

2020 Terrapin Open

Packet 5

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Tossups

1. **In this novel, two characters enthusiastically play cards in the freezing cold while pretending to ignore enemy soldiers who have occupied the summit above them. A tailor named Proscodimo claims that he's only living in this novel's setting on a temporary basis, despite having spent fifteen years there. In another scene, a sentry shoots a soldier he knows, who is attempting to corral a runaway horse, simply because the soldier does not know the day's password. This novel's protagonist is reprimanded for using Simeoni's telescope to watch small moving dots on the horizon as they build a road for the (\*) Northern Kingdom. The protagonist admires Angustino's death in this novel, which begins with the protagonist awkwardly hailing Captain Ortiz as he rides towards Fort Bastiani. This novel's protagonist, Giovanni Drogo, spends his whole life in the title place waiting for an invasion, only to be sent home when it finally comes. For 10 points, name this novel by Dino Buzzati ("DEE-no bood-ZAH-tee").**

ANSWER: *The Tartar Steppe* [or *The Desert of the Tartars*; or *Il deserto dei Tartari*]

<CK, European Literature>

2. **Ed Runge ("RUN-ghee") created an energy-based model for this process with two intensity factors. Glomalin can increase carbon content during this process. Eluviation and illuviation are movements of material caused by percolation and leaching that contribute to this process. Podzolization is a type of this process that commonly occurs in heathlands. Inceptisols have undergone this process more thoroughly than entisols. (\*) Hans Jenny developed a five state-factor model for this process, including factors like climate and parent material; those factors are given by the acronym CLORPT. This process results in differentiation of multiple horizons. Microorganisms contribute to this process by creating humus ("HYOO-mus") from dead organic matter. For 10 points, name this process in which sand, clay, silt, and organic matter combine to form earth.**

ANSWER: soil formation [or soil evolution; or soil development; or soil genesis; or pedogenesis]

<GR, Other Science: Earth Science>

3. **A book by this thinker opens with a detailed description of the reasoning that led Hermia to conclude incorrectly that Demetrius killed Lysander. In another book, he argued for "informational atomism," using the example of a pet fish to illustrate the compositional problems facing prototype theories. This thinker argued that causal ("CAUSE-al") theories of mental content suffer from a "disjunction problem," arguing instead for an asymmetric dependency theory. He defended his (\*) Representational Theory of Mind in *Psychosemantics* and *Concepts: Where Cognitive Science Went Wrong*, the latter of which argues that all lexical concepts are innate. In one book, he argued that the mind consisted of "informationally encapsulated" and "domain specific" systems. For 10 points, name this philosopher who defended the modularity of mind, and argued that mental representations have a combinatorial syntax and compositional semantics in *The Language of Thought*.**

ANSWER: Jerry Fodor

<CK, Philosophy>

4. **Richard Lippold's copper *World Tree* is in the central courtyard of a complex in this city. In *The Decorated Diagram*, Klaus Herdeg responds to Clement Greenberg's question "why all those ugly buildings?" by criticizing a school of architecture located in this city. It's not Baghdad, but a complex in this city is one of the most famous campus buildings designed by Gropius with The Architects Collaborative. In this city, the**

**Peabody Terrace and a campus center that was decried as a brutalist “gray elephant” were designed by an architect who commissioned (\*) Le Corbusier’s only North American building, which is also located in this city. While at a university in this city, Josep Lluís Sert (“zhoo-ZEP l’yoo-EESE sairt”) founded the world’s first degree program in urban design. An aluminum spire and bell tower designed by Theodore Roszak feature in a cylindrical brick chapel in this city designed by Eero Saarinen (“arrow SAH-ree-nen”). A university in this city sued Frank Gehry over his flawed Stata (“STAY-ta”) Center design. For 10 points, name this home of MIT and Harvard.**

ANSWER: Cambridge, Massachusetts [prompt on Boston]

<KS, Other Arts: Architecture>

**5. A 2018 audit in this state, which found abuses such as Justice Allen Loughry illegally removing a Cass Gilbert-designed desk from the State Capitol for personal use, led this state to impeach its entire Supreme Court. The current XFL commissioner once unsuccessfully ran for Congress in this state, which is home to the only Democratic politician from the Rockefeller family. It is home to a buzzcut-sporting Democrat who was the first presidential candidate to drop out of the 2020 primaries, Richard (\*) Ojeda (“oh-JED-uh”). This state is home to a politician whose daughter, Heather Bresch, drastically raised the price of the EpiPen as CEO of Mylan. Its governor, Jim Justice, negotiated a five-percent raise to end a 2018 teacher’s strike in this state, which inspired similar strikes in Arizona and Oklahoma. It is represented by the only Democratic senator to support the nomination of Brett Kavanaugh. For 10 points, name this state home to senator Joe Manchin.**

