

Boilermaker Spring Novice

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Packet 3: You could have a steam train if you'd just lay down your tracks

TOSSUPS

1. **Members of this group fight Jussac (“ju-sock”) and other guards to help a man who had attempted to duel all of this group on the same day. This group is ambushed while trying to help Queen Anne of Austria recover some diamonds. At an inn, this group overhears a plot to assassinate Queen Anne’s lover, the Duke of (*) Buckingham. The eldest member of this group was once married to the spy Milady de Winter. This group thwarts Cardinal Richelieu’s plans with the help of D’Artagnan. (“dar-tan-yawn”). “All for one and one for all” is the motto of, for 10 points, what trio of French soldiers from a novel by Alexandre Dumas? (“du-mah”)?**
ANSWER: The **Three Musketeers** [accept Les **Trois Mousquetaires**, prompt on any of **Athos**, **Porthos**, or **Aramis**, prompt on the **three inseparables**]
<BD, Literature - Novels> [Ed. SB]

2. **The SAVAK secret police was operated in this country by a ruler who initiated modernizing reforms known as the White Revolution. In 1980, disputes between this country and its Western neighbor over the Shatt al-Arab waterway led to a conflict often compared to World War One partly due to this country’s use of human wave attacks. Mohammad Reza (*) Pahlavi ruled this country from 1941 until his overthrow by a leader who called the United States the “Great Satan.” The United Nations ordered a ceasefire between this country and Iraq in 1988. In 1979, this country’s Shah was overthrown in a revolution led by Ayatollah Khomeini which saw hostages taken in its American embassy. For 10 points, name this Middle Eastern country governed from Tehran.**
ANSWER: Islamic Republic of **Iran** [or *Jomhuri-ye Eslāmi-ye Irān*, accept **Persia**]
<QP, History - World History> [Ed. LM]

3. *Note to players: A description is acceptable.*

The third meditation of Descartes’ *Meditations on First Philosophy* presents two arguments supporting this claim. William Lane Craig defended this claim using the Kalam (“ka-lam”) argument. Gaunilo (“gaw-ni-lo”) used a “Lost Island” in his work *In Behalf of the Fool* to refute an argument in support of this claim that was made in the *Proslogion*. (“pro-slow-ji-un”). The Ultimate Boeing 747 gambit is one argument used by Richard (*) Dawkins to oppose this claim. Ontological and teleological arguments support this claim. Believing in this claim and being wrong is infinitely better than the alternative according to Pascal’s wager. The “unmoved mover” is one of the “Five Ways” that Thomas Aquinas justified this claim. For 10 points, name this claim that atheists oppose.

ANSWER: **existence of God** [accept equivalents, accept **cosmological** argument, accept **ontological** argument or **teleological** argument before each is read]
<QP, Social Sciences - Philosophy> [Ed. QP]

4. An activist from this country coined the term “rainbow nation” to describe the trajectory of this country post-1990’s. An ecological crisis in this country ended in 2020, lifting a major city’s restrictions enacted to continually postpone “Day Zero.” A severe water shortage affected this country’s second most populous city near (*) Robben Island. This country’s president Cyril Ramaphosa (“ra-ma-po-sa”) attacked “discriminatory” travel bans after a discovery by this country’s genetic sequencing program. This country held a week of mourning before New Year’s Day 2022 following the death of national hero Desmond Tutu. For 10 points, name this country where Tutu served as Archbishop of Cape Town.

ANSWER: Republic of South Africa

<PQ, The World - Current Events> [Ed. LM]

5. The master theorem can be used to calculate this quantity for certain recurrence relations. Amortized analysis estimates this quantity in the average case, thus ignoring worst-case scenarios. A problem is in the complexity class P if it admits a solution for which this quantity is bounded above by a polynomial of n . (*) Bachmann–Landau notations like Big O notation provide bounds for space complexity and this quantity, which are expressed as “ n times log- n ” for certain sorting algorithms. The number of operations that an algorithm performs is, for 10 points, what quantity most often used to estimate how long an algorithm takes to run?

ANSWER: runtime [accept time complexity, polynomial time complexity, average-case runtime, or worst-case runtime]

<LM, Science - Other Science (Computer Science)> [Ed. DB]

6. A Baroque statue of this person with a harp at its base shows them standing atop a pile of armor, twisting their torso, and biting their lip in concentration. Another statue of this person depicts them standing over a severed head, whose helmet has a long feather reaching up their inner thigh. Saul Levine proposed that one statue of this person was oriented to look towards (*) Rome. The first unsupported Bronze statue in the Renaissance was a freestanding nude of this person wearing only boots and a helmet. A marble sculpture by Bernini depicts this man pulling back his sling. A 17-foot marble statue by Michelangelo depicts, for 10 points, what Biblical figure in the moments before fighting Goliath?

