

2020 Terrapin Open

Packet 3

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Tossups

1. **While the protagonist of a story is being examined by a doctor, this substance tells him, “Banish them. Refuse to speak.” This substance titles a story whose protagonist, in a flashback, remembers a half-witted boy who’s surprised when he’s arrested for killing a man who asked for horse feed. In another story, Deirdre casts the protagonist a shy glance after he correctly answers Mrs. Buell’s question about the Northwest Passage, which interrupts his thoughts about how this substance is gradually making it harder for him to hear the (\*) mailman coming. That story ends with the protagonist, hallucinating about this substance, shouting, “Mother! Mother! Go away! I hate you!” A story titled for this substance, which a Conrad Aiken story calls “silent” and “secret,” ends with a hyena howling outside Harry’s tent, revealing that he had not been rescued by a plane as imagined, but had instead died of gangrene. For 10 points, Ernest Hemingway wrote a story titled for what substance “of Kilimanjaro?”**

ANSWER: **snow** [accept “The **Snows of Kilimanjaro**” or “**Silent Snow, Secret Snow**”]

<VS, American Literature>

2. **It doesn’t include Ohio, but this region is home to a dish called Spaghetti Red, consisting of noodles covered with chili and topped with pickles. In a novel set in this region, after her father Jessup skips bail, Ree seeks out her “cooker” uncle Teardrop. In 2005, Asher Durand’s *Kindred Spirits* was acquired by an art museum in this region that consists of two suspended-cable-and-timber “bridges” spanning a water-filled pond. Moshe Safdie (“mo-SHEH SAHF-dee”) designed that museum in this region, named (\*) Crystal Bridges. This region, which includes the Boston Mountains and the St. Francois Mountains, was depicted in Daniel Woodrell’s novel *Winter’s Bone*. The theme park Civil Dollar City is located in this region’s resort town of Branson. This region, which lies north of the Ouachita (“WASH-ih-taw”) Mountains, contains the city of Bentonville, which is the corporate headquarters of Walmart. For 10 points, identify this region named for a mountain range that encompasses parts of Missouri, Arkansas, and Oklahoma.**

ANSWER: **Ozarks** [or **Ozark** Mountains; or **Ozark** Plateau; prompt on Missouri or Arkansas or Oklahoma or directional designators like northwestern Arkansas]

<CK, Modern World>

3. **During a British siege of this city, militiamen mobilizing in a nearby seaport discarded their shoes while fleeing from the forces of the Duke of Wellington at the so-called “Clogs Battle.” After this city’s commander refused to surrender during that siege, James Gambier shelled it with Congreve rockets. George Canning dispatched Lord Cathcart to this city after Russia agreed that France could seize a fleet anchored here in the Treaty of (\*) Tilsit. An attack on this city led to the collapse of the Second League of Armed Neutrality, and sparked the Gunboat War. At that battle fought in this city, a signal for retreat by Sir Hyde Parker was ignored by the commander of the HMS *Elephant*, who remarked “I really do not see the signal!” while holding a telescope to his blind eye. For 10 points, name this capital of the House of Oldenburg where a Danish-Norwegian fleet was defeated by an insubordinate Horatio Nelson.**

ANSWER: **Copenhagen** [or **København**]

<CK, European History>

4. Fedor Isenbeck discovered a text supposedly dedicated to this deity, which describes this deity as the “father of the Tivertsi.” Worshipers of this deity pour libations over the roots of trees in a festival that incorporates a representation of the auroch-headed Turon. In pagan interpretations, this deity is identified with Saint Nicholas and protects farmers from another deity identified with Saint Elias (“uh-LYE-us”). Shrines to this deity were built at the bases of hills due to this deity’s association with low areas. The fertility god (\*) Jarilo (“ya-REE-lo”) is kidnapped and taken to the underworld by this god to serve as his cattle rancher. This god, in the form of a serpent, perennially steals the wife or cattle of another god, releasing those possessions as rain when he is killed. For 10 points, name this Slavic god of the underworld whose central myth involves his conflict with Perun (“peh-ROON”).

ANSWER: Veles [or Volos] (The text in the first sentence is the *Book of Veles*.)

<JSH, Mythology>

5. The Suzuki–Trotter expansion can be used to approximate this function of an operator sum. The stationary phase approximation is used to simplify integrals of this function applied to another function. Elements of a Lie (“lee”) group can be expressed as this function applied to an infinitesimal generator times a parameter. An unnormalized plane (\*) wave can be expressed as this function of negative  $i$  times position dot wavevector. The Boltzmann factor is this function applied to negative beta times energy. To calculate this function for an operator, you can use its power series representation, which for an operator  $A$  is the sum over  $n$  of  $A$ -to-the- $n$  over  $n$ -factorial. For 10 points, name this function defined as Euler’s (“OY-lur’s”) number raised to the power of the input.