ANSWER: West Virginia

<CK, Modern World>

**6. Evidence from the submerged city of Kfar Samir suggests that the production of this substance began in the Levant as early as the Neolithic Age. Many devices used in the creation of this substance have been found in the ruins of Klazomenai. It’s not bread, but this substance was freely distributed to the population of Rome during the reign of Septimius Severus. During the Roman Empire, a device known as the *trapetum* replaced the woven mats traditionally used to create this substance. The winners of (\*) Panathenaic events received this substance as a prize. According to Plutarch, one of Solon’s first laws forbade citizens of Athens to export anything other than this substance. Thales became wealthy by buying up machinery used in the production of this substance. In addition to grain and grapes, many *latifundia* grew the fruit necessary to create this substance. For 10 points, name this substance made from the fruit of the *Olea europaea* tree that was used as fuel and lubricant and for medicinal and culinary purposes across the ancient Mediterranean.**

ANSWER: olive oil [prompt on oil by asking “what kind of oil?”; prompt on olives by asking “what is being made from olives?”]

<AE, Ancient History>

**7. In a story by this author, a woman demands that a creepy mailman who delivers her his love letters pay her the postage he saves by not using stamps. A university student cries on a steamship and feels as though his head is “dripping away drop by drop” at the end of a story by this author. At the end of one of this author’s stories, the narrator marvels that a girl will never know that her name was projected in red on a boy’s waist, and likewise with the boy’s name projected in green on the girl’s breast. In that story by this author, the narrator watches children playing with (\*) multicolored lanterns before seeing a boy offer a girl a rare species of insect by accident. This author of “The Silverberry Thief” and “The Grasshopper and The Bell-Cricket” wrote a story whose protagonist bursts into laughter after seeing the title drum-playing character nude and realizing she is just an adolescent. For 10 points, name this author of various *Palm-of-the-Hand* stories and “The Dancing Girl of Izu.”**

ANSWER: Yasunari Kawabata

<CK, World/Other Literature>

8. *Common name acceptable.* Clayton et al. challenged the Bischof–Köhler hypothesis with evidence that a species in this family may cache foods based on anticipated future motivational state. Multiple communities of a species in this family have developed different forms of stepped-cut pandanus tools. A Washington study found that years after being released, members of a species in this family had conditioned their offspring to recognize the specific masks worn by researchers during their capture. Members of the New Caledonian species of this (\*) passerine family figured out how to snag a bucket of rewards from a pipe by bending a wire into a hook with their beaks. This family includes hooded and carrion species. For 10 points, name this family containing the genus *Corvus* that includes jackdaws, ravens, and a namesake species.

ANSWER: crows [or corvids; or Corvidae; accept Corvus until read; or any specific species of crow; prompt on western scrub-jays or magpies; prompt on ravens or jackdaws until read]

<JS, Biology>

9. A legend in the Syriac Orthodox church suggests that Noah was instructed to perform this action with an object made of box-wood. Paulinus of Nola is traditionally credited with introducing this practice to Western Christian worship. In Greek Orthodoxy, a semantron is used at funerals at a point when Roman Catholics perform this action. A server in the Mass performs this action during the reading of epiclesis; a server also performs this action in the Tridentine Mass while the priest silently recites the Sanctus. This action takes place as the priest places his hands over the (\*) bread and wine during the consecration of the Eucharist. As a reminder to prayer, Western churches traditionally undertake this action thrice daily, and in England this action is traditionally performed at a church to mark a death. To facilitate this action, churches are built with campaniles (“camp-uh-NEE-lees”). For 10 points, identify this action that is commonly used to alert people near a church that a Mass is beginning.

ANSWER: ringing a bell [accept any answer describing the use of a bell]

<NH, Religion: Christianity>

10. Due to concerns that this politician might lose the Massachusetts delegation, John Kenneth Galbraith dissuaded him from picking Boston mayor Kevin White as his running mate. In 2007, Bob Novack revealed that this man’s eventual running mate was the source of an anonymous quote that is often credited with crippling his campaign. This politician quoted Edmund Burke, declaring that “a conscientious man would be cautious how he dealt in blood,” in a speech on the Senate floor in which he claimed “this chamber reeks of blood.” He headed a committee with Donald (\*) Fraser that rewrote the party’s convention rules after the 1968 DNC. After it was revealed that his running mate had undergone electroshock therapy, this man claimed he was 1000 percent behind that running mate, Thomas Eagleton, but replaced him with Sargent Shriver. For 10 points, name this Democrat who lost the 1972 presidential election to Richard Nixon.

ANSWER: George McGovern (The anonymous quote was “amnesty, abortion, and acid.”)

<JH, American History>

11. In his opening soliloquy, after reading in the Bible that “the reward of sin is death,” this character remarks “that’s hard.” This character impresses a duchess by magically producing out-of-season grapes. In another scene, a character asks this man: “Think’st thou that I, who saw the face of God, / And tasted the eternal joys of heaven, / Am not tormented with ten thousand hells / In being deprived of everlasting bliss?” When a knight tauntingly says that this character’s words are “as true as Diana turned me to a stag,” he makes that knight sprout (\*) antlers. After the Latin words *Homo, fuge!* appear on his arm, this character is visited by personifications of the Seven Deadly Sins. At the court of Charles V, he conjures the ghost of Alexander the Great, while in a later scene he instructs another ghost to “make me immortal with a kiss.” For 10 points, what character summons Helen of Troy after making a pact with Mephistophilis in a “Tragical History” by Charles Marlowe?