ANSWER: King David

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

7. According to the Jumilhac (“ju-mi-lock”) Papyrus, the first grape vines grew from this deity’s body parts after they were buried and watered. The Wedjat (“wed-jat”) symbol is associated with an aspect of this deity that was healed with milk by Hathor. With Serket, this god fathered four deities representing cardinal directions and personifying canopic jars. This god gave a rival lettuce contaminated with his (*) semen and later defeated that rival in a race using a wooden boat painted to look like a stone one. The living Pharaoh was thought to be an incarnation of this god. This god lost his eye in the 80-year conflict for control of Egypt with his uncle Set. For 10 points, name this falcon-headed son of Isis and Osiris in Egyptian Mythology.

ANSWER: Horus

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

8. One of this author’s characters responds to one of their own poems by saying “it seems to fill my head with ideas—only I don’t exactly know what they are.” A poem by this author first appeared in a novel where it was printed backwards and required the protagonist to show it to a mirror to read it. This poet of the *Hunting of the Snark* wrote in a preface to use a hard G to pronounce the words “gyre” and (*) “gimble.” Two characters eat talking oysters in this author’s poem *The Walrus and the Carpenter*. The “snicker-snack” of the vorpal blade kills the title creature of one of this author’s poems which warns of the frumious Bandersnatch. For 10 points, name this poet who included “Jabberwocky” in his novels about Alice in Wonderland.

ANSWER: Lewis Carroll [or Charles Dodgson]

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

9. **This singer drew criticism for using a video of Prince in their Super Bowl halftime performance. The second half of an 8-minute song by this artist is built on the repeating phrase “you are - you are - the love of my life.” In a song by The Lonely Island, this singer and Andy Samberg both show up for the same date with Lady Gaga. This singer is the most successful former member of a band founded by (*) Chris Kirkpatrick.** He sang “I got that sunshine in my pocket, got that good soul in my feet” in the theme song for DreamWorks’ movie *Trolls*. A 2013 album by this singer featured the singles “Mirrors” and “Suit & Tie.” For 10 points, name this former member of NSYNC who sang “Can’t Stop the Feeling!”

ANSWER: Justin Timberlake [or Justin Randall Timberlake; prompt on JT]

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

10. **This element attacks bromine in a reaction that converts one functional group with this element to another, the Hofmann rearrangement. The Sandmeyer reaction is driven by the leaving of a functional group containing two atoms of this element. An atom of this element in potassium phthalimide attacks a primary alkyl halide to form a functional group with this element bonded to carbon in the (*) Gabriel synthesis.** This element can be protonated when bonded to three other groups to give a quaternary salt. This element is triple bonded to carbon in the cyano group and is bonded to three methyl groups in a molecule that gives fish their distinct smell. For 10 points, name this element bonded to carbon in amides and amines with atomic number 7.

ANSWER: nitrogen [or N]

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

11. **A narrow water channel bisects a plaza around which two symmetrical buildings made of this material frame a view of the Pacific Ocean at Louis Kahn’s Salk Institute. A housing complex designed for Montreal’s Expo 67 consists of 354 connected components made of this material. A cross cut into a wall made of this material is illuminated during the day in Tadao Ando’s Church of the (*) Light.** Le Corbusier (“luh cor-booz-yay”) used this material for Chandigarh’s (“chun-di-gar s”) Palace of Assembly and High Court of Justice, where, like many of his other modernist designs, this material is left exposed and unfinished. For 10 points, Brutalist architecture makes heavy use of what construction material, composed of aggregate and cement?

ANSWER: reinforced concrete [accept reinforced cement concrete, accept Portland cement concrete, accept ready-mixed concrete, accept béton brut, do not accept or prompt on just “cement”]

<QP, Fine Arts - Other Visual> [Ed. DC]

12. **In 1862, Charles Gordon succeeded a commander from this country as leader of the Ever Victorious Army that put down the Taipeng Rebellion. Japan signed the Convention of Kanagawa with this country, a leader from which would later win the Nobel Peace Prize in 1906 for brokering the Treaty of Portsmouth. Many Chinese people known as paper sons and daughters gained citizenship in this country following a devastating 1906 (*) earthquake.** The policy of *sakoku* ended shortly after “black ships” from this country threatened to burn down Edo. This country barred Chinese immigration in an 1882 Exclusion Act. For 10 points, name this country that contains numerous Chinatowns in cities like San Francisco.

ANSWER: United States of America [accept either underlined, accept equivalents like USA]

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

HALFTIME

13. A language spoken in this country expresses quantities using only the words *hói* and *hoí*. German immigrants introduced the Hunsrik language to the south of this country. A language spoken by natives of this country is cited as a counterexample to Chomskyan (“chomsky-an”) theories of grammar due to its apparent lack of recursion. The only surviving dialect of this country’s Mura people is (*) Pirahã. (“pee-ra-hahn”). Slang phrases such as the greeting “tá bom” are thought to originate from the speech of enslaved Africans brought to this country. This is the most populous Lusophone country. For 10 points, name this nation whose official language, Portuguese, takes many loanwords from indigenous tribes situated along the Amazon.