ANSWER: exponential function [or  $e$ -to-the- $x$  or exp  $x$  or equivalents; prompt on exponentiation or exponent; accept matrix exponential or operator exponential]

<GR, Physics>

6. In a story by this author, a character is repeatedly startled by a doppelgänger resembling his rival who causes him to cut himself while shaving and spill borscht all over his dress shirt while at the Duchess of Hertfordshire’s (“HART-furd-sheer’s”) estate at Keeb. This author wrote another story whose title character is mocked by his classmates because his parents named him “Ladbroke” after the street on which they lived. In that story by this author, the title character declares that at any moment he could be hit by a motor-omnibus, after which he is immediately killed by one. This author of (\*) “Hilary Maltby and Stephen Braxton” wrote a story about a self-described “Catholic Diabolist” who authored the poorly-received poetry collection *Fungoids*. At the end of that story by this author, the protagonist visits the British Reading Room on June 3, 1997, and discovers that he will only be remembered as the protagonist of a short story. For 10 points, name this author whose collection *Seven Men* includes “Savonarola Brown” and “Enoch Soames.”

ANSWER: Max Beerbohm

<VS, British Literature>

7. After the protagonist of this film beats a character who asks to be hit during sex, the camera zooms in on that woman’s red lips before cutting to an image of a blazing fire. A David Foster Wallace essay about this film’s director argues that *Reservoir Dogs* references a scene in it in which a gay night club owner lip-syncs Roy Orbison’s “In Dreams.” This film opens with the camera panning down from a blue sky onto red roses in front of a white picket fence. In this film’s final scene, a (\*) robin appears holding an insect in its mouth, echoing Sandy’s dream in which robins purge the world of insects. This film contains a scene in which a character shouts “Don’t you fucking look at me!” while ritualistically raping Dorothy Vallens. The camera slowly zooms in on a severed human ear covered in ants in one scene in this film. For 10 points, Jeffrey Beumont shoots the gas-huffing gangster Frank Booth at the end of what film by David Lynch?

ANSWER: Blue Velvet

<CK, Other Arts: Film>

8. **Rioters stormed this country's US Embassy after Sergeant Robert Reynolds killed a man for allegedly spying on his wife while she bathed, an event known as the May 24 Incident. It's not Panama, but Barry Goldwater challenged the unilateral nullification of an American treaty with this country in a textbook application of the political question doctrine, *Goldwater v. Carter*. Anti-communist reconnaissance missions were flown by pilots from this country's CIA-trained Black Bat Squadron. This nation's government proposed the Six Assurances after the US issued a series of joint statements with its main rival known as the (\*) Three Communiqués. A major issue in the Kennedy–Nixon debates was whether the US should send troops to help this nation defend Quemoy (“kih-MOY”) and Matsu. Harry Truman dispatched the Seventh Fleet to protect this country from invasion during the First Straits Crisis. For 10 points, name this island country with which the US maintains relations despite its One-China Policy.**

ANSWER: Taiwan [or Republic of China; or ROC; prompt on China; do not accept or prompt on “People’s Republic of China”]

<CK, American History>

9. *Note to moderator: Read the answerline carefully.* **8-series NACA devices are optimized for this flow regime. The linear PDE “ $u_{xx} + x u_{yy}$ , equals 0” is the limiting form of an equation used to model this flow regime. Optimized designs for this flow regime minimize the square of the second derivative of area. Korn’s relation governs the onset of drag divergence in this regime. Wolfgang Haack developed a series of cones for use in this flow regime. (\*) Expansion fans are generated when this type of flow moves around a convex corner. The Prandtl–Glauert transformation predicts a divergence of pressure at the onset of this flow regime. At the onset of this regime, wave drag becomes the predominant source of drag. Overpressure in the transition to this flow regime forms oblique shocks and a sonic boom. For 10 points, name this flow regime that involves speeds around or greater than Mach 1, breaking the sound barrier.**

ANSWER: transonic flow [accept supersonic flow or hypersonic; accept flow faster than the speed of sound or equivalents; accept flow around Mach 1 or flow greater than Mach 1 or equivalents until “Mach 1” is read; accept critical or supercritical flow; prompt on compressible flow; prompt on high-velocity flow; do not accept or prompt on “incompressible flow”]

<KS, Other Science: Engineering/Mixed>

10. **This adjective describes a type of learning that Berry and Broadbent studied in an experiment where participants were asked to manipulate the size of a sugar factory’s workforce. Carol Dweck proposed a theory of intelligence described by this adjective that distinguishes between learners with “entity” and “incremental” theories. This adjective names a test, similar to the go/no-go task, developed by Anthony Greenwald and Mahzarin Banaji. A type of long-term memory described by this adjective is improved by (\*) priming, and includes procedural memory. A Harvard-sponsored project allows users to take a test described by this adjective, a famous version of which measures a participant’s reaction time as they match white and black faces to positive and negative words. That test is named for this kind of “association.” For 10 points, name this adjective that names a type of bias in which an individual unconsciously attributes stereotypes to a group.**

ANSWER: implicit [or implicit bias; or implicit-association test; or implicit memory; or implicit learning]