ANSWER: Doctor Faustus [do not accept or prompt on “Faust”]

<CK, British Literature>

12. “Tatiana” and “Natalia” are guitar pieces in a type of this genre by Venezuelan composer Antonio Lauro. Karl Michael Ziehrer’s Opus 419 is a piece in this genre named for citizens of the city where Michael Pamer developed it. The “F-sharp, short G” pickup to long high E is often held longer in the first theme of a piece in this genre. After one bar of string tremolos opens a piece in this genre, as soon as the solo horn plays a rising broken D major triad, the Musikverein audience interrupts with brief applause until the conductor turns to wish a (\*) Happy New Year in an annual concert’s required second encore. Pieces in this genre include “Gold and Silver” by Franz Lehár, “Over the Waves” by Juventino Rosas, “Roses from the South,” and “Wiener Blut” (“VEE-nur blood”), or “Viennese Blood.” For 10 points, name this genre of Johann Strauss II’s *On the Beautiful Blue Danube*.

ANSWER: waltz [or Walzer; or valse; accept Venezuelan waltzes or valsés venezolanos]

<OL, Classical Music>

13. Pauli–Villars regularization renormalizes a divergent field theory by introducing an auxiliary field with a high value for this quantity. Terms proportional to phi squared in the Lagrangian for a scalar field correspond to this quantity. Systems whose 4-momentum is a null vector have a value of zero for this quantity. The Dirac equation reduces to the Weyl (“vile”) equation when this quantity equals zero, and the Proca equation generalizes the vacuum Maxwell equations to a spin-one field with a nonzero value for this quantity. Terms associated with this quantity are neglected in the (\*) ultra-relativistic limit. Binding energy accounts for nuclei having a lower value for this quantity than their constituents, corresponding to a so-called “defect” of this quantity. For 10 points, name this quantity that accounts for the rest energy of a particle in special relativity.

ANSWER: rest mass [or rest mass energy; accept rest energy until read; accept mass defect]

<GR, Physics>

14. The fact that a holder of this title was educated by the Jesuits was later used to discredit him by painting him as a supporter of the widely-hated Uniate Church. After World War I, this title was claimed by Pavlo Skoropadskyi, who led a government that overthrew the Ukrainian People’s Republic. A man who later held this title began an uprising when his land was stolen by Daniel Czapliński, whose wife Helena he married. Holders of this title, who carried a gem-encrusted mace called a *bulawa* (“boo-WAH-va”), were elected by the Sich (“seetch”) Rada. A period known as (\*) “The Ruin” followed the death of one holder of this title, whose namesake uprising ended when he signed the Treaty of Pereyaslav with Tsar Alexis I. That treaty was violated by another holder of this title who aligned himself with Charles XII, whom he fought alongside at the Battle of Poltava. This title was held by the leader of the Zaporozhian Host. For 10 points, Bohdan Khmelnytsky (“BOHKH-don khmel-NITS-kee”) and Ivan Mazeppa held what highest rank of the Cossacks?

ANSWER: hetman [or ataman]

<CK, European History>

15. According to legend, Araki Murashige saved himself from being killed by Oda Nobunaga by placing one of these objects into a groove between two sliding doors. Handkerchiefs and these objects are used by performers of *cariñosa*, the national dance of the Philippines. A large one of these objects is traditionally wielded by the “straight man” in the *manzai* style of double-act comedy. *Tessen* are a metal weaponized type of this object. A paddle-shaped type of this object is used by referees called *gyōji* to declare the winner of (\*) sumo wrestling matches. The foreground of a portrait in Whistler’s Peacock Room depicts a woman and one of these objects. Masks and these objects are the props most commonly used by performers of Noh, who may tuck them into a sash called the *obi*. Ingres’s (“ANN-gruh’s”) *Grande Odalisque* clutches one of these objects made of peacock feathers. For 10 points, kimono-wearing women traditionally wave what folding objects?

ANSWER: **fans** [or hand **fans**; or **fan** vaults; accept **tessen** until read; or **harisen**; or **sensu**; or **ōgi**; or **uchiwa**]  
<AP, Other Academic>

16. MacMullin and Weber developed the Tanks-in-Series method for finding this quantity in non-ideal circumstances. Danckwerts published a seminal paper detailing the distribution of this quantity in continuously stirred devices. Analysis of tracer concentrations using pulse-inputs or step-inputs with the C-curve can be used to find this quantity. This quantity is the same for all molecules in idealized PFRs and Batch devices. This quantity can be found by taking the first derivative of the washout function. For a first-order reaction, this quantity times the rate constant equals the first (\*) Damköhler number. A function of this name for chemical reactors is denoted with the letter E, which can stand for the exit age. Chemical reactors can be characterized by this variable's namesake "residence distribution." For 10 points, taking the derivative of particle concentration with respect to what variable gives the reaction rate?