ANSWER: Federative Republic of **Brazil**

<SB, Social Science - Other> [Ed. SB]

14. Aluminum salts can be used as adjuvants to make this operation more effective. Cytotoxic T cell production is promoted by the “attenuated” form of this operation, which is contrasted with its “inactivated” form. A percutaneous variant of this operation used before 1979 caused blisters and created 1-centimeter-wide scars on patients’ (*) arms. Connections between this operation and “non-specific colitis” were fabricated by a paper published in *The Lancet* by Andrew Wakefield. Recent forms of this operation have done away with a mercury-containing preservative called thimerosal (“thigh-mare-o-sall”) due to allegations that it causes autism. For 10 points, name this operation that provides immunity to a disease, usually via injection.

ANSWER: **vaccination** [or **vaccines**; accept any specific kind of **vaccine**, such as the smallpox **vaccine** or the COVID-19 **vaccine**; prompt on shots or injections]

<SB, Science - Biology> [Ed. JF]

15. In the 2008 playoffs, this player pump-faked two Jazz defenders and threw the ball to himself off the backboard for a dunk. A missed shot that leads to an easy rebound and score for a teammate is nicknamed for this player. After this player’s assist on a championship-clinching shot, Ron Artest (“ar-test”) joked “he never passes me the ball!” This player sent his team to the 2000 NBA finals with a lob pass to (*) Shaquille (“sha-keel”) O’Neal, who later requested a trade to the Heat due to a feud with this player. This shooting guard, who has two numbers retired by the same franchise, scored 81 points in a single game in 2006. For ten points, name this legendary Los Angeles Laker who died in a helicopter crash in January 2020.

ANSWER: **Kobe** Bryant [or Kobe Bean **Bryant**; accept **Kobe** assist; prompt on Black Mamba or Bean]

<DJ, Pop Culture - Sports> [Ed. RR]

16. *Note to players: two answers are required.*

The Acclamation War ended a dynastic union between these two modern-day countries. A treaty signed by these two countries established an antimeridian in the Moluccas. (“mo-luck-kuz”). An explorer from one of these two countries led the first circumnavigation of the Earth while sailing for the other. A union between these two countries labeled New Christians as (*) *moriscos* during a religious inquisition. Napoleon attempted to conquer these two countries in the Peninsular War. These two modern-day countries expelled the Moors during the Reconquista. The Treaty of Tordesillas demarcated the colonial claims of, for 10 points, what two European countries that were once united in the Iberian Union?

ANSWER: Kingdom of **Spain** AND Kingdom of **Portugal** [accept countries in either order; accept **Portuguese Republic** in place of Portugal; prompt on partial answer]

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

17. This book describes a meeting with Cleopas on the road to **Emmaus** (“*amay-us*”). In this book addressed to Theophilus, a short tax collector named **Zacchaeus** (“*zuh-kai-us*”) climbs a tree to see over a crowd. This book is the longer of the two believed to have drawn from the Q source. All four Great Latin Fathers concurred in assigning the ox seen in Ezekiel’s vision of the Living Creatures to the author of this book. This **pseudepigraphical book, attributed to a (*)** physician companion of Paul, includes Gabriel’s conversation with Mary, the Annunciation. This book includes parables like those of the Good Samaritan and the Prodigal Son, and was written by the same author as the Acts of the Apostles. For 10 points, name this third and longest Gospel that succeeds the Gospel of Mark.

ANSWER: Gospel of **Luke**

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

18. This story’s protagonist describes seeing a pattern that resembles “an **interminable** (“*in-terminable*”) string of toadstools.” This story’s protagonist wakes up in the middle of the night and denies that they are “gaining flesh and color” to a man who threatens to send them to Silas Weir Mitchell. After John finds a key under a plantain leaf, this story’s protagonist exclaims (*) “I’ve got out at last,” after which they step over John’s fainted body as they circle the room. This story’s protagonist is prescribed a rest cure by her husband and catches the maid Jennie touching the title thing. For 10 points, name this story by Charlotte Perkins Gilman in which an ugly decoration causes an isolated woman to lose her mind.

ANSWER: “The **Yellow Wall-Paper**”

<SM, Literature – Short Stories/Other> [Ed. SB]

19. In one movement of this work, the clarinetist plays alternating C and A-flats from offstage to mimic the title effect of being “in the Depths of the Woods.” Two keyboardists are instructed to practice scales “awkwardly” in a movement of this work named “The Pianists.” The line “It’s kind of fun to be extinct” ends one of the (*) Ogden Nash poems written to be read between movements of this work. Ballerina Anna Pavlova’s trademark dance is named for a “dying” one of the title creatures from an oft-excerpted cello solo from this suite. Xylophones represent rattling bones in the “Fossils” movement of this work, which is followed by “The Swan.” For 10 points, name this zoological suite by Camille **Saint-Saëns**. (“*san-sawn*”).

