

2019 Terrapin: Come on Angel, Come and Save Us

Packet 9

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Tossups

1. **In some stories, the god who created the first of these people forgot to give them food, causing the first man to die. The Christian Trinity may have influenced the three identities of father, son, and brother ascribed to a god of these people, one of whose aspects was named Kon-Tiki. A goddess of these people, Cavillaca, became pregnant after ingesting the sperm of the moon god and then transformed herself into a (*) rock out of shame. The first king of these people emerged from Pacaritambo and was instructed to build a temple where his golden staff sunk into the ground. The most important festival for these people took place on the winter solstice and is called the Inti Raymi. For 10 points, Viracocha was the creator god of what pre-Columbian civilization whose capital was at Cusco?**

ANSWER: **Inca** [or **Incans**]

<JS, Mythology>

2. **Upon coming to power, this nation's current prime minister ordered that its children be taught a set of "12 values" of this nation that he invented. In October 2018, a man from Liverpool, England, sprayed "Scouser Lee" and "B" on an 800-year-old gate in this nation. In October 2018, a businessman from this nation who founded the duty-free retailer King Power died in a (*) helicopter crash near a stadium in Leicester ("LESS-ter"). This nation has combated an insurgency in its southern Pattani province since 2004. In 2008, yellow-shirts supporting the People's Alliance for Democracy seized the Suvarnabhumi airport in this nation's capital to protest then-prime minister Thaksin Shinawatra. For 10 points, name this nation whose king Rama IX died in Bangkok.**

ANSWER: **Thailand** [accept **Siam**]

<AP, Other>

3. **The diary of the herbalist and midwife Martha Ballard in this state became the basis of the social history *A Midwife's Tale* by Laurel Thatcher Ulrich. This state was defended by the Hancock Barracks during a conflict that took place despite a failed arbitration attempt by William I of the Netherlands. This state's reputation for predicting (*) presidential races gave rise to the slogan, "As [this state] goes, so goes the nation." This state's 20th regiment defended Little Round Top during the Battle of Gettysburg. The Webster-Ashburton Treaty settled a dispute over this state's northern border that had sparked the bloodless Aroostook War. For 10 points, name this state that was admitted to the Union as part of the Missouri Compromise, when it broke off from Massachusetts.**

ANSWER: **Maine**

<AE, American History>

4. **To support Ai Weiwei, this artist created a parody of the song "Gangnam Style" called *Gangnam for Freedom*. Salman Rushdie provided the text for a work by this sculptor meant to be an "interrogation of the Arabian Nights" called *Blood Relations*. This artist took a photograph of himself with his middle finger covered in the world's "pinkest pink" dye, which he was banned from using after buying the exclusive license to the world's (*) "blackest black" material, Vantablack. The original version of one of this artist's sculptures was installed in Nottingham and is a 10-pound polished disk angled up. Another of this artist's work allows people to**

walk under it and see Chicago's skyline in a distorted reflection and resides in Millennium Park. For 10 points, name this Turner Prize-winning British-Indian sculptor of *Cloud Gate*, which is also known as the "Bean."

ANSWER: Anish **Kapoor**

<JH, Other Arts>

5. **This place titles a poem whose speaker compares his younger self to a roe, bounding "o'er the mountains, by the sides of the deep rivers, and the lonely streams." In a poem titled for this place, seeing "wreaths of smoke" in the trees leads the narrator to imagine "some hermit's cave, where by his fire the hermit sits alone." In that poem, the speaker hopes that memories of this place will impress "a mansion for all the lovely forms" onto the mind of his (*) sister Dorothy. This place titles a poem from *Lyrical Ballads* that begins, "Five years have past; five summers, with the length of five long winters!" That poem is entitled "Line Composed a Few Miles Above" this building. For 10 points, name this ruined cathedral on the River Wye that inspired a poem by William Wordsworth.**

ANSWER: **Tintern Abbey** [accept "Lines Composed a Few Miles Above **Tintern Abbey** on Revisiting the banks of the River Wye During a Tour. July 13, 1798"]

<CK, British Literature>

6. **Fredman and Willard invented a variety of these things that does faster operations by exploiting constant-time operations on machine words. A desirable condition for these things can be maintained using the Day–Stout–Warren algorithm. Collision detection can be performed efficiently using "quad" and "oct" varieties of these structures. The (*) AVL variety of these data structures performs rotations after some insertions and deletions. In a type of these data structures, an extra bit stored with each node designates it as either red or black. These data structures are self-balancing if they automatically keep their height minimal. For 10 points, name these hierarchical data structures often used for binary searches that consist of a root, internal nodes, and leaves.**