ANSWER: residence **time** distribution [accept mean **time** or average **time**; accept **E-of-t** or **F-of-t** or **exit age** until "E" is read; prompt on **t** or **tau**]  
<KS, Chemistry>

17. When this character's son asks what he ever gave him, this man replies that he gave him "feet and bones" and "that pumping heart." His son refers to him as "that shadow digging in your flesh. Trying to crawl in. Trying to live through you." This character describes jazz as "Chinese music" to a son who frequently asks him for money to buy lottery tickets on his paydays. After returning home as a corporal in the Marines, this man's son plans to skip his funeral, claiming, "I've got to say no to him." After two separate altercations with his son, this character warns him "That's (\*) strike two... Don't you strike out," presaging how this character kicks his son out after a fight over a baseball bat. This character refuses to let his son Cory attend football practices, instead forcing him to work at an A&P. Early in the play he appears in, this man, who fathers Raynell with his mistress Alberta, gets promoted to garbage-truck driver. For 10 points, name this protagonist of *Fences*.

ANSWER: **Troy** Maxson [prompt on **Maxson**]  
<VS, American Literature>

18. Claude Debussy kept a smaller cast of a sculpture by this artist on either his piano or his mantel. This artist's "chimney-pieces" *Deep Thought* and *Fireside Dream* depict figures by fireplaces. Women whisper together in a railcar in a work by this artist that was likely inspired by a mental illness. This artist depicted a kneeling man kissing the neck of a woman seated on a log in a piece sometimes titled (\*) *Vertumnus and Pomona* or *The Abandonment*. This artist depicted a kneeling woman grasping for a man being led away by an emaciated old woman in a sculpture. This artist of *The Gossips* and *Sakuntala* showed three women carelessly playing near the title feature in an onyx sculpture, and sculpted a man embracing a woman made of swirling cloth from the waist-down. For 10 points, name this artist of *The Wave*, *The Mature Age*, and *The Waltz*, whose art often drew on her relationship with Auguste Rodin.

ANSWER: Camille **Claudel** (Debussy kept a copy of *The Waltz* on his piano.)  
<CK, Painting/Sculpture>

19. An expedition to this body of water [emphasize] revived the older term "infernal columns" to describe the actions of colonial troops who massacred many Anza people as part of the Voulet–Chanoine ("voo-LAY shan-WUN") mission. The Gentil ("zhahn-TEEL") mission surveyed this body of water, which was the ending point of the Foureau–Lamy expedition. The last native leader to hold territory around this body of water died at the Battle of Kousseri. Rabih az-Zubayr founded an empire near this body of water that achieved its maximal territorial extent after the destruction of an empire whose king list was discovered by (\*) Henrich Barth. The *Girgam* chronicles the history of an empire located near this body of water, Kanem Bornu. François Tombalbaye was the first post-independence leader of a country named for this body of water that was part

of French Equatorial Africa. For 10 points, name this body of water that names a country whose capital is N'Djamena.

ANSWER: Lake **Chad**

<EL, World History>

**20. In rapid serial visual presentation tasks, individuals fail to perceive a second item presented 180 to 450 milliseconds after the first in a phenomenon known as this process's namesake "blink." According to one theory, when this process is overloaded, it can create "illusory conjunctions." That theory of this process arose from its creator's research into the "pop-out" effect. Collin Cherry pioneered shadowing experiments to study this process, which, in vision, is associated with a characteristic N1 event-related potential. This process is impaired in individuals with (\*) Bálint's syndrome who experience simultagnosia. This process is divided into "feature" and "conjunction" searches in Anne Triesman's feature integration theory. This process can cause a namesake "blindness" as demonstrated in an experiment where participants failed to notice a man in a gorilla suit. For 10 points, name this process impaired in those with its namesake deficit disorder.**

ANSWER: **attention** [or selective **attention**; or **attentional** blink; accept more specific answers]

<CK, Social Science: Psychology>

## Bonuses

1. James Polchin's "Indecent Advances" traced the history of a legal defense known by this two-word term in which people accused of violence would claim temporary anger caused by unwanted sexual advances. For 10 points each:  
[10] Give this two-word term. Edward Kempf's theory of a similarly named disorder in which anger was provoked by the "pressure of uncontrollable perverse sexual cravings" was long used to justify the legal defense known by this phrase.

ANSWER: **gay panic** defense

[10] The gay panic defense was attacked in *ONE*, a gay rights magazine founded at a meeting of this other organization. Harry Hay founded this Los Angeles-based gay rights group.

ANSWER: **Mattachine** ("MAT-uh-sheen") Society

[10] In June 2019, this state became the seventh state to ban the gay panic defense. This state was the site of the Stonewall Riots.