ANSWER: *The **Carnival of the Animals*** [or *Le **Carnaval des animaux***]

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

20. *Note to players: a description is acceptable.*

William Grinstead argued that this status was not possessed by his client and wife Elizabeth Key. A person named Jemmy assembled a group of people with this status at the Stono River who intended to go to Spanish Florida. Henry Box Brown managed to remove this status by mailing himself to Philadelphia. The (*) “1619 Project” takes its name from the year when the first people with this status arrived in the Virginia colony. A compromise in the Constitution stated that people with this status counted as three-fifths of a person. For 10 points, name this status that African captives sent through the Middle Passage had in America.

ANSWER: **enslaved** [accept any clear descriptions of being a **slave**, prompt on being **black** or being **African**]

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

21. Oyster Bay, a neighborhood in this country's largest city, was the birthplace of Tingatinga paintings, which use layers of bicycle paint. *Homo habilis* remains have been found in the Olduvai Gorge in this country, which also contains the world's largest intact caldera, Ngorongoro ("en-gorong-goro") Crater. A four-year-long war between the Kahama and Kasakela chimpanzee communities occurred in this country's Gombe National Park, where Jane (*) Goodall conducted her research. Two million wildebeest and zebra migrate across the Serengeti annually in this country. This country moved its capital to Dodoma from its largest city, Dar es Salaam. Africa's tallest peak, Mount Kilimanjaro, is found in, for 10 points, what country, formed from the union of Tanganyika and Zanzibar?

ANSWER: Tanzania

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

22. The covariant derivative of a stress-energy tensor associated with this phenomenon determines the density of the force from this phenomenon. A frequency shift caused by this phenomenon on gamma rays was measured in the Pound–Rebka experiment. The worldline of a particle influenced by this phenomenon forms a geodesic. One extension of the Standard model to explain this phenomenon is a (*) loop quantum theory. In general relativity, this phenomenon results from the curvature of spacetime. This phenomenon causes an acceleration of 9.8 meters per second near the Earth. For 10 points, name this phenomenon associated with a fundamental force of attraction between objects with mass.

ANSWER: gravity [accept word forms, prompt on g]

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

23. Flute music is heard throughout this play in a motif invoking the protagonist's flute-maker father. An imagined figure in the play tells the protagonist that "the jungle is dark but full of diamonds." A character in this play steals a fountain pen and a football after failing to get a job from Bill Oliver. This play's protagonist, who idolizes Dave Singleman and hallucinates his dead brother (*) Ben, is caught having an affair with "the Woman." The son of this play's protagonist ends his football career by failing his math class. The protagonist of this play kills himself in a car crash to give his life insurance money to his wife Linda and sons Happy and Biff. For 10 points, name this Arthur Miller play titled for the suicide of Willy Loman.

ANSWER: Death of a Salesman

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

24. This psychologist's daughter identified 10 defense mechanisms in a work that recommended "ego psychology." Erik Erikson's stages of psychosocial development were based on this psychologist's theory of development. A vivid dream called "Irma's injection" inspired this psychologist's theory that dreams are wish fulfillment. This psychologist claimed that child development happened in (*) oral, anal, and phallic stages. In this psychologist's model of the mind, the ego is the realistic mediator between the id and the superego. For 10 points, name this pioneering Austrian psychoanalyst who theorized the Oedipus complex.

ANSWER: Sigmund Freud [accept Sigismund (Shlomo) Freud; prompt on "Anna Freud" with "who was her father?"]

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

BONUSES

1. An advocate for this political philosophy imagined a crowd of people who have all paid 25 cents to see Wilt Chamberlain play basketball. For 10 points each:

[10e] Name this broad political philosophy which strongly values individual freedom and whose adherents often advocate for [laissez-faire](#) (“*lah-zay fair*”) economic policies.

ANSWER: libertarianism

[10h] This libertarian thinker originated the Wilt Chamberlain argument and advocated for a minimal "night-watchman" state that protects against force and enforces contracts in *Anarchy, State, and Utopia*.

ANSWER: Robert Nozick

[10m] Nozick's minimal state does not provide for these programs, which make up the social safety net. These programs are characteristic of a namesake "state" that provides benefits to citizens in need.

ANSWER: welfare programs [accept welfare state]

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

2. This drug is thought to suppress SALL4 in fetal cells, leading to phocomelia in the fetus if taken during the first trimester of pregnancy. For 10 points each:

[10h] Name this birth defect-inducing drug, whose behavior as an angiogenesis inhibitor allows it to be used as a cancer drug. FDA reviewer Frances Kelsey prevented this drug from entering US markets.

ANSWER: thalidomide [accept Contergan or Thalomid]

[10e] More than 10,000 children were born with deformities due to the use of thalidomide in order to alleviate this side effect of pregnancy. Despite its name, this feeling of nausea can occur at any time of day.