ANSWER: **trees** [accept fusion **trees** or quad**trees** or oct**trees** or AVL **trees** or red-black **trees** or binary (search) **trees**; prompt on graphs]

<VS, Other Science: Computer Science>

7. **This kingdom documented its royal rituals in a collection of books called *uigwe* ("wee-GWAY") that was looted by France before being returned to a modern successor of this kingdom in 2007. An engineer employed by this kingdom invented a self-striking water clock and a rain gauge before falling out of favor for building a faulty palanquin ("pal-an-KEEN"). That engineer was part of a royal academy of this kingdom called the Hall of Worthies. This kingdom won a battle in which 12 or 13 (*) ships held off an entire invasion fleet; the admiral at that battle, who made effective use of ironclad "turtle ships," was Yi Sun-sin. This kingdom's ruler Sejong the Great personally created the Hangul alphabet. For 10 points, the year 1910 saw Japan's annexation of what last independent Korean kingdom?**

ANSWER: **Joseon** [or **Choson**; prompt on Korea or Hanguk] (The engineer is Jang Yeong-sil.)

<AE, World History>

8. **After a clergyman in this play condemns a man who married a fallen woman for a paltry sum, another character asks what he thinks of her marrying a fallen man for a fortune. The protagonist of this play remembers being sick after climbing on his father's knee and smoking his pipe. A building in this play is left uninsured because insurance would indicate that its owners didn't believe in divine protection, but that (*) orphanage burns down when a snuffed candle is tossed into some wood shavings by Pastor Manders. That action is witnessed by Engstrand, who is believed to be the father of Regina until she is revealed to be the half-sister of this play's protagonist. For 10 points, name this play about the syphilitic Oswald Alving by Henrik Ibsen.**

ANSWER: **Ghosts** [or **Gengangere**]

<VS, European Literature>

9. A diagonal matrix of energies corresponding to these constructs is left-multiplied by the overlap matrix and a coefficient matrix C in the Roothaan (“ROTE-hahn”) equation, which equates that product to the product FC . Walsh diagrams can relate the effects of distortions to the energy of these constructs. The energy of one of these structures is related to ionization energy by (*) Koopmans’ (“COPE-mahns”) theorem. The “frontier” examples of these structures are called the HOMO and LUMO. One model for these structures consists of linear combinations of their simpler atomic analogues, and they are classified as bonding, antibonding, or nonbonding. For 10 points, name these structures that represent the probability density for electrons in systems of multiple atoms.

ANSWER: **molecular orbitals** [or **MOs**; accept atomic **orbitals** until “Walsh” is read, but prompt on **orbitals** thereafter; do not accept “atomic orbitals” after “Walsh” is read]

<VS, Chemistry>

10. In “mesh” theories, this idea is defined as having higher-order volitions that enact one’s “effective desires.” P. F. Strawson distinguished between “reactive” and “objective” attitudes in a paper titled for this idea and “resentment.” In a 1969 paper which argues that this idea has no bearing on moral culpability, its author presents namesake “cases” concerning Jones to refute the principle of alternative possibilities. Alvin Plantinga argued that God can only create humans who are (*) “transworld depraved” in an argument known as this idea’s namesake “defense” against the problem of evil. Harry Frankfurt is a compatibilist, believing that this idea is reconcilable with determinism. For 10 points, John Calvin’s idea of predestination is opposed to what idea that humans are able to make genuine decisions?

ANSWER: **free will** [or **freedom**; or **freedom of the will**]

<CK, Philosophy>

11. This ruler brandishes a sword as he enters the Temple of Art through a crowd of blindfolded men in a fresco depicting his “enlightenment,” which is a part of a namesake gallery that also includes *The Royal Elephant*. He commissioned a lunette that depicts a reclining nymph with her arm languidly draped around a deer. This monarch hired Primaticcio and Rosso Fiorentino to decorate his favorite palace, the (*) Château de Fontainebleau (“fon-ten-BLOW”). He commissioned a golden sculpture with a blue-enameled sea separating Ceres from a trident-wielding Neptune. This king commissioned that *Salt Cellar* from Benvenuto Cellini. For 10 points, name this Valois (“val-WAH”) king, a noted patron of the arts who purchased the *Mona Lisa* from Leonardo da Vinci.