ANSWER: **New York**

<EL, American History>

2. In Turkish and Korean, these sounds undergo a long-distance assimilatory process known as their namesake "harmony." For 10 points each:

[10] Name these sonorous sounds characterized by their height, backness, and roundness. Their IPA symbols are organized in a trapezoid-shaped chart, and they form the nuclei of syllables.

ANSWER: **vowels**

[10] Using a computer program like Praat, one can determine vowel height and backness by finding the first two of these resonant frequencies of the vocal tract, designated F1 and F2.

ANSWER: **formants**

[10] This modification causes a vowel's third formant to fall below 2000 hertz. The *erhua* ("AR-hwa") phenomenon in Mandarin is an example of this vowel modification, which is often characterized by retroflex articulation.

ANSWER: **rhotacization** [or **r-coloring**; or **rhoticity**; do not accept or prompt on "rhotacism"]

<CK, Social Science>

3. This florid 1853 article lists 12 apostles, including Joachim ("YO-ah-kim") and Gade ("GAY-thuh"), and says its savior, a young blood from Hamburg, sprang "fully armed like Minerva from Zeus's forehead." For 10 points each:  
[10] Name this prophetic one-page article in the *Neue Zeitschrift für Musik*, the first in 10 years by its former editor, and also the last, as its author, impressed by a visitor's "sonatas, rather, veiled symphonies," went to an asylum a year later.

ANSWER: "**New Paths**" [or "**Neue Bahnen**"; accept variant translations like "**New Ways**"; prompt on, but DO NOT REVEAL, Robert Schumann's article endorsing **Brahms** or similar] (by Robert Schumann)

[10] "New Paths" hailed this quiet genius as the conservative heir in the "War of the Romantics." High expectations paralyzed this self-critical German composer whose First Symphony, dubbed "Beethoven's Tenth," took 20 years.

ANSWER: Johannes **Brahms**

[10] Scholars debate Beethoven's intent after his 1802 Heiligenstadt Testament to seek a "new path" in remarks, heard by Czerny ("CHAIR-nee"), to his friend Wenzel Krumpholz, a virtuoso of this instrument. Beethoven wrote 6 early works for this small instrument with 4 doubled metal strings played by Avi Avital, Chris Thile ("THEE-lee"), and "father of bluegrass" Bill Monroe.

ANSWER: **mandolin** [or **mandolino**] (Beethoven also declared a "wholly new style" in a letter to his publisher Breitkopf & Härtel.)

<OL, Classical Music>

4. The speaker builds “a funeral, eating the dirt along the way – queen of pica, pilferer of misery feasts” in a poem by this author titled “Self-Portrait as a Chimera.” For 10 points each:

[10] Name this author of the poetry collection *When My Brother Was An Aztec*, a Mojave-American poet.

ANSWER: Natalie **Diaz**

[10] The speaker contemplates “resurrection flower, grape of life, / lady of the flute and the lightning-flash” in this poem titled for an Aztec artifact. It begins with the line, “A crystal willow, a poplar of water.”

ANSWER: “**Sunstone**” [or “**Piedra de sol**”] (by Octavio Paz)

[10] Mallinalli falls in love with Hernán Cortés after identifying him with the Aztec god Quetzalcoatl in a novel by this author, who ended the 12th “monthly installment” of another novel with a scene in which the ghosts of Tita de la Garza and Pedro set fire to a ranch.

ANSWER: Laura **Esquivel** (The novels are *Malinche* and *Like Water For Chocolate*.)

<CM, World/Other Literature>

5. In late 2019, researchers led by Armin Shayeghi demonstrated that an ultracold beam made of this peptide could interfere with itself, making it the first known biomolecule to demonstrate wave-particle duality. For 10 points each:

[10] Name this 15-amino-acid peptide, a natural antibiotic. Georgy Gause’s (“GYOR-ghee GOW-zee’s”) work on discovering the “S” or “Soviet” derivative of this molecule led to its quick adoption by Soviet hospitals to treat infected wounds.

ANSWER: **gramicidin** [accept **Gramicidin** Soviet or **Gramicidin S**]

[10] Before she effectively used girl power by funneling money into illegal paramilitary death squads in Northern Ireland, this “Iron Lady” and British PM got her start writing a dissertation on the structure of Gramicidin S.

ANSWER: Margaret **Thatcher**

[10] Gause’s discovery of Gramicidin S likely saved him from the purges of biologists in the wake of the Soviet Union’s adoption of this ecological system, which denied the existence of natural selection, adopted Lamarckian ideas, and believed that various grains could transmute between each other. It grew out of Michurinism.

ANSWER: **Lysenkoism**

<VS, Other Academic>

6. Answer the following about the Martians, for 10 points each.

[10] “The Martians” were a group of scientists of this nationality who emigrated to the US in the 20th century. Leo Szilard (“LAY-oh SIL-ard”), a scientist of this nationality who wrote the letter warning FDR about the German nuclear program, jokingly referred to his countrymen as “Martians.”