<CK, Social Science: Psychology>

11. **The protagonist of a novel written in this language finds his city surrounded by three Rings of Hostility and its residents trading feces for food, after he travels sixty years into the future with a floppy disk containing several “slabs” of the pro-reactionary tome *The Greater Zone*. After the protagonist of a novel in this language rescues Buzzard Burbridge from “witches’ jelly,” he learns the location of the wish-granting Golden Ball. An Earthman spies on the despotic prime minister of (\*) Arkanar, Don Reba, in a novel written in this language, titled *Hard to Be a God*, which is set in the fictional Noon Universe. Two authors wrote about the “stalker” Red, who steals alien artifacts from the Zone, in a novel in this language, *Roadside Picnic*. After riots on**

the Day of Unanimity, the protagonist of a novel in this language is subjected to the “Great Operation.” For 10 points, name this language used by a science fiction writer who wrote about the engineer D-503 in his novel *We*.  
ANSWER: **Russian** (The first clue is from Vladimir Voinovich’s *Moscow 2042*.)

<CK, European Literature>

12. Several of these artworks were collected in J. J. Grandville’s series *Les Métamorphoses du jour* (“lay may-ta-mor-FOZE doo zhoor”). An artist made clay sculpture busts modeled on 40 of these artworks in a series whose original copy is held by the Musée d’Orsay (“myoo-ZAY dor-SAY”), titled *The Celebrities of the Juste Milieu*. One of these artworks titled “You can free this one! He is no longer dangerous” depicts a rich man holding a dead man’s hand. A three-faced man who gets progressively angrier in each face from left to right appears in a work of this type titled (\*) *The Past, The Present, The Future*. Charles Philippon’s publication *Le Charivari* (“luh shah-ree-vah-REE”) replaced an earlier publication named for these artworks. An artist whom Balzac called “the Michelangelo of” these artworks depicted citizens putting bags of coins on a ramp to feed a pear-headed character representing *Gargantua* in one of them. For 10 points, Louis Phillippe was frequently targeted by Honoré Daumier’s (“oh-no-RAY dome-YAY’s”) satirical artworks of what type, which exaggerate the features of their targets?

ANSWER: **caricatures** [accept political **cartoons**; prompt on **satirical** artworks; prompt on **lithographs** or **drawings** by asking “what purpose did that artwork serve?”]

<VS, Painting/Sculpture>

13. In a plot to assassinate the reigning king and a man from this family, the magician John of Nottingham created wax likenesses that he stabbed with pins. Those men from this family were allowed to return from exile after Margaret de Clare ordered archers to fire on the queen whom she barred from entering Leeds Castle. A man from this family defeated a rebel army from Norfolk at North Walsham in the final battle of the Peasants’ Revolt. That man from this family, who led a failed crusade against antipope Clement VII, was known as the (\*) “Fighting Bishop.” A man from this family was given land in the Welsh Marches, sparking a namesake war that ended with the Earl of Lancaster’s defeat at Boroughbridge. That man and his father of the same name were executed after an invasion led by Roger Mortimer and Isabella of France. For 10 points, name this family whose members included a man who, like Piers Gaveston, was a court favorite of Edward II.

ANSWER: **Despenser** [or Hugh le **Despenser** or Henry le **Despenser**]

<CK, British/Commonwealth History>

14. HOB0 U26 records the concentration of this species by measuring lumiphore luminescence phase shift in a namesake “rugged” sensor. Time-to-loss of equilibrium experiments assess tolerance of subcritical levels of this species, which may provoke ASR behavior and removal of the interlamellar cell mass. The concentration of this molecule before and after five-day incubation in BOD (“B-O-D”) bottles corresponds to its microbial demand. In the diel-cycling type of one phenomenon, (\*) pH and levels of this molecule decrease only at night. Its concentration can be measured using the Winkler test. The dinoflagellate population explosion responsible for red tides triggers eutrophication-induced depletion of this molecule every summer in the Gulf of Mexico. For 10 points, name this molecule deficient in hypoxic dead zones.

ANSWER: dissolved **oxygen** [or **O2**; or **DO2**]

<JS, Biology>

15. A refutation of this problem appears as an appendix to Donald Davidson’s article “Mental Events.” In response to this problem, Richard Swinburne argued that it conflates the “qualitative” with the “locational.” This problem, introduced in a book that presents an analysis of counterfactuals in terms of “cotenability,” highlights the flaws of the purely syntactic approach employed by Carl Hempel. A difference in priors is often invoked in Bayesian (“BAY-zee-in”) solutions to this specific problem, which its formulator solved by arguing

**that only linguistically (\*) “entrenched” predicates are “projectible.”** Like Hempel’s raven paradox, W. V. O. Quine argued that this problem showed that laws only make reference to “natural kinds.” In its original form, this problem asked whether observing an emerald confirms a time-dependent predicate. For 10 points, name this problem introduced in Nelson Goodman’s *Fact, Fiction and Forecast* concerning the predicates “bleen” and “grue.”