ANSWER: **Francis I** of France

<CK, Painting & Sculpture>

12. This leader quipped that “If all the Roman people want to make me aedile (“EE-dyle”), I am old enough” when tribunes objected that he did not meet the minimum age for aedile. This leader claimed that Neptune had appeared to him the night before the lowering of a lagoon helped him capture Cartagena. This general conducted a “reverse (*) Cannae” to crush the opposing army at the Battle of Ilipa. This general convinced Masinissa to defect to his side, before winning a battle in which Masinissa’s Numidian cavalry routed the enemy cavalry. That battle also saw this general arrange his forces with broad gaps in order to neutralize the charge of the enemy’s elephants. For 10 points, name this Roman general who defeated Hannibal at Zama, thus winning the Second Punic War.

ANSWER: **Scipio Africanus** the Elder [or **Scipio Africanus** Major or Publius Cornelius **Scipio Africanus**; prompt on **Scipio**]

<AE, European History>

13. Karen Andre claims to have faked Bjorn Faulkner’s fall from a penthouse balcony in an Ayn Rand play set in one of these places that has multiple endings depending on the actions of audience members. In one of these places, a character stresses the need to “look behind the paint” as he recounts how a toy horse broke

when he rode it as a child. In this type of place, a character states that “If the Lord wishes a sponge to think, it thinks” and (*) collapses after straining his voice to yell as his microphone is turned off. In that play, a banner with the words “Read your Bible!” hangs in one of these places where a character based on William Jennings Bryan interrogates Bert Cates in Lawrence and Lee’s play *Inherit the Wind*. For 10 points, the opening scene of Reginald Rose’s play *12 Angry Men* occurs in what sort of room, before the characters withdraw for deliberation?

ANSWER: courtrooms [or courthouses] (The Ayn Rand play is *The Night of January 16th*.)

<AP, American Literature>

14. The last period of a chronology developed by Theodor Nöldeke (“TEE-oh-dor NULL-day-kuh”) consists of texts composed in this city, which tend to lack a tripartite structure and address the community with “O people!” A place of worship in this city uniquely has two *qiblas* that commemorate a command to change the direction of prayer. This city’s locals were known as the “helpers” or (*) Ansar. This city originated as a Jewish settlement named Yathrib. A large green dome was built over the tomb of Muhammad in this city; that dome is part of the Prophet’s Mosque, which Muhammad had personally built in this city. In order to escape persecution, the Muslim community emigrated [emphasize] to this city in the *hijrah*. For 10 points, the *hijrah* was a migration from Mecca to what other Arabian city?

ANSWER: Medina [or al-Medina; accept Yathrib until read]

<WC, Religion>

15. Quantum analogs to these phenomena that involve a transverse field have been studied in lithium holmium fluoride. Renormalization group methods are used to find critical exponents that characterize these phenomena, and divide them into universality classes. A classification of these phenomena divides them into different (*) orders based on discontinuity of the free energy or one of its derivatives, but the modern system just classifies them as continuous or discontinuous. These phenomena are characterized by spontaneous symmetry breaking and a change in an order parameter, such as magnetization or density. These phenomena correspond to lines on pressure-temperature diagrams. For 10 points, name these phenomena where a material abruptly changes its microscopic properties, exemplified by liquid water changing to ice.

ANSWER: phase transitions [or phase changes; accept second-order phase transitions or continuous phase transition or quantum phase transitions]

<GR, Physics>

16. This general offered to pardon Friedrich Staps after Staps attempted to assassinate this general, but Staps refused, claiming that “To kill you would not have been a crime, but a duty!” That failed assassination attempt on this general followed a campaign in which this general was defeated while attempting to cross the Danube in the Battle of Aspern-Essling, then defeated (*) Archduke Charles at the Battle of Wagram. This monarch set up the Confederation of the Rhine, which was acknowledged by Alexander I of Russia in the Treaties of Tilsit. This monarch had earlier defeated an alliance of Alexander I of Russia and Francis I of Austria during the War of the Third Coalition. For 10 points, name this French emperor who won the Battle of Austerlitz.

