSWER: poetic feet [or metrical **feet**; or poetic **foot**; or metrical **foot**]

[10m] One of these poetic feet scans as an x followed by a slash, indicating an unstressed syllable followed by a stressed syllable. Verses in traditional English poetry are often made of five of these feet.

ANSWER: iambus [accept **iambic** pentameter]

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

13. For 10 points each, answer the following about the Union’s Anaconda Plan during the Civil War.

[10h] The Anaconda Plan was developed by this Union general. In the Mexican-American War, this general seized the port of Veracruz during his campaign to assault Mexico City.

ANSWER: Winfield Scott

[10e] Capturing this river was crucial to the Anaconda Plan. By seizing this river, the Union would cut the Confederacy in two and seize the key port of New Orleans.

ANSWER: Mississippi River

[10m] After capturing this city in Mississippi, the Union gained control of the river. Following his success in battles in this city and at Chattanooga, Ulysses S. Grant was appointed Commanding General of the U.S. Army.

ANSWER: Siege of Vicksburg

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

14. In 2014, the Bureau of Labor Statistics projected I-O psychologists as the fastest growing occupation in the coming decade. For 10 points each:

[10h] The I and O in I-O psychology stand for these two words. *Two answers required.*

ANSWER: industrial and **organizational** [accept in either order, accept word forms of each]

[10e] I-O psychologists research human behavior in workplaces. A major concern in I-O psych is the “work-related” form of this condition, which releases cortisol. Trauma sufferers experience this condition after the fact in PTSD.

ANSWER: stress

[10m] Chronic stress may result in this occupational phenomenon, which Anne Helen Petersen used to describe millennials. In 2019, the **WHO** (“W-H-O”) defined this condition as exhaustion and emotional distance from one’s job.

ANSWER: burnout [accept *The Burnout Generation*]

<PQ, Social Sciences- Psychology> [ed. RR]

15. This author's romance with Élisabeth Lacoïn ("la-kwan") was the basis of a novel that was left unpublished for being too personal but finally saw print in 2021. For 10 points each:

[10h] Name this author who also wrote about ineffectual Parisian intellectuals in the *Roman à clef*, ("ro-mon ah clef"), *The Mandarins*.

ANSWER: Simone de **Beauvoir**

[10e] In an essay, Beauvoir analyzed the actress Bridget Bardot ("bar-doe"), calling her the "perfect nymphette" and coining a "Syndrome" named after this literary character. This girl is the fire of Humbert Humbert's loins in a Nabokov novel.

ANSWER: **Lolita** [or **Dolores** Haze; or **Dolly** Haze; or **Lo**; prompt on **Haze**]

[10m] Beauvoir's volumes *Facts and Myths* and *Lived Experience* comprise this feminist philosophical book, which claims that "one is not born, but rather becomes a woman."

ANSWER: *The **Second Sex***

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

16. For 10 points each, answer some questions about molecular gastronomy:

[10m] Molecular gastronomy approaches nutrition by viewing and manipulating foods as these systems. These mixtures strongly scatter low-wavelength light, and thus appear blue, in the Tyndall effect.

ANSWER: **colloids** [or **colloidal** suspensions; prompt on **suspensions**]

[10e] A common trick in molecular gastronomy involves using sodium alginate to make liquids into these shapes, which is used to make things like melon caviar. The *s* orbital has this basic geometric shape.

ANSWER: **spheres** [or **balls** or **pearls**; accept **spherification**]

[10h] Much like in normal cuisine, foods made in molecular gastronomy are often subjected to this reaction, in which a carbonyl and an amino acid react at high temperatures, causing browning and a savory taste.

ANSWER: **Maillard** reaction

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

17. The sociological tract *Economy and Society* defines these systems as having hierarchical organization and a rigid division of labor. For 10 points each:

[10e] Give this general term for formal systems of governance, usually associated with public administration.

Idiomatically, the burden of paperwork associated with these systems is called "red tape."

ANSWER: **bureaucracy**

[10m] This German sociologist formalized the study of bureaucracies in his book *The Protestant Work Ethic and the Spirit of Capitalism*.

ANSWER: Max **Weber**

[10h] **Weber** ("vay-ber") warned of the "icy darkness" that could befall society if bureaucratization ran amok using this metaphor. In this concept of Weber's, people are trapped in service of rationalization above their personal life.

ANSWER: **iron cage** of rationalization [or **iron cage** of bureaucracy]

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

18. This weapon was made from the bone of a sea monster known as the **Curruid**. (“*cur-rood*”). For 10 points each:
[10h] Name this weapon that was given to its wielder by their teacher, **Scáthach**. (“*ska-hakh*”). It was said to fill its targets with barbs upon entering the body.

ANSWER: Gáe Bulg

[10m] This wielder of the **Gáe Bulg** (“*guy boolg*”) defeated Queen **Medb** (“*mev*”) during the Cattle Raid of Cooley. While **Fionn mac Cumhail** (“*Finn McCool*”) is the hero of the Fenian cycle, this hero is the subject of the Ulster cycle.

ANSWER: Cú Chulainn [accept **Setanta**]

[10e] **Cú Chulainn** (“*coo cullen*”) gained his name after slaying one of these animals that stood guard for Culann. The gates of the underworld are protected by a three-headed one of these animals named Cerberus.