ANSWER: morning sickness [accept nausea and vomiting of pregnancy or NVP]

[10m] Morning sickness is also observed in people undergoing this therapy, indicating that it may be due to heightened estrogen levels. This therapy is used to treat gender dysphoria and symptoms of menopause.

ANSWER: hormone replacement therapy [or HRT, accept postmenopausal hormone therapy, accept transgender hormone therapy or gender-affirming hormone therapy or GAHT, accept feminizing hormone therapy, prompt on hormone therapy]

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

3. Stories like the marriage of the fairy [Âu Cơ](#) (“*oh kuh*”) to the dragon [Lạc Long Quân](#) (“*lack long kwun*”) or the tale of Thánh [Gióng](#), (“*yong*”), one of the Four Immortals, are often told in this genre. For 10 points each:

[10h] Name this genre, which is today performed in waist-deep pools reminiscent of the rice paddies in which this genre originated. The witty Chú Tễu is a popular character in this genre.

ANSWER: water puppetry [or múa rối nước, accept water puppets]

[10e] Water puppetry was developed in this country. Hòa Hảo, which advocates for “Practicing Buddhism While Farming Your Land” and emphasizes charity work, originated in this Southeast Asian country with capital Hanoi.

ANSWER: Vietnam [or Việt Nam]

[10m] During the Vietnamese festival of Tết, which celebrates this event, individuals often return to their families, erect [cây nêu](#) (“*kay now*”) trees, and watch [múa lân](#) (“*lun*”) lion dances.

ANSWER: the lunar new year [prompt on new year; reject “Chinese new year”]

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

4. One of these works contains variations on a song whose melody was later used for the German national anthem. For 10 points each:

[10h] Name this genre of chamber music. A collection of 6 of these works dedicated to Count [József Erdődy](#) (“yo-sef air-duh-dee”) named “Opus 76” contains pieces nicknamed “Fifths,” “Emperor,” and “Sunrise.”

ANSWER: string quartets

[10m] That collection of string quartets was composed by this Austrian composer. The Hoboken catalog compiles this composer’s 106 symphonies, including one in which the orchestra leaves the stage as part of the performance.

ANSWER: Franz Joseph Haydn

[10e] One of Haydn’s most famous symphonies is the Surprise Symphony, which is named for a sudden chord marked with this dynamic at the end of a *piano* opening theme. This dynamic is marked with 2 f’s.

ANSWER: fortissimo [reject “forte” or “fortississimo”]

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

5. Pulitzer-Prize winning author Jennifer [Egan](#) (“ee-gan”) published her book *Black Box* in this medium. For 10 points each:

[10e] Name this online medium of short form literature. A 2017 update of this social media site doubled the character limit on works from 140 characters to 280.

ANSWER: Tweets [accept Twitter.com]

[10m] Other authors who have experimented with “twitterature” include this author who used his followers to guide his “interactive twovel.” (“twah-vel”). This author wrote the *Sandman* graphic novel series as well as *Coraline*.

ANSWER: Neil Gaiman [or Neil Richard MacKinnon Gaiman]

[10h] In addition to posting it on his Tumblr, this man tweeted out his story “A Globe Of Heaven.” In one of his more famous works, Parvati-the-witch has an affair with Shiva, a man with super strong knees.

ANSWER: Salman Rushdie [or Sir Ahmed Salman Rushdie]

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

6. The 451 C.E. appearance of Halley’s comet was said to have predicted the defeat of these people and their allies at the Battle of the Catalaunian Plains. For 10 points each:

[10e] Name these nomadic people who were a major thorn in Rome’s side under their leader Attila.

ANSWER: Huns [accept the Hunnic Empire]

[10m] The Bayeux Tapestry depicts Halley’s comet as it appeared during this 1066 battle, where Harold Godwinson was killed by an arrow to the eye while fighting the forces of William the Conqueror.

ANSWER: Battle of Hastings

[10h] The 1456 visit of Halley’s comet coincided with the Ottoman invasion of this kingdom, which Platina claimed pushed Pope Callixtus III to issue special prayers. That invasion of this kingdom was repulsed by John Hunyadi.

ANSWER: Kingdom of Hungary

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

7. The discovery of one of these particles in 1974 led to a series of rapid developments in particle physics known as the “November Revolution.” For 10 points each:

[10h] Name these subatomic particles made of equal numbers of quarks and antiquarks, and which are contrasted with **baryons**. (“berry-ons”). The aforementioned one of these particles contained the first observed charm quark.

ANSWER: mesons [accept **quarkonium** or **charmonium**; accept, but DO NOT REVEAL, J/psi **mesons**]

[10m] The **meson** (“mee-zon”) whose discovery kicked off the November Revolution was named for this Latin letter and psi. In electromagnetism, this letter denotes current density.