ANSWER: **New Riddle of Induction** [or **NRI**; accept **grue**–bleen paradox until read; accept **bleen** until read; accept **Goodman**’s paradox until read; prompt on “problem of **induction**”]  
<CK, Philosophy>

**16. In this novel, a man who murders a mango-picking boy is punished by having his house filled with mangoes that explode, driving him out of town. A character in this novel frequently has sex with his two cousins, who end up marrying a pair of candle-makers. An abusive husband from this novel forces his wife to march around wearing only red heels, so his son Jochen hits him while his daughter, the mentally-disabled Katharina, watches from under a table. This novel’s title character is accused of murder after the wife of the harelippped owner of the (\*) “Pearl of the Orient” commits suicide, so she moves in with the transgender Mimi, who transitions after being arrested in the “Revolt of the Whores.” This novel’s title character uses “Universal Matter” to craft fake grenades that help Huberto Naranjo break guerrilla fighters out of a prison, as documented by Rolf Carlé. For 10 points, name this novel titled after a storytelling girl, by Isabel Allende.**

ANSWER: **Eva Luna**  
<VS, World/Other Literature>

**17. This period saw the development of the *gokenin* (“go-KEH-noon”) class of vassals along with the office of *shugo*, or military governor, to oversee the *gokenin* system. The office of *jitō* (“jee-TOH”) was created during this period to provide military oversight of agricultural estates. The *Hyōjōsho* and *Hikitsuke* (“hee-KEETS-keh”) courts were introduced during this period to modernize the judicial system, while administrative law was codified in the *Jōei Shikimoku* (“JO-eh shkee-MO-koo”). Despite the establishment of a secret police force called the (\*) *Rokuhara Tandai* during this period, the failure to put down *akutō* rebels during its later days helped contribute to the downfall of this period’s government. This period ended when Emperor Go-Daigo rebelled against the Hojo regents, leading to a brief restoration of imperial rule during the Kenmu restoration. For 10 points, name this period in Japanese history that followed the Heian (“HAY-on”), in which Minamoto no Yoritomo established the first shogunate.**

ANSWER: **Kamakura** period [or **Kamakura** Shogunate]  
<AE, World History>

**18. Description acceptable. In 2017, a religious leader pronounced that all cigarettes meet this description on the grounds that dogs refuse to eat them. A Maxwell House marketing campaign from the 1930s emphasized that its coffee should be categorized as this type of food because coffee beans are more like berries than beans. In some communities, food may lose this status if it is mixed with water, thereby making it (\*) *gebrochts* (“guh-BROKE’ts”). In traditional Ashkenazi practice, this category [emphasize] *does not* include *kitniyot* (“kit-nee-YOTE”) such as corn and rice. Foods in this category are often designated with the letter P next to a *hechsher* (“HECK-shur”) on packaging. This category explicitly excludes five grains of wheat and barley, based on the Talmudic prohibition on *chametz* (“kha-METS”). For 10 points, what designation is given to foods that are permissible to consume on the Jewish holiday where the seder is conducted?**

ANSWER: **kosher for Passover** [or **kasher l’pesach**; or **pesadig** or **pesadik** or **pesadich**; accept **food that is acceptable to eat** on **Passover** or **Pesach** or equivalents; accept **not chametz** or **chametz-free** or equivalents until “*chametz*” is read; prompt on **unleavened** bread; do not accept or prompt on “kosher”]  
<NC, Religion: Judaism>

19. In a piece by this composer, a “banal” (“buh-NAL”) E-flat minor tango on harpsichord offers brief respite from cacophonous parody of his film music and Tchaikovsky’s Violin Concerto. An amplified piano prepared with coins to sound like bells opens that piece by this composer in thirds. Two solo violins start the toccata’s frantic canon, a tight stretto cascading down the page, in that multilayered piece, which this composer said mixes U and E, or entertaining and serious music. His gravestone has a fermata over a rest marked *fff*. He finished his grim Cello Concerto No. 1 after his first severe (\*) stroke. Gidon Kremer commissioned his 1977 Concerto Grosso No. 1 and championed his 2 postmodern cadenzas for Beethoven’s Violin Concerto. This man of Jewish Volga German ancestry with “dissident-length” hair mixed pastiche with various styles in his first of 8 symphonies, calling it “polystylism.” For 10 points, identify this foremost Soviet composer after Shostakovich named Alfred.

ANSWER: Alfred Schnittke [or Alfred Shnitke]

<OL, Classical Music>

20. Vibronic coupling is used to explain the “trapping” of multiple values of this quantity in low potential areas in a model proposed by Peipho (“PEE-fo”), Krausz, and Schatz. It’s not spin or magnetic moment, but this quantity’s tautomerism has been observed in manganese catecholate compounds. A prototypical compound that contains multiple values for this quantity has two pentaammine ruthenium clusters linked by a pyrazine bridging ligand. That compound was discovered by (\*) Henry Taube, who theorized that having multiple values of this quantity is necessary for inner-sphere transfer processes. Species with multiple values of this quantity exhibit intense IVCT bands, as seen in the vibrant color of Prussian blue. This quantity is fractional for iron in magnetite and is formally defined for a bonded atom as the charge after ionic approximation. For 10 points, name this quantity that represents the number of electrons added or removed from an atom in a compound.