ANSWER: Napoleon Bonaparte [accept either underlined part; or Napoleon I]

<AE, European History>

17. In a 1998 paper partly titled after this concept, John Lomas found that among six interventions against heart disease, approaches that emphasized this concept proved more effective. Harvard’s Saguro Seminar is an initiative to improve the measurement and analysis of this concept. A book about this concept contrasts the (*) “bridging” type of this concept with the “bonding” type, based on whether or not they reinforce exclusive identities. Robert D. Putnam’s book *Bowling Alone* investigates the decline of this concept in the United States, exemplified by declining participation in groups like service clubs, PTAs, and bowling leagues. For 10 points, name this concept referring to ties between individuals that help them trust one another and work together.

ANSWER: **social capital** [accept **social networks**; accept **social participation**, **social engagement**, and **civil engagement** until “participation” is read, then prompt afterwards; accept **social ties** until “ties” is read, then prompt afterwards; prompt on **community** or **communities**; prompt on **friendship**; prompt on **relationships**; prompt on **social groups**]

<WC, Social Science>

18. In Sibelius’s (“sih-BAY-lee-us’s”) *Pelléas et Mélisande* (“pay-lay-OSS ay may-lee-ZOND”), this instrument portrays Mélisande. A French critic mistakenly invokes Haydn as a precedent for why this transposing instrument doesn’t belong in a symphony, but solos for it open Vincent d’Indy’s (“van-SAWN dan-DEE’s”) *Symphony on a French Mountain Air* and the second movement of César Franck’s (“say-zar fronk’s”) *Symphony in D minor*. This instrument’s mordent F-sharp E F-sharp after four guitar strums opens the second movement of (*) Rodrigo’s *Concierto de Aranjuez* (“kon-see-AIR-toh de ah-rahn-WEZZ”). This instrument portrays oriental merchants in Borodin’s *In the Steppes of Central Asia* and the title bird in Sibelius’s *The Swan of Tuonela*. A melody that was adapted into the spiritual “Goin’ Home” was played by this instrument at the opening of the Largo second movement of Dvořák’s *New World Symphony*. For 10 points, name this double-reed woodwind instrument pitched a fifth lower than the oboe.

ANSWER: **English horn** [or **cor anglais**; do not accept or prompt on “horn” or “French horn”]

<AE, Classical Music>

19. Adaptations of works in this language include Ola Rotimi’s most famous play and a play that Kamau Brathwaite wrote to be performed by children, *Odale’s Choice*. A play based on a work in this language ends with slaves participating in a “communion rite” after discovering that some jetting liquid is wine, not blood. When they aren’t making piles of sand, two cellmates rehearse a play written in this language in Athol Fugard’s *The Island*. (*) Wole Soyinka (“WALL-ay SHOW-ying-ka”) translated and adapted a play written in this language in which a woman realizes that the bloodied head she is carrying belongs to her son. The protagonist of Soyinka’s play *Death and the King’s Horseman* is written in the mold of the “pity and terror”-evoking, tragically-flawed heroes of this language’s dramas. For 10 points, name this language of *The Bacchae* and *Antigone*.

ANSWER: Ancient **Greek**

<JB, World/Other Literature>

20. A transmembrane permease protein studied by Abramson that transports this molecule has twelve alpha helices and uses a hydrogen ion gradient to transport this molecule into cells. ONPG can be used in a spectrophotometric assay that quantifies activity of an enzyme that [emphasize] acts on this molecule. That enzyme that breaks down this molecule is active in recombinants measured in the (*) blue-white screen. A genetic structure studied by Monod and Jacob is activated by this molecule and includes Z, Y, and A genes. That operon codes for an enzyme that breaks this dimer’s glycosidic bond, allowing *E. coli* to metabolize this sugar. For 10 points, name this milk sugar to which some adults are intolerant.

ANSWER: **lactose** [accept **beta galactosides**]

<GR, Biology>

Bonuses

1. This phenomenon is frequently used in quantum computing protocols, such as superdense coding and quantum teleportation. For 10 points each:

[10] Name this phenomenon described in the famous EPR paper to critique quantum mechanics. Einstein referred to the effects of this property as “spooky action at a distance.”

ANSWER: quantum **entanglement**

[10] According to this theorem, common sense local hidden-variable theories like the one assumed by the EPR paper do not have the same results as quantum mechanics. A particularly useful consequence of this result is the CHSH inequality used to test the validity of quantum mechanics.