ANSWER: **Hungarian** [or **Hungary**; do not accept or prompt on “Austrian” or “Austro-Hungarian”]

[10] This Hungarian physicist helped convince Einstein to sign Szilard’s letter to FDR. He developed the phase-space picture of quantum mechanics and developed a theorem by which symmetry operations are related to unitary transformations.

ANSWER: Eugene **Wigner** [or **Wigner** Jenő]

[10] This Hungarian worked on explosive lenses used in implosion nuclear weapons for the Manhattan Project. This mathematician and physicist developed the density matrix formalism for quantum mechanics and is also known for work developing digital computers.

ANSWER: John von **Neumann** (“NOY-mahn”) [or **Neumann** János]

<GR, Physics>

7. This man succeeded Li Hongzhang (“hung-jong”) as the head of the Beiyang (“bay-yong”) Army, which under his control became the largest Army in China. For 10 points each:

[10] Name this leader who declared himself the Hongxian (“hung-sh’yen”) Emperor during a short-lived attempt to restore monarchy in China.

ANSWER: **Yuan** Shikai (“y’wen shurr-kai”)

[10] Yuan Shikai's influence in this country grew after the failed Gapsin ("GAHP-sheen") Coup. Yuan served as Resident-General during this country's Joseon ("JO-sun") dynasty.

ANSWER: **Korea** [accept **Korean Empire**]

[10] Yuan won the Battle of Yangxia ("yong-sh'yah") during this uprising, which laid the foundation for the Xinhai Revolution. A mutiny among the New Army, influenced by Tongmenhui ("tung-mun-hway") ideas, triggered this uprising.

ANSWER: **Wuchang** Uprising [do not accept or prompt on "Wuhan Uprising"]

<EL, World History>

8. This woman's name appears near the words "Saturday Morning Cartoon" and is crossed out below the name "Venus" in the painting *Panel of Experts*. For 10 points each:

[10] Name this woman whose breakup with Jean-Michel Basquiat ("boss-kyah") prompted him to take back many of his paintings and paint over them in black. Like Barbara Streisand, she collects Tamara de Lempicka's ("wem-PEETS-ka's") art.

ANSWER: **Madonna** [or Madonna Louise **Ciccone**] (The singer, not Mary.)

[10] Tamara de Lempicka was a Polish artist and one of the only major painters who used this style, which also inspired Madonna's music video for *Vogue*. The Chrysler Building was created in this highly geometrical style.

ANSWER: **Art Deco**

[10] This artist covered the clothing that Madonna wore during some live performances of *Like a Virgin* with his art. His most famous work depicts a cartoonish snake chasing after a man with an X on his chest on one side, and a skull holding out a zero-dollar bill on the other.

ANSWER: Keith **Haring** (The work is the *Crack is Wack* mural.)

<AB, Painting/Sculpture>

9. This cation ("cat-ion") is often formed by the rearrangement of a benzyl cation during mass spectrometry, leading to a peak at a mass-to-charge ratio of 91. For 10 points each:

[10] Name this cation that can lose acetylene to form C<sub>5</sub>H<sub>5</sub><sup>+</sup> in mass spectrometry.

ANSWER: **tropylium**

[10] Azulene can be considered as a tropylium cation fused to a cyclopentadienyl anion, explaining its large value for this quantity. The gross selection rule for rotational spectroscopy states that molecules must have permanent non-zero values for this quantity to display a microwave spectrum.

ANSWER: **dipole moment** [accept **magnetic dipole moment** or **electric dipole moment**; prompt on **DM** or **EDM**]

[10] Since they both contain 4n-plus-2 pi-electrons and are planar, azulene and tropylium both obey Hückel's rule and have this stabilizing property.

ANSWER: **aromaticity**

<EM, Chemistry>

10. After this story's protagonist hits his wife, she lies on the ground "ablaze," lifts her dress, arches her back, and cries "Go! Go! Go!" For 10 points each:

[10] Identify this story named for the question its protagonist asks his wife as he stands in the bathroom examining his bruised face the morning after being beaten by a black man. In it, Ralph Wynam struggles to cope with his wife's affair with Mitchell Anderson.

ANSWER: "**Will You Please Be Quiet, Please?**"

[10] "Will You Please Be Quiet, Please?" is by this author, whose later collections include *What We Talk About When We Talk About Love* and *Cathedral*.

ANSWER: Raymond **Carver**

[10] A man who uses his work in this profession to ignore his family troubles repeatedly tries to get his new hippie neighbors to find work in Carver's "What Do You Do in San Francisco?" Nick and Cora stage a car accident to kill

Cora's husband in a James M. Cain novel misleadingly named for a person of this profession who never actually appears.

ANSWER: **mailman** [or **postman**; accept *The Postman Always Rings Twice*]  
<EL, American Literature>

11. Noam Chomsky's *Cartesian Linguistics* argues that this monastery's namesake "grammar" anticipated the distinction between "deep" and "surface" structure. For 10 points each:

[10] Name this abbey home to the philosophers Pierre Nicole and Antoine Arnauld ("ar-NO") who authored a book known as its "logic," which contains some of the earliest work on probability.