ANSWER: oxidation state [or oxidation number; prompt on valence; do not accept or prompt on partial answers]

<KS, Chemistry>

## Bonuses

1. This ruler's son was so enamored with some cow genitals he saw that he minted coins with their image in an effort to find a woman with similar genitals, eventually welcoming a 330-pound Armenian woman he called "Sugar Cube" into his harem. For 10 points each:

[10] Name this ruler who served as regent for her insane son Ibrahim the Mad. During Mehmed IV's infancy, this woman was chosen as Valide ("VAH-lee-deh") Sultan over Turhan Hatice ("ha-TEE-jeh") Sultan, whom she would later feud with.

ANSWER: **Kösem** Sultan [accept **Mahpeyker** Sultan]

[10] Kösem's regency was part of the Sultanate of Women, an era of Ottoman politics kickstarted by this man's wife, Roxelana. This sultan defeated Louis II at the Battle of Mohács ("MO-hotch").

ANSWER: **Suleiman the Magnificent** [or **Suleiman I**; prompt on **Suleiman**]

[10] Kösem hid behind a curtain to extend her first regency, which occurred during the infancy of a sultan with this name who later instituted a death penalty for consuming tobacco, alcohol, or coffee. An earlier sultan with this name was killed at the Battle of Kosovo.

ANSWER: **Murad** [accept **Murad IV** or **Murad I**]

<EL, World History>

2. This "Russian Palestrina" composed so many short *a capella* choral concertos, like Cherubic Hymn No. 7 and 14 Slavonic Te Deums, that Tchaikovsky, who edited them, lamented "why did he write so much?" For 10 points each:

[10] Name this Ukraine-born court composer in St. Petersburg, the leading Russian before Glinka's secular school. His church music fused Orthodox *znamenny* chant with Italian opera imported from his training with Galuppi in Venice.

ANSWER: Dmitry **Bortniansky**

[10] The Ukrainian *kolyadka* "Shchedryk" by Mikola Leontovych was adapted in English as one of these songs "of the Bells." Leontyne Price and Mariah Carey recorded these traditional songs, like Franz Xaver Gruber's "Stille Nacht" ("SHTILL-uh nokt") and Adolphe Adam's ("ah-DOM's") "O Holy Night."

ANSWER: Christmas **carols** [accept "**Carol** of the Bells"; prompt on **hymns** or **Christmas songs**; prompt on Cantique de **Noël**]

[10] Instagram's music mafia memed a cake asserting that this carol is just a descending major scale with dotted rhythms. Psalm 98 inspired this carol by the father of English hymnody, Isaac Watts, set to a tune by Lowell Mason that he attributed to Handel.

ANSWER: "**Joy to the World**"

<OL, Classical Music>

3. Tigre ("TEEG-ruh") shivers and has a vision in which he compares people to these things "twisting and burning in hell." For 10 points each:

[10] Name these things. In another scene from that play, one of them is used to revive the snake-bitten Josephus, causing some villagers who had previously refused to believe in the cure to cry "sweat!" repeatedly.

ANSWER: **charcoals**

[10] The charcoal burner Makak cures Josephus in this play. Makak retakes the name Felix Hobain after beheading a white goddess in a vision, then resolves to return home to the title location of this play.

ANSWER: ***Dream on Monkey Mountain***

[10] This St. Lucian ("LOO-shin") author of *Dream on Monkey Mountain* also wrote the epic poem *Omeros*.

ANSWER: Derek **Walcott**

<VS, World/Other Literature>

4. According to tradition, a saint based on this historical figure converted to Christianity despite the opposition of his father under the guidance of his teacher, Saint Barlaam. For 10 points each:

[10] Name this historical figure who is venerated in many Christian denominations as Saint Josaphat.

ANSWER: **Buddha** [or **Siddhartha** Gautama]

[10] Some Muslims argue that the Buddha was one of these people. According to one hadith, there are 124,000 of these people, the first of whom was Adam and the last of whom was Muhammad.

ANSWER: **prophets** [or *nabiyyūn* or *'anbiyā'*]

[10] Writings by these two religious figures in praise of the Buddha are compiled in the collection “Buddha, Krishna, Zoroaster and Related Subjects.” These two men, the son and great-grandson of Bahá’u’lláh, were the last two Bahá’í leaders before the establishment of the Universal House of Justice.

ANSWER: **‘Abdu’l-Bahá** AND **Shoghi Effendi** [accept in any order]

<NC, Religion: Other>

5. This philosopher imagined a girl named Jojo who is raised by a brutal dictator to critique the “deep-self” view of moral responsibility. For 10 points each:

[10] Name this philosopher who argued that no one would want to live in a world populated with the title individuals in her paper “Moral Saints.”

ANSWER: Susan **Wolf**

[10] Susan Wolf maintains that sanity is an instance of this two-word phenomenon coined by Bernard Williams in which agents are assigned blame or praise based on factors outside their control.

ANSWER: **moral luck** [prompt on partial answer]

[10] This philosopher defended a “deep-self” view according to which an agent is responsible if and only if she has a second-order volition for her first-order desire to be effective. His namesake “cases” are counterexamples to the “principal of alternative possibilities.”