ANSWER: J/psi mesons

[10e] Different research groups at Brookhaven and Stanford independently discovered the **J/psi** (“J-psi”) meson, both using these high-energy machines. A large one of these machines for hadrons is operated by CERN.

ANSWER: particle accelerators [accept linear **accelerator**s; accept **cyclotrons** or **synchrotrons**; accept particle **colliders** or hadron **colliders**; accept Large Hadron **Collider** or **LHC**; accept Stanford Linear **Accelerator**; accept Alternating Gradient **Synchrotron**; accept **atom smashers**]

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

8. Jerry Rubin pulled stunts such as dressing as Santa Claus and blowing bubblegum bubbles when summoned by this group. For 10 points each:

[10h] Give the full name or acronym of this group, which investigated activity subversive to the US, with particular emphasis on communist ties. Alger Hiss testified that he had spied for the Soviet Union to this group.

ANSWER: House Un-American Activities Committee [or **HUAC**]

[10m] Ten members of this industry were famously blacklisted after refusing to testify before the committee. This industry produced anti-communist works such as *The Red Menace* and *Red Dawn* during the Cold War.

ANSWER: film industry [accept equivalents like **movie** industry, accept **Hollywood**]

[10e] Though he was not directly involved, the committee is often associated with the paranoid anti-communism of this Wisconsin senator, who once claimed to have a list of known communists working for the State Department.

ANSWER: Joseph McCarthy

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

9. Sorry if this bonus is disappointing. For 10 points each:

[10h] This river’s namesake explorer originally named it “Disappointment River” after learning that it did not lead to the Pacific Ocean. This river’s Lowlands are covered with muskeg and its tributaries include the Great Bear River.

ANSWER: Mackenzie River [or **Deh-Cho**, or **Kuukpak**, or **Fleuve Mackenzie**]

[10m] Cape Disappointment is located at the mouth of this river. Franklin D. Roosevelt Lake was created by the Grand Coulee Dam on this river, which defines the Washington-Oregon border.

ANSWER: Columbia River [or **Wimahl**, or **Nch’i-Wàna**, or **swah’netk’qhu**]

[10e] Disappointment Creek runs into the Utukok River in this US state, which also contains cities like Juneau and Anchorage.

ANSWER: Alaska [or **Alaḡsxaḡ**, or **Alaasikaq**, or **Alas’kaaq**, or **Alaskaq**, or **Anáaski**]

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

10. In one play by this author, a ring found in the belly of a fish breaks the curse that prevents king Dushyanta from remembering his lover. For 10 points each:

[10h] Name this legendary Indian playwright and poet. In T.S. Narayana (“na-ryan-a”) Sastri’s theory, this author was actually a collection of people, and plays like *The Recognition of Shakuntala*, (“sha-kun-ta-la”) were actually written by Matrigupta.

ANSWER: Kālidāsa

[10e] Kālidāsa and his contemporary authors wrote in this ancient Indian language.

ANSWER: Sanskrit [or sanskritam]

[10m] In a lyric poem by Kālidāsa, a yaksha asks one of these things to deliver a message to his wife. A William Wordsworth lyric poem remarks how “I wandered lonely as” one of these things.

ANSWER: clouds [accept “**Cloud** Messenger” or “I Wandered Lonely as a **Cloud**”]

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

11. *Splinter Cell* and *Watch Dogs* are among the Ubisoft (“you-bee-soft”) franchises that incorporate this activity into their gameplay. For 10 points each:

[10e] Name this activity performed by traceurs, (“tracers”), who use improvised movement to traverse obstacles quickly and fluidly. The documentary *Jump London* referred to this French-named activity as “freerunning.”

ANSWER: parkour

[10m] Parkour and stealth are core features of this Ubisoft series, which focuses on a conflict between the title group and the Knights Templar. Entries in this series take place during historical events such as the Third Crusade.

ANSWER: Assassin’s Creed

[10h] After obtaining this action-adventure series, Ubisoft implemented parkour in an entry where the title nobleman is tricked into releasing sand from an hourglass, turning his subjects into monsters.

ANSWER: Prince of Persia: The Sands of Time

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

12. Answer the following about a company’s income statement, for 10 points each:

[10m] The income statement declares a company’s net income by taking its sales revenue and subtracting these things. In contrast to costs, these payments are for business operations and not asset acquisition.

ANSWER: expense [accept expenditures; anti-prompt on overhead or specific expenses]

[10e] One example of an expense is this process, under which tangible assets lose value over time. It is contrasted with amortization for intangible assets.

ANSWER: depreciation

[10h] Income statements also include this metric, which is an easy way to gauge a company’s profitability. “Whisper numbers” are unpublished reports of this key metric, which can come in a “diluted” form.