ANSWER: **Port-Royal**-des-Champs ("por rwah-YALL day SHAWM") [accept **Port-Royal Logic** or **Logique de Port-Royal**]

[10] This philosopher argued that the *Port-Royal Logic* laid the foundation for Bayesianism ("BAY-zee-in-ism") by identifying "credibility" with "probability" in his seminal history of the subject, *The Emergence of Probability*.

ANSWER: Ian **Hacking**

[10] The *Port-Royal Logic* likely influenced this argument found in its namesake's *Pensées* ("pon-SAY").

According to this argument, you ought to live as though God really exists because doing so maximizes expected utility.

ANSWER: **Pascal's wager**

<CK, Philosophy>

12. Kathleen Kenyon refined an archaeological method in which a grid of squares is used to divide land named for a husband-and-wife team of archaeologists with this last name. For 10 points each:

[10] Give this name of the archaeologist Tessa, whose husband was a frequent panelist on *Animal, Vegetable, or Mineral*. That archaeologist with this last name popularized the study of Harappa in the 1940s.

ANSWER: **Wheeler** [accept Tessa **Wheeler** or Mortimer **Wheeler**]

[10] Harappa was a city of the ancient civilization named for this river whose other cities included Mohenjo-Daro.

ANSWER: **Indus** River [accept **Indus** Valley Civilization]

[10] The Harappan civilization produced seals whose most frequent motif is often named for this creature. Ctesias's *Indica* is the first written account of them.

ANSWER: **unicorns** [accept **unicorn** seals]

<JL, Archaeology>

13. A 1972 Met performance of this opera garnered Luciano Pavarotti seventeen curtain calls. For 10 points each:

[10] Name this opera by Gaetano Donizetti whose difficult tenor role of Tonio must sing a high C nine times in a row in the difficult aria "Ah! mes amis" ("AH may zah-MEE").

ANSWER: *La fille du régiment* ("la fee du ray-jee-MAWN") [or *The Daughter of the Regiment*]

[10] This green-eyed blond French coloratura soprano played Maria and Juan Diego Flórez played Tonio in an acclaimed 2007 Met production of *La fille du régiment*. She retired from opera in 2013.

ANSWER: Natalie **Dessay** ("duh-SAY")

[10] Dessay played Amina in a 2009 Met production of this composer's *La sonnambula* that was controversially set in a modern rehearsal hall. This rival of Donizetti wrote the aria "Casta Diva" for his opera *Norma*.

ANSWER: Vincenzo **Bellini**

<CK, Other Arts: Opera>

14. The space-based GALEX observatory measures this type of radiation to observe events like the formation of dwarf galaxies, and extinction due to interstellar dust has its peak in this band. For 10 points each:

[10] Name this type of radiation that the GALEX measures with microchannel plate detectors and grism spectroscopy. The FUSE space telescope used silicon carbide and lithium fluoride optics to observe the far subband of this radiation.

ANSWER: **ultraviolet** light [or **ultraviolet** radiation; or **UV**; prompt on electromagnetic radiation or EM or light]

[10] Data from GALEX allowed astronomers to find the critical mass for one of these objects as a function of galactic velocity dispersion, above which the outflow from one of these objects suppresses star formation by heating all available gas.

ANSWER: **supermassive black holes** [or **SMBH**; prompt on black holes or BH; prompt on galactic core; prompt on active galactic nuclei or AGNs; prompt on quasars]

[10] GALEX also allowed astronomers to identify one of these galaxies transforming into an S0 (“S-zero”) galaxy. These galaxies occupy the two arms of Hubble’s tuning fork diagram, in contrast to elliptical galaxies.

ANSWER: **spiral** galaxies

<GR, Other Science: Astronomy>

15. After he is called a cuckold by a sheep merchant who he meets on the open sea, this character buys a sheep from the merchant, which he tosses in the sea, causing the rest of the merchant’s sheep to follow suit. For 10 points each:

[10] Name this character who, in one episode, throws a purse of gold upon the ground, solving Gripe-Men-All’s riddle allowing him and his companion to escape the island of the Furred Law-Cats.

ANSWER: **Panurge**

[10] After traveling to the Oracle of the Holy Bottle, Panurge receives this one-word answer from the oracle, which he interprets as a sign that he should marry.

ANSWER: **drink** [or **trinc**]

[10] This character accompanies Panurge on his journey to the Oracle of the Holy Bottle. This François Rabelais character requires 4600 cows to nurse him after he is born to his father, Gargantua.

ANSWER: **Pantagruel**

<CK, European Literature>

16. A brewer from this region named Joseph Groll was the first to create a beer named after the Czech town of Pilsen. For 10 points each:

[10] Name this region of Germany where a law regulating the production of beer called the *Reinheitsgebot* (“RYNE-heights-guh-bote”) remained in place from 1516 to 1986. The Beer Hall Putsch occurred in this state’s capital of Munich.