ANSWER: **Bell**'s theorem

[10] Leonard Susskind and this string theorist proposed the ER=EPR conjecture to resolve the black hole firewall paradox. He also developed the AdS/CFT correspondence, which relates entanglement to the geometric structure of spacetime.

ANSWER: Juan **Maldacena**

<GR, Physics>

2. During this ecumenical council, Leo I sent a letter called his “Tome,” written to Flavian, the Patriarch of Constantinople, in response to the excommunication of Eutyches. For 10 points each:

[10] Name this ecumenical council which declared that Christ had two natures, human and divine, condemning Monophysitism as a heresy. This council caused the separation of the Coptic Orthodox Church.

ANSWER: Council of **Chalcedon**

[10] The Council of Chalcedon was convoked by this Eastern Roman emperor, who stopped the payment of tribute to the Huns. He married Theodosius II's sister Pulcheria to continue the Theodosian dynasty.

ANSWER: **Marcian** [or Flavius **Marcianus** Augustus]

[10] The Council of Chalcedon approved a creed that had been promulgated at this first ecumenical council, which declared that the Son is of one substance, or *homoousios* (“ho-mo-OO-see-os”), with the Father.

ANSWER: First Council of **Nicaea** [accept **Nicene** Creed; do not accept “Second Council of Nicaea”]

<AE, European History>

3. Mark Twain referred to a depiction of one of these animals as “the most mournful and moving piece of stone in the world.” For 10 points each:

[10] Name these animals that Bertel Thorvaldsen sculpted as a monument to Swiss Guards massacred during the French Revolution.

ANSWER: **lions** [accept the **Lion of Lucerne**]

[10] This American sculpted two lions for a Civil War memorial for the main staircase of the Boston Public Library. He made a relief honoring Robert Shaw and the African-American 54th Massachusetts Infantry.

ANSWER: Augustus **Saint-Gaudens**

[10] British artist Edwin Landseer sculpted four lions flanking the base of this monument in Trafalgar Square in London.

ANSWER: **Nelson's Column**

<GR, Painting & Sculpture>

4. After using a ladder connected to one of these structures for the second time in his life, a character cries upon smelling autumn fragrances and observing constellations above him. For 10 points each:

[10] Name this type of structure. A character who thinks of himself as a “legendary figure” nicknames a series of these structures that he sees through “a cartographer's eye” after his wife Lucinda.

ANSWER: swimming **pools** [accept specific pools like the Westerhazys' **pool** or the Grahams' **pool**]

[10] Neddy Merrill swims through his neighbors' suburban pools in "The Swimmer," a story by this author. This Pulitzer-winning "Chekhov of the suburbs" also wrote a novel series about the Wapshots.

ANSWER: John **Cheever**

[10] Cheever published "The Swimmer" and many of his other stories in this Manhattan-based magazine. Condé Nast publishes this magazine, whose covers often depict Eustace Tilley.

ANSWER: *The* **New Yorker**

<AP, American Literature>

5. Answer the following about the Hindu devotional poet Tulsīdās ("tul-see-DAHS"), who is notable for writing in vernacular. For 10 points each:

[10] Tulsīdās's most popular work today is a forty-verse poem in praise of this monkey-like god that describes his devotion towards Rāma. The poem also mentions this god's attempt to eat the Sun.

ANSWER: **Hanumān** [accept **Hanumān Chālisa** ("huh-noo-MAHN chah-LEE-suh")]

[10] Tulsīdās's adaptation of the Rāmāyana is used in a folk festivity whose name pairs "Rām" with this Sanskrit word. This word, often translated as "play" or "sport," also refers to interactions between Brahman ("BRUM-hun") and the world.

ANSWER: **līlā** ("LEE-lah") [or **Rāmlīlā**; or **Rāma Līlā**] (The adaptation is the *Rāmcharitmānas*.)

[10] Tulsīdās adapted the Rāmāyana into the *Gītāvālī* ("gee-TAH-vuh-lee"), which is a collection of these works. The word *gītā* literally refers to one of these works, which are based on *rāgas* and have varieties like *bhajana* ("BUH-juh-nuh") and *kīrtana* ("KEER-tuh-nuh").