ANSWER: earnings per share [or EPS]

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

13. After having both of his hands cut off, a chief of these people named Galvarino went into battle fighting with knives tied to his wrist stumps. For 10 points each:

[10h] Name these indigenous people who fought the Spanish in the Arauco (“a-rocko”) War under leaders like Caupolicán (“cow-po-li-kahn”) and Lautaro. (“lao-ta-ro”).

ANSWER: Mapuche

[10e] The Mapuche inhabit land in what is now Chile and this country. The “good winds” that allowed sailors to safely travel to this country’s capital city inspired its name, Buenos Aires.

ANSWER: Argentina [or the **Argentine** Republic, or **República Argentina**]

[10m] Like many other native people, the Mapuche intermingled with settlers to form this general class of people. This term generally referred to those of mixed white and native ancestry.

ANSWER: mestizo

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

14. Answer the following about artists during the Dutch Golden Age of painting. For 10 points each:

[10e] Clara Peeters (“pay-ters”) found success with her breakfast and banquet pieces in this genre. This genre usually features table-settings with fruits or flowers.

ANSWER: still lifes

[10m] During the early days of the Golden Age, Rembrandt painted one of his earliest masterpieces, depicting one of these events hosted by Nicolaes Tulp.

ANSWER: anatomy lesson [accept *The Anatomy Lesson of Dr. Nicolaes Tulp*; prompt on lessons, medical lectures, or medical lessons; prompt other similar answers, but only accept **anatomy lesson**]

[10h] Popular in the Dutch Golden Age was this genre of painting, exemplified by Vermeer’s *Girl with a Pearl Earring*. These paintings mostly depicted exaggerated faces and expressions, instead of acting as portraits.

ANSWER: tronies

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

15. For 10 points each, answer the following about Disney Channel original movies:

[10m] This 2011 movie features a group of students who bond over music during detention. They go on to form a band and play songs such as “Breakthrough,” “She’s So Gone,” and “Determinate.”

ANSWER: Lemonade Mouth

[10e] In a 2006 movie, this Zac Efron-played character is torn between captaining the basketball team and auditioning for the title *High School Musical*.

ANSWER: Troy Bolton [prompt on Bolton]

[10h] In *Camp Rock*, a character played by this actress performs a terrible keyboard solo, prompting her friend to exclaim “she’s really good!” This actress voiced Isabella in *Phineas and Ferb* and Opal in *The Legend of Korra*.

ANSWER: Alyson Stoner [or Alyson Rae **Stoner**]

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

16. The Laplace transform converts signals to the s -domain from the t -domain, where t typically represents this quantity. For 10 points each:

[10e] Name this quantity, whose inverse is frequency, that can be measured in seconds.

ANSWER: time

[10m] The Laplace transform can be used to solve this type of differential equations, which do not involve partial derivatives. Solutions to these equations can be approximated by Runge–Kutta methods like the Euler method.

ANSWER: ordinary differential equations [accept ODEs]

[10h] A “cover-up” method named for this mathematician can be used to perform partial fraction decomposition when calculating the Laplace transform of a function. This mathematician names a step function whose bilateral Laplace transform equals one over s .

ANSWER: Oliver Heaviside [accept Heaviside cover-up method or Heaviside step function]

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

Amid reignited conflicts in this region in 2020, activists have started a social campaign to

[#Recognize](#) (“hashtag recognize”) this region as a republic. For 10 points each:

[10h] Name this break-away state and former Soviet oblast. The Minsk Group has attempted to resolve conflict in this region with capital at Stepanakert, having negotiated multiple cease-fires.

ANSWER: Republic of Artsakh [accept Nagorno-Karabakh Republic]

[10e] Artsakh is populated by people of this Caucasian ethnicity. Turkey has denied its instigation of a genocide committed against people of this ethnicity during World War I.

ANSWER: Armenians

[10m] The Artsakh enclave is currently considered part of this country. This country, east of Armenia, commands its military campaign from its capital at Baku.

ANSWER: Republic of Azerbaijan [or Azerbaijan Republic]

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

18. In 2020, *New York Times Magazine* published 29 short stories on the COVID-19 pandemic in a project named for this book. For 10 points each:

[10m] Name this 14th-century book by Giovanni Boccaccio. (“*bo-ka-chee-o*”). This book has a collection of 100 stories told by 10 Florentines over 10 days to pass their time isolating from the Black Plague.

ANSWER: *The Decameron*

[10e] Most scholars agree that *The Decameron* was a direct inspiration for this other story collection by Geoffrey Chaucer. In this collection, a group of pilgrims including the Wife of Bath share stories.

ANSWER: The *Canterbury Tales*

[10h] Chaucer likely lifted this tale from Boccaccio’s poem “*Teseida*.” (“*tay-say-ee-da*”). This tale about two men fighting for Princess Emelye’s (“*Emily’s*”) marriage is the first tale in the collection.