ANSWER: **Bavaria** [or **Bayern**]

[10] This monarch promulgated the Assize (“uh-SIZE”) of Bread and Ale, the first law in English history to set standards of quality for beer. The Charter of the Forest, guaranteeing free access to royal forests, was issued during this monarch’s minority, and he confirmed the Magna Carta in the Statute of Marlborough.

ANSWER: **Henry III** [or **Henry of Winchester**; do not accept or prompt on “Henry of Navarre”]

[10] Ecclesiastical authorities during the Middle Ages often had quasi-monopolies on the production of beer, which were named for this spice mixture. It was used to flavor beer before hops became widespread.

ANSWER: **gruit** (“groot”)

<AE, European History>

17. The ADIA, Abu Dhabi’s fund of this type, is the third largest in the world, with holdings estimated at over 700 billion dollars worth of assets. For 10 points each:

[10] Name these large, often opaque funds that a country holds to fund future investments and that likely hold over 20 trillion dollars combined worldwide. Norway’s pension fund is made up of two of these funds that combine for over 1 trillion dollars in net worth.

ANSWER: **sovereign wealth** funds [or **SWFs**; accept **sovereign investment** funds or **social wealth** funds]

[10] The “Norway model” of investing sovereign wealth funds is sometimes contrasted with a model named after this institution, which advocates splitting assets into 6 types and dividing money equally between them. That model is typically credited to David F. Swensen, who managed this institution’s investments for nearly 35 years.

ANSWER: **Yale** University [accept the **Yale** model; prompt on the endowment model]

[10] Financier Jho Low worked with two Goldman Sachs employees to defraud this country’s 1MDB (“one-M-D-B”) sovereign wealth fund of over 4.5 billion dollars, leading to the arrest of this country’s former PM Najib Razak, who had been replaced by Mahathir Mohamad.

ANSWER: **Malaysia**

<VS, Modern World>

18. This author advised the title poet to “build thou thy place of resting,” not in Science, but in a “maze of metaphysical lore” in her poem “To Mr. S. T. Coleridge.” For 10 points each:

[10] Name this poet who infamously told Samuel Taylor Coleridge that *The Rime of the Ancient Mariner*’s only faults were “that it was improbable, and had no moral.”

ANSWER: Anna Lætitia **Barbauld**

[10] Coleridge objected that the poem had “too much” moral, given that the Ancient Mariner’s woes begin when he angers vengeful spirits by killing this creature with his crossbow.

ANSWER: the **albatross**

[10] The vengeful spirits cease to torment the Mariner after he looks “unaware” on the beauty of these creatures in their “glossy attire,” which he had earlier derisively described as “slimy things.”

ANSWER: water-**snakes** [or **serpents**]

<CK, British Literature>

19. Richard Francis Burton’s translation popularized one work of this type known for its focus on eroticism, though the word *kāma* in that work’s title may not necessarily refer to sexual desire. For 10 points each:

[10] Give this Sanskrit term, literally meaning “thread,” that refers to a type of Indian literature comprised of concise rules or guides.

ANSWER: **sūtra** [or **sutta**; accept **Kāma Sūtra**]

[10] The verses of the *Yoga Sūtras* of Patañjali (“puh-TUN-juh-lee”) are embedded inside this type of text, the genre of commentary. Adi Śankara (“AH-dee SHUN-kuh-ruh”) wrote many of these texts elaborating on the Vedic canon on a word-by-word basis, most notably on the Brahma (“BRUM-huh”) Sūtras.

ANSWER: **bhāṣya** (“BAHSH-yuh”) [or **bhashyam**; or **bhāṣyam**; accept **Brahma Sūtra Bhāṣya**; prompt on exegesis; prompt on commentary until read]

[10] A possibly different Patañjali wrote a “*Mahā*,” or “great” *bhāṣya* on the *Astādhyāyī* (“ush-tah-D’YAH-yee”) of Pānini (“PAH-nih-nee”), which discusses this academic discipline in a *sūtra*-esque manner. In the 19th century, Western interest in Pānini led to the development of the “comparative” type of this discipline.

ANSWER: **linguistics** [or **grammar**]

<AP, Religion: Hinduism>

20. Alister Hardy and Cyril Lucas began the currently-ongoing CPR survey for monitoring these organisms in 1931. For 10 points each:

[10] Name these tiny organisms that CPR collects by towing filter silk behind ships. The degree of green discoloration on the silk is a semi-quantitative biomass indicator for the “phyto” type of these organisms, which are defined by their inability to swim against a current.

ANSWER: **plankton** [or phyto**plankton**]

[10] Many plankton are mixotrophs, acquiring energy and carbon through both autotrophy and this strategy. Phagotrophy is a subtype of this nutritional mode.

ANSWER: **heterotrophy**

[10] These continuous-flow open-culture bioreactors popularized by Jacques Monod can be used to study steady-state trophic modes in microorganisms. Unlike turbidostats, dilution rate is kept constant in these devices.

ANSWER: **chemostats**

<JS, Biology>