ANSWER: **songs** [or **singing** or **gāna**; or **hymns**; or **melodies** or **melody**; accept **chants**; prompt on **music**]

<AP, Religion>

6. In this Supreme Court case, Chief Justice John Marshall put forth his principle that "the power to tax involves the power to destroy." For 10 points each:

[10] Name this Supreme Court case, which found that Congress had authority to charter the Second Bank of the United States, and that a certain state's taxation of the bank was a form of unconstitutional interference.

ANSWER: **McCulloch v. Maryland** [prompt on **Maryland**]

[10] This financier served as the president of the Second Bank of the United States. He was attacked in a political cartoon showing him at the center of a multi-headed monster fighting against Andrew Jackson.

ANSWER: Nicholas **Biddle**

[10] Biddle succeeded this politician as president of the Bank of the United States. Later, he advocated Southern secession at the 1850 Nashville Conference, declaring "The Rubicon is passed – the Union is already dissolved."

ANSWER: Langdon **Cheves**

<WC, American History>

7. The age of these general objects is inferred by comparing their constituents to theoretical isochrones plotted on HR diagrams. For 10 points each:

[10] Name these gravitationally bound groups of stars, contrasted with associations, that tend to have similar metallicity since they formed from the same material.

ANSWER: star **clusters** [accept, but DO NOT REVEAL, open **clusters** or globular **clusters**]

[10] This variable is normally higher for young stars. The peak wavelength of a blackbody spectrum is inversely proportional to this variable, which is inferred from the color index.

ANSWER: **temperature** [accept color **temperature**]

[10] These star clusters tend to have a "fluffy" appearance and younger, hotter stars with lower color indices than their denser counterparts.

ANSWER: **open** clusters

<GR, Other Science: Astronomy>

8. This book follows a group started by Dorothy Martin, who founded a UFO cult after claiming to have received a message from the planet Clarion telling them that “spacemen” would take them away. For 10 points each:

[10] Name this book that was written by a group of researchers who infiltrated a UFO cult in Chicago called the Seekers. This book examined the UFO cultists’ feelings of cognitive dissonance.

ANSWER: ***When Prophecy Fails*** [or ***When Prophecy Fails: A Social and Psychological Study of a Modern Group That Predicted the Destruction of the World***]

[10] *When Prophecy Fails* was co-written by this psychologist, Henry Riecken, and Stanley Schachter. In addition to his study of cognitive dissonance, this psychologist pioneered social comparison theory.

ANSWER: Leon **Festinger**

[10] Festinger has been credited with challenging the then-dominant psychological school of behaviorism, which was championed by this psychologist who created an operant conditioning chamber called his namesake “box.”

ANSWER: B. F. **Skinner** [or Burrhus Frederic **Skinner**; accept **Skinner** box]

<JH, Social Science>

9. Three of this composer’s symphonies are based on the albums that form David Bowie’s (“BOH-ee’s”) *Berlin Trilogy*. For 10 points each:

[10] Name this American minimalist composer whose *Portrait Trilogy* of operas includes *Einstein on the Beach*.

ANSWER: Philip **Glass** [or Philip Morris **Glass**]

[10] Glass composed the score for this experimental film, in which the track “Pruit Igoe” is played during the destruction of the namesake housing complex. Its title means “life out of balance” in Hopi.

ANSWER: ***Koyaanisqatsi*** (“ko-yah-niss-KAHT-see”)

[10] Glass’s symphony of this number, based on Bowie’s *Lodger*, premiered in 2019, and his piece *Music in [this many] Parts* is in fact for ten musicians, as its title refers to it having this many movements. This is the number of notes in each repeated bar of Steve Reich’s *Piano Phase* and the number of repeats of each bar of *Clapping Music*.

ANSWER: **twelve** [or **12**; accept *Music in **Twelve** Parts* or Symphony No. **12**]

<JN, Classical Music>

10. This monarch, who was raised in the castle of Guimarães (“ghee-mah-RYE’sh”), was assisted in the capture of Évora by the mercenary Gerald the Fearless. For 10 points each:

[10] Name this monarch who won independence for his kingdom from León in a campaign that saw him defeat his mother Teresa at the Battle of São Mamede (“muh-MEH-dih”).

ANSWER: **Afonso I** [or **Afonso Henriques** or **Afonso the Conqueror**; accept **Alfonso I of Portugal**; prompt on **Alfonso I** with “Alfonso I of what kingdom?”]