ANSWER: Harry **Frankfurt** [accept **Frankfurt** cases or **Frankfurt** counterexamples]

<CK, Philosophy>

6. This operation was unexpectedly found to completely resolve type-2 diabetes in 75 percent of patients seeking it for weight loss. For 10 points each:

[10] Name this type of gastric bypass in which the stomach is stapled into a small pouch and connected to the jejunum, while the duodenum gets anastomosed to the lower jejunum and continues to receive digestive juices from the gallbladder, pancreas, and gastric remnant. It is partly named for the letter that the rearranged intestines resemble.

ANSWER: **Roux-en-Y** (“roo-on-why”) gastric bypass [or **RYGB**; or laparoscopic **RYGB**]

[10] Diabetes remission after RYGB may be attributed to the increased postprandial release of glucagon-like peptide-1, which stimulates secretion of this hormone from pancreatic beta cells.

ANSWER: **insulin**

[10] Unfortunately, RYGB also decouples nutrient intake from B12-liberating acid hydrolysis of foods as well as B12 absorption in the ileum since both gastric acid and intrinsic factor are produced by these stomach cells.

ANSWER: **parietal** (“puh-RYE-uh-tull”) cells

<JS, Biology>

7. The three authors of the book *Guilty Men*, which criticizes pro-appeasement politicians, wrote under the surname “Cato” because they worked in this industry. For 10 points each:

[10] Name this industry that was dominated in the 1930s by the pro-Nazi Lords Rothermere and Beaverbrook.

ANSWER: **newspapers** [or the **press**; or **journalism**; or equivalents]

[10] After returning from signing the Munich Agreement, Neville Chamberlain gave an infamous speech at the Heston Aerodrome in which he made this four-word proclamation.

ANSWER: “**peace for our time**” [accept “**peace in our time**”]

[10] This socialite led the pro-Nazi, pro-appeasement Cliveden Set. After Constance Markievicz refused to take her seat because of Sinn Féin’s (“shin fain’s”) abstentionism, she became the first woman to sit in the House of Commons.

ANSWER: Nancy **Astor** [or Lady **Astor**; or Viscountess **Astor**]

<CK, British/Commonwealth History>

8. This figure is depicted on horseback with a crown of peacock feathers in an equestrian portrait by Hans Burgkmair (“BURK-meyer”). For 10 points each:

[10] Name this figure who also commissioned Burgkmair to make a large portion of a 139-piece woodblock work titled *Triumphal Procession*. In a portrait by a different artist, he faces left against a green background and holds a broken pomegranate.

ANSWER: Emperor **Maximilian I** [prompt on **Maximilian**; do not accept or prompt on “Maximilian I of Mexico”] (The portrait is by Dürer.)

[10] Hans Burgkmair pioneered the use of this technique to show depth in woodcuts. This technique of heavy contrasts, whose name comes from the Italian for “light” and “dark,” was used in Caravaggio’s tenebrism.

ANSWER: **chiaroscuro** (“KYAH-ro-SKOO-ro”)

[10] Maximilian I’s competition with Frederick the Wise led to a competition between Burgkmair and this Saxon-based artist, which led them to develop the art of *chiaroscuro* woodcuts. In other works, this artist depicted Frederick the Wise during a stag hunt and made many depictions of Martin Luther.

ANSWER: Lucas **Cranach (“CRAH-nuck”) the Elder** [prompt on **Cranach**]

<VS, Painting/Sculpture>

9. A man simply referred to as “PhD” seeks to “dissociate” himself from this activity after he learns that his partners do it for fun, and not to change the world. For 10 points each:

[10] Name this activity. Schmitz and Eisenring joke about performing this activity in the attic of a businessman with whom they eat dinner in a play that ends with workers in Hell going on strike.

ANSWER: **arson** [or equivalents like **setting things on fire**; accept being a **fire raiser** or a **firebug**]

[10] Schmitz and Eisenring burn down Biedermann’s home in this author’s play *The Firebugs*. This author wrote a novel about a UNESCO engineer who unknowingly has a sexual relationship with his own daughter Sabeth (“ZA-bet”).

ANSWER: Max **Frisch** (The novel is *Homo Faber*.)

[10] Frisch wrote a bizarre play about this character’s supposed love for geometry. Peter Handke (“HONT-kuh”) wrote a novel subtitled “His Own Version” from the perspective of this Spanish womanizer.

ANSWER: Don **Juan** [accept **Don Juan or the Love of Geometry** or **Don Juan: His Own Version**]

<VS, European Literature>

10. Glyphosate herbicides work by inhibiting an enzyme that acts on a phosphate derivative of this compound. For 10 points each:

[10] Name this compound first isolated from star anise (“ANN-iss”) that can be hydrated to form quinic acid.

ANSWER: **shikimic acid** [or **shikimate**]

[10] Shikimic acid is the starting material for the Hoffman–LaRoche synthesis of this influenza drug.