ANSWER: “The Knight’s Tale”

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

19. Charles Pedersen discovered a simple method of synthesizing these compounds from **catechol** (“*cat-eh-call*”) and **bis(2-chloroethyl) ether** (“*biss two chloro-ethel ether*”) in a landmark paper. For 10 points each:

[10h] Name these heterocyclic structures, usually composed of ethylene oxide monomers. These compounds surround and selectively bind to certain **cations** (“*cat-ions*”), increasing the reactivity of the **anion** (“*an-ion*”).

ANSWER: crown ethers [prompt on **ethers**]

[10e] The crown ether **18-crown-6** (“*eighteen crown six*”) is often used to solvate the cation of this element. This element, directly below sodium on the periodic table, is symbolized K.

ANSWER: potassium

[10m] Ethers selectively interact with cations because they cannot serve as the donor of one of these interactions. This strongest intermolecular force occurs between a highly electronegative atom and a certain element.

ANSWER: hydrogen bonding [or **H-bonding**; prompt on **dipole-dipole** forces]

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

20. For 10 points each, answer the following about the winner of the 2020 Nobel in Literature, **Louise Glück** (*glick*):

[10e] Glück’s poetry collection *Averno* centers on this Greek mythological figure, who “is having sex in hell” and “doesn’t know what winter is, only that she is what causes it,” in reference to this figure’s abduction by Hades.

ANSWER: Persephone

[10h] One of Glück’s most popular poems is titled for an “Iris” described by this word. This adjective is used in the exclamatory, repetitive title of a Emily Dickinson poem to describe “Nights!”

ANSWER: wild [accept “The **Wild** Iris,” accept “**Wild** Nights! - Wild Nights!”]

[10m] Glück said that she is disappointed she is “someone easy to understand” like this Fireside poet. This poet wrote an epic about a man who grew up “on the shores of Gitche Gumee” and marries Minnehaha.

ANSWER: Henry Wadsworth Longfellow (that epic is “The Song of Hiawatha”)

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

21. Before publishing a book that largely originated the Great Man theory of history, Thomas Carlyle gained recognition for a history of this event. For 10 points each:

[10m] Name this general event. A tumultuous period in this event known as the Thermidorian reaction included the abolishment of the Committee of Public Safety.

ANSWER: French Revolution

[10h] The Great Man theory of history was criticized by this English intellectual who claimed “great men” were products of their environment. This man coined the term “survival of the fittest.”

ANSWER: Herbert Spencer

[10e] This man claimed a parliament would dilute the abilities of generational “great men” as part of the argument against Western democracy present throughout his book *Mein Kampf*.

ANSWER: Adolf Hitler

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

22. This man exchanges armor with Glaucus after discovering their grandfathers were friends, and other soldiers pray that either this man or Ajax Telamon is chosen to fight Hector. For 10 points each:

[10m] Name this war hero, a son of Tydeus who shares his name with a Thracian figure who has his flesh-eating mares stolen by Heracles in his eighth labor.

ANSWER: Diomedes

[10e] Diomedes fought alongside Achilles in this conflict, which ended when Greek forces were able to sneak their way into the enemy city inside of a wooden horse.

ANSWER: Trojan War

[10h] During the Trojan War, Diomedes accompanies this man on several tasks including killing the king Rhesus, retrieving Philoctetes' ("fill-oct-tih-teez") poisonous arrows, and stealing the Palladium from Troy.

ANSWER: Odysseus

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

23. In a major scale, the dominant is this interval above the tonic. For 10 points each:

[10m] Name this interval. Major key signatures are often arranged in a circle in which adjacent notes are this interval apart.

ANSWER: perfect fifth [or **P5**; accept circle of **fifths**; do not accept or prompt on "augmented fifth" or "diminished fifth"]

[10e] This key is at the top of the circle of fifths. The piano is tuned to this key because this key has no sharps or flats.

ANSWER: C [accept **C major** or **C natural**; do not accept or prompt on "C flat" or "C sharp"]

[10h] In this convention, the perfect fifth has a pitch interval of 3-to-2. This convention, which is contrasted with equal temperament, seeks to create whole-number pitch ratios for all intervals.

ANSWER: just intonation [or **just** tuning, or **pure** intonation, or **pure** tuning]

<SB, Fine Arts - Other Audio> [Edited]

24. For 10 points each, answer the following about pre-Socratic philosophers.

[10h] This thinker is widely considered the first Greek philosopher. This predecessor to Anaximander ("an-acks-imander") and Anaximenes ("an-acks-imen-eez") founded the Milesian school and held the fundamental nature of matter to be water.

ANSWER: Thales ("thay-lees") of Miletus

[10m] This thinker and his followers refused to eat beans. This thinker's ideas included the transmigration of souls and music of the spheres, and one of his followers.

ANSWER: Pythagoras of Samos

[10e] Though his predecessors mostly believed that the principle nature of the universe was one single substance, Empedocles ("Em-ped-o-cleez") was the first to posit the four classical versions of these things: fire, earth, water, and air.

ANSWER: elements

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