ANSWER: dog [or **hound**]

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

19. This orchestra produced the first complete recording of George Gershwin’s *Rhapsody In Blue* under its longtime conductor Arthur Fiedler. For 10 points each:

[10m] Name this New England-based orchestra that specializes in light classical and popular music.

ANSWER: Boston Pops Orchestra [prompt on **Boston** Orchestra, reject “Boston Symphony Orchestra”]

[10e] This composer conducted the Boston Pops after Fiedler’s death. This composer more famously composed film scores for *Jaws*, *Star Wars*, and *Jurassic Park*.

ANSWER: John (Towner) Williams

[10h] The Boston Pops regularly hold summer performances at this venue in western Massachusetts, which is also the summer home of the Boston Symphony Orchestra.

ANSWER: Tanglewood

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

20. For 10 points each, answer some questions about notable women in marine biology.

[10h] This author wrote several acclaimed books on marine biology, including *The Sea Around Us*. This author also wrote a book documenting how chemical companies attempted to hide the carcinogenic effects of DDT.

ANSWER: Rachel Carson [full name Rachel Louise **Carson**] (The book is *Silent Spring*.)

[10m] **Ángeles Alvariño** (“*ann-hey-less al-va-ree-nyo*”) was a leading expert on these organisms, which cannot propel themselves against a current. These organisms are the primary food source of most filter feeders.

ANSWER: plankton [accept **zooplankton**, **phytoplankton**, or **plankters**]

[10e] Eugenie Clark spent most of her career promoting conservation of this class of fish, which includes “hammerhead” and “great white” types.

ANSWER: sharks [or **Selachimorpha**; accept **hammerhead sharks** or **great white sharks** or **Sphyrnidae** or **Carcharodon carcharias**]

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

21. This film's cinematographer, Ernest Dickerson, depicted intense summer heat by using a heat bar under the camera to distort the image. For 10 points each:

[10h] Name this film, which features a montage in which people spew racist hate directly into the camera. Mookie accomplishes this movie's title action by throwing a trash can through the window of Sal's pizzeria.

ANSWER: Do the Right Thing

[10m] *Do the Right Thing* is a movie by this director, who calls all their films "joints." Their more recent joints include *BlacKkKlansman* ("black klansman") and *Da 5 Bloods*.

ANSWER: Spike Lee [or Shelton Jackson **Lee**]

[10e] *Da 5 Bloods* is about American veterans of this conflict. The Bloods return to the site of this conflict to find gold they had buried in the 1960s, but lost track of after a napalm strike.

ANSWER: the Vietnam War [or **Second Indochina War**; accept **Vietnam Conflict**]

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

22. Glowing balls of light called Naga fireballs are said to appear on this river. For 10 points each:

[10h] Name this river, which receives water from the Tonlé Sap and flows over the **Khone** ("cone") Falls west of the Annamite Mountains.

ANSWER: Mekong River [or **Méigōnghé**, or **Megaung Myit**, or **Maenam Khong**, or **Tonlé Mékóng**, or **Sông Mê Kông**, or **Sông Cửu Long**]

[10m] Another Southeast Asian river is the Irrawaddy, which is the principal river of this country. Major cities in this country include Mandalay and Yangon, or Rangoon.

ANSWER: Myanmar [or **Burma**]

[10e] The third major river of mainland Southeast Asia is the **Chao Phraya**, ("chow pra-yah"), the main river of Thailand. This city, the capital and most populous city of Thailand, is located on the Chao Phraya delta.

ANSWER: Bangkok [or **Krung Thep Maha Nakhon**]

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

23. The only surviving example of these plays is a comic retelling of a scene from *The Odyssey*, Euripides' *Cyclops*. For 10 points each:

[10h] Name this type of play frequently featured at the City Dionysia. These lewd short plays are named for the type of creatures who act as its chorus and feature heavily in it.

ANSWER: Satyr plays

[10e] Satyr plays often followed three plays of this genre at the City Dionysia. Euripides frequently wrote in this genre, which Aristotle's *Poetics* defined as the fall of a great man through a fatal flaw, or "hamartia."

ANSWER: tragedy

[10m] The title character of this Euripides tragedy claims "women are the worst treated things alive" before her hamartia, rage, kills her children after she uses them to give Glauce poisoned clothes to get revenge on Jason.

ANSWER: Medea [accept **Medée**]

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

24. This ruler decorated his Temple of Friendship with images of male couples from Greek myth and possibly had an affair with his valet Michael Fressendorf. For 10 points each:

[10m] Name this 18th century Prussian king and supporter of Enlightenment ideals who organized the First Partition of Poland. He was nicknamed “The Old Fritz.”

ANSWER: Frederick the Great [or **Frederick II**, prompt on **Frederick**]

[10h] This Enlightenment writer and philosopher wrote about Frederick the Great’s homosexuality in his memoir. While in Frederick’s court, this man’s attack on **Maupertuis** (“*mo-per-twee*”) led Frederick to put him under house arrest.

ANSWER: Voltaire [or François-Marie **Arouet**]

[10e] Frederick attempted to escape to this country with his close friend and possible lover Hans Hermann von **Katte**, (“*kah-tuh*”) though the plan failed. This country’s King James I is believed to have had homosexual affairs.

ANSWER: England [accept **United Kingdom** of Great Britain and Northern Ireland or **UK**; accept Great **Britain**]

<LM, History - European History>