ANSWER: **Tamiflu** [or **oseltamivir** phosphate]

[10] As a substituted cyclohexene, shikimic acid is often synthesized in schemes involving this cycloaddition reaction that takes place between a diene and a dienophile.

ANSWER: **Diels–Alder** reaction

<EM, Chemistry>

11. In his periodical *Friend of the People*, this revolutionary infamously claimed “Five or six hundred heads chopped off would assure you peace, liberty and happiness.” For 10 points each:

[10] Name this revolutionary whose attacks on Jacques Necker (“neh-KAIR”) led to a warrant for his arrest, leading this man to flee to England for a month. After returning to France, he was assassinated by Charlotte Corday.

ANSWER: Jean-Paul **Marat**

[10] This other radical Jacobin edited the newspaper *Le Père Duchesne* (“luh pair doo-SHEN”), in which he supported the *sans-culottes* (“sawn koo-LUT”). The *enragés* (“on-ra-ZHAY”) and a group named for this man were the most radical parties during the French Revolution.

ANSWER: Jacques **Hébert** (“ay-BAIR”)

[10] This historian examined the role that pornographic political pamphlets, known as *libelles*, played in shaping the French Revolution in his book *The Forbidden Best-Sellers of Pre-Revolutionary France*.

ANSWER: Robert **Darnton**

<CK, European History>

12. This group holds morning meditation and drill sessions called *shakhas* (“SHA-kahs”). For 10 points each:

[10] Name this far-right paramilitary group founded by Hitler fan K. B. Hedgewar (“hed-gay-VAHR”). Its members wear a characteristic uniform consisting of brown slacks and a white collared shirt.

ANSWER: **RSS** [or **Rashtriya Swayamsevak Sangh**]

[10] Many members of the RSS, including current Prime Minister of India Narendra Modi, belong to this right-wing Hindu nationalist party.

ANSWER: **BJP** [or **Bharatiya Janata Party**]

[10] This Hindu-monk-turned-BJP-politician is the current chief minister of Uttar Pradesh. A video that surfaced in 2014 shows him telling his supporters, “if they take one Hindu girl, we will take 100 Muslim girls.”

ANSWER: **Yogi Adityanath** [accept either name]

<CK, Modern World>

13. One of these things is used to help Leo Irving after he suffers heartbreak because of an Italian girl, who had modeled for his paintings. For 10 points each:

[10] Name these things. Mrs. Daldry and Mrs. Givings sneak into the “operating theater” while Dr. Givings is out so that they can try using one of these things in a play subtitled for them, which is set “hovering at the dawn of electricity.”

ANSWER: **vibrator**s [or Chattanooga **vibrator**s; prompt on sex **toys**]

[10] After seeing his wife with a hand on Leo’s cheek in the play *In the Next Room (or The Vibrator Play)*, Dr. Givings cites this book to explain his feelings about cheating. When his wife notes that its author, Gustave Flaubert, wasn’t a woman, Dr. Givings retorts that he was a Frenchman, which is “much the same thing.”

ANSWER: **Madame Bovary**

[10] In addition to writing *In the Next Room*, Sarah Ruhl wrote a play adapted from the correspondence between these two poets. One of them dedicated a poem to the other one describing “frail, illegal fire balloons.”

ANSWER: Elizabeth **Bishop** AND Robert **Lowell** [prompt on partial answers] (The poem is “The Armadillo.”)

<VS, American Literature>

14. Anthony Giddens’s book *The Constitution of Society* argues that these two concepts should be treated as mutually constitutive (“CON-stih-TOO-tiv”) entities with “equal ontological status.” For 10 points each:

[10] Name these two competing sociological concepts. One denotes an individual’s capacity to act independently, while the other denotes how societal arrangements restrict choices and opportunities.

ANSWER: **agency** AND **structure** [accept in any order]

[10] This sociologist illustrated the relationship between agency and structure in his namesake “boat” diagram. He wrote a namesake 1966 report about racial disparities in the US educational system.

ANSWER: James **Coleman** [accept **Coleman** Report]

[10] The structural functionalist Davis–Moore theory controversially contends that this phenomenon arises from “functional necessity.” This phenomenon refers to the division of society into socioeconomic classes.

ANSWER: social **stratification** [or word forms]

<CK, Social Science>

15. A simple model of these particles based on Drude’s work treats them as a gas obeying Fermi–Dirac statistics.

For 10 points each:

[10] Name these negatively charged particles that are responsible for the electrical conductivity of metals.

ANSWER: **electrons** [accept free **electron** gas or free **electron** model; accept conduction (band) **electrons**]

[10] These quasiparticles are the collective excitations of an electron gas. When localized to a metallic surface, these quasiparticles change the optical properties of metal nanoparticles, and bringing a laser into resonance with their spectrum is the basis for a technique to study adsorption (“ad-ZORP-shin”).

ANSWER: **plasmons** [or **quantized plasma oscillations** or **quantized plasma waves**; accept surface **plasmons** or surface **plasmon** resonance]

[10] While plasmons are the collective modes of a free electron gas, these quasiparticles describe interactions between electrons and a crystal lattice. These quasiparticles are electrons “dressed” by a cloud of phonons.