[10] Afonso I, the first king of Portugal, seized Santarém from this Islamic dynasty. This dynasty, which was overthrown by the Almohads, also lost the Battle of Ourique (“oh-REEK”) to Afonso I.

ANSWER: **Almoravid** Dynasty [or **Al-Murabitun**]

[10] The Battle of Ourique and the capture of Santarém was part of this larger campaign by Christian Spanish and Portuguese kingdoms to drive the Muslim Moors out of the Iberian peninsula.

ANSWER: **Reconquista** [or **Reconquest**]

<AP, European History>

11. Glow-worms dramatically light a dice game played in the “soft juicy vegetation” of this place that is punctuated by the repeated appearance of a herd of “cropper” ponies. For 10 points each:

[10] Name this place that is inhabited by workers whose “Tartarean” labor of carrying bundles of furze is repeatedly described in a novel in which a man who formerly worked as a diamond merchant in Paris upsets his new wife by taking up work as a furze-cutter here.

ANSWER: **Egdon** Heath [accept the **heath** in *The **Return of the Native***; prompt on the **heath** alone by asking “from what novel?”]

[10] Egdon Heath, the setting of *The Return of the Native*, is also mentioned in this other novel by Thomas Hardy, in which a portion of it is owned by a family to whom the title girl believes she may be related, the d'Urbervilles.

ANSWER: Tess of the d'Urbervilles

[10] In Hardy's *The Return of the Native*, the heath residents celebrate Guy Fawkes Day with a massive bonfire of furze atop Rainbarrow Hill. Guy Fawkes Day also appears in this other Victorian author's novel *The Way of All Flesh*, in which it prompts Ernest's classmates to burn his father in effigy.

ANSWER: Samuel Butler

<JH, British Literature>

12. These organisms are paradoxically diverse, seeming to violate the principle of competitive exclusion. For 10 points each:

[10] Name this group of aquatic organisms that includes a "phyto" type, which are primary producers.

ANSWER: plankton [accept phytoplankton]

[10] The PEG model for plankton in an idealized lake divides this process into 24 stages. Plankton undergo this process due to seasonal changes, and in general this process follows a disturbance and leads to the creation of a stable community.

ANSWER: ecological succession

[10] The PEG model of ecological succession takes into account factors described by these two terms that indicate relative trophic level. One refers to pressure due to competition for resources, while the other refers to pressure exerted by predators.

ANSWER: top-down AND bottom-up factors

<GR, Biology>

13. Answer the following about the mixing of Buddhist and Shinto mythology in Japan, for 10 points each.

[10] Some efforts to syncretize Japanese Buddhism with Shinto equated the buddha Vairocana with Amaterasu, the Shinto goddess of this domain. The Japanese names for Japan, Nippon ("neep-PONE") and Nihon ("nee-HONE"), refer to this celestial object.

ANSWER: the Sun

[10] Vaiśravaṇa, one of Four Heavenly Kings of Buddhist myth who watch over these things, became the popular god Bishamon in Japan. The Four Symbols represent these things in Chinese myth, and Horus's sons personified them in Egyptian myth.

ANSWER: the cardinal directions

[10] This syncretic god's priests at the Osa shrine extended his protection to a Buddhist temple in Nara at the same time he was declared a *bosatsu*. He is also identified with the Emperor Ojin and the Amida Buddha.

ANSWER: Hachiman

<JS, Mythology>

14. This poem mocks its dedicatee Richard Howard by challenging him to "comb" "learned journals" for the name of a "minor lion attending on Gérôme" who painted an Oriental harem. For 10 points each:

[10] Name this James Merrill poem in which a young boy assembles a jigsaw puzzle with the guidance of a "Mademoiselle, / In real life a widow since Verdun."

ANSWER: "Lost in Translation"

[10] In the poem, a puzzle piece shaped like one of these objects reminds the protagonist of a Paul Valéry poem. A different poem about a "boy too far from town to learn baseball" claims, "one could do worse than be a swinger" of these objects.

ANSWER: trees [accept specific types like birch trees or palm trees] (The poem is "Birches" by Robert Frost.)

[10] The poem's protagonist wonders "how much of the sun-ripe original" Valéry poem this author "made himself forgo" in his German translation, which is quoted in the poem's epigraph. This author wrote *The Duino Elegies*.