ANSWER: **polarons** [do not accept or prompt on “polaritons”]

<GR, Physics>

16. Jake Shimabukuro’s virtuosic C minor ukulele cover of this song performed in Central Park was an early viral YouTube video. For 10 points each:

[10] Name this song that begins with a guitar playing repeated A’s over the descending bass line “A, G, F-sharp, F.” Eric Clapton plays the lead guitar on this track from the *White Album* written during a period of disunity in the band.

ANSWER: “**While My Guitar Gently Weeps**” [prompt on “**Gently Weeps**”; prompt on “**While My Ukulele Gently Weeps**”]

[10] Acoustic guitar arpeggios and recorder play over a similar descending bass line in the quiet introduction to this epic 8-minute track from *Led Zeppelin IV*. In March 2020, an appeals court ruled that it did not infringe on “Taurus,” a Spirit song with a similar riff.

ANSWER: “**Stairway to Heaven**”

[10] “Gently Weeps” and “Stairway to Heaven,” along with Duke Ellington’s “In a Sentimental Mood” and George Harrison’s “Something,” all feature this ubiquitous motif in which one voice descends chromatically from the tonic while the harmony remains static otherwise.

ANSWER: **line cliché**

<ES, Other Arts: Music>

17. This story ends with Mrs. Gramsplain realizing that two men have died for nothing because she “sent Eva to Exeter to be cleaned.” For 10 points each:

[10] Name this story in which Lucien and Major Boventry are unwilling to rescue Mrs. Gramsplain’s daughter Eva from a burning building until Mrs. Gramsplain tells them that Eva is only a painting of the daughter she never had.

ANSWER: “The **East Wing**”

[10] This British author known for his twist endings wrote “The East Wing.” After Georg Znaeym (“GAY-org ZNA-yim”) and Ulrich von Gradwitz settle a generations-long feud, a pack of wolves descend on the pair in his story “The Interlopers.”

ANSWER: **Saki** [or Hector Hugh **Munro**]

[10] Saki created this recurring character who, in one story, subjects his complacent, middle-aged friend Huddle to the title “unrest-cure.” He appears frequently in a Saki collection titled for his “chronicles.”

ANSWER: **Clovis** Sangrail [or Clovis **Sangrail**]

<CK, British Literature>

18. In the essay that coined this expression, its author recalls having an epiphany after he shot a she-wolf and watched the “fierce green fire dying in her eyes.” For 10 points each:

[10] Name this four-word expression, a metaphor for viewing an ecosystem holistically, which titles an oft-anthologized essay from Aldo Leopold’s *A Sand County Almanac*.

ANSWER: **thinking like a mountain**

[10] As a young man, Leopold belonged to the Boone and Crockett Club, a conservation organization founded by this outdoorsman, who, as US president, doubled the number of National Parks.

ANSWER: **Theodore Roosevelt** [or **Teddy Roosevelt**; or **TR**; prompt on **Roosevelt**]

[10] John Muir’s (“myurr’s”) Sierra Club clashed with Roosevelt after he approved this infrastructure project, which Muir likened to destroying “for water-tanks the people’s cathedrals and churches.”

ANSWER: damming the **Hetch Hetchy** Valley [or destruction of the **Hetch Hetchy** Valley; accept equivalent answers]

<CK, Other Academic>

19. The best codes for this procedure have the minimum weight for a given block and message length. For 10 points each:

[10] Name this process that may be carried out by “majority voting” among redundant bits.

ANSWER: **error correction** [accept **error-correcting** codes; prompt on partial answer; prompt on **fault tolerant** communication; do not accept or prompt on “quantum error correction”]

[10] The Hamming code uses extra bits to track this property for numbers. This term describes whether a number is odd or even, so simple codes based on this property cannot detect an even number of bit flip errors.

ANSWER: **parity**

[10] This quantum error correcting code uses classical binary Hamming codes and their duals to correct amplitude and phase errors. The namesake of this perfect CSS code, which only requires seven logical qubits, improved on the nine required by Shor’s first quantum error correcting code.

ANSWER: **Steane** code [accept Andrew **Steane**]

<GR, Other Science: Computer Science>

20. When asked what weapons he would suggest to this man after challenging him to a duel, Wong Chin Foo replied “chopsticks, Irish potatoes, or a Krupp Gun.” For 10 points each:

[10] Name this Irish labor activist who founded the Workingmen’s Party of California along with J. G. Day and H. L. Knight.

ANSWER: Denis **Kearney**

[10] Wong was critical in the fight against the Chinese Exclusion Act, which was passed during this President’s administration. His administration passed the Pendleton Civil Service Act after his predecessor was assassinated.

ANSWER: Chester A. **Arthur**

[10] Wong was a big supporter of this man, who employed the American adventurer Homer Lea. This husband of Soong Ching-Ling secured Soviet support for his state by co-signing a manifesto with Adolf Joffe (“YOFF-eh”).

ANSWER: **Sun** Yat-Sen

<EL, American History>