ANSWER: Rainer Maria Rilke ("RILL-kuh")

<AP, World/Other Literature>

15. This musician riffed on classical sonata form in an album that opens with the track “Shhh/Peaceful,” which he recorded with a band that included Wayne Shorter and Joe Zawinul (“ZAV-in-ool”). For 10 points each:

[10] Name this jazz trumpeter whose fusion album *Bitches Brew* includes a track entitled this musician “Runs the Voodoo Down.”

ANSWER: Miles **Davis**

[10] Four tracks from *Bitches Brew* feature Bennie Maupin playing this unusual instrument. Eric Dolphy popularized this non-flute instrument, which he played on the first two tracks of his album *Out to Lunch!*

ANSWER: **bass clarinet** [prompt on **clarinet**]

[10] After his stint with Davis, Bennie Maupin joined this musician’s Mwandishi Sextet. His band the Headhunters recorded the fusion standards “Chameleon” and “Watermelon Man.”

ANSWER: Herbie **Hancock**

<AE, Other Arts>

16. Tollens’ reagent oxidizes these compounds, leading to precipitation of elemental silver. For 10 points each:

[10] Name these carbonyl (“car-bo-NEEL”) compounds that are contrasted with ketones because their carbonyl group is at the end of the chain.

ANSWER: **aldehydes**

[10] Aldehydes can be produced from alkenes via this process. The mechanism of this reaction, which is induced by a triatomic molecule, includes a zwitterionic Criegee (“KREE-gay”) intermediate.

ANSWER: **ozonolysis**

[10] Performing ozonolysis on one of these compounds produces a nitrosamine. These compounds, which contain a nonterminal nitrogen–nitrogen double bond, can be formed in coupling reactions where a related ion acts as an electrophile.

ANSWER: **azo** compounds

<GR, Chemistry>

17. During the early years of this country’s independence, it experienced intense political rivalries between the Liberal Party based in León and the Conservative Party based in Granada. For 10 points each:

[10] Name this country whose capital, Managua, was designed as a compromise between León and Granada.

ANSWER: **Nicaragua**

[10] In 1854, a civil war in Nicaragua caused the Liberals to invite this American filibuster to become president. He was ousted from office and was ultimately executed by Honduras after trying to take over the Bay Islands.

ANSWER: William **Walker**

[10] After Walker’s overthrow, the Conservatives held power until the election of this Liberal politician. During his presidency, US Marines landed in Bluefields after he executed two mercenaries from America.

ANSWER: José Santos **Zelaya**

<AE, World History>

18. Jaegwon Kim argued that this account fails to explain why minds are always attached to the particular bodies with which they casually interact, an objection that he dubbed the “pairing problem.” For 10 points each:

[10] Name this view championed by René Descartes which states that the mind and body are distinct substances.

ANSWER: **dualism** [or substance **dualism**; or property **dualism**; or Cartesian **dualism**]

[10] This philosopher likened dualism to the “ghost in the machine” in his magnum opus *The Concept of Mind*.

ANSWER: Gilbert **Ryle**

[10] Donald Davidson argued for this view akin to property dualism according to which mental events are identical to physical events, even though there are no strict psycho-physical laws.

ANSWER: **anomalous monism** [do not accept or prompt on “monism”]

<CK, Philosophy>

19. A book written by this scientist inspired Frederic Edwin Church to retrace this scientist's steps and paint the landscape *The Heart of the Andes* in 1859. For 10 points each:

[10] Name this scientist who wrote the book *Cosmos*, which reintroduced that word into the modern vocabulary and sought to provide "A Sketch of a Physical Description of the Universe" in five volumes.

ANSWER: Alexander von **Humboldt**

[10] In the background of *The Heart of the Andes* is this mountain, which Humboldt drew cross-sectionally to show the plants at various altitudes. This Ecuadorian mountain is the farthest point from the Earth's center.

ANSWER: Mount **Chimborazo**

[10] Humboldt climbed Mount Chimborazo during a scientific expedition to this European nation's colonies in South America, having received permission to travel freely from this country's Charles IV.

ANSWER: **Spain** [or **España**]

<WC, Other>

20. This character is disturbed while praying "with an expression of profound piety" in a cathedral by an official who is himself distracted by a girl in a white dress. For 10 points each:

[10] Name this character who is seen exiting a carriage with a sheathed sword and wearing a gold-braided uniform with a collar that obscures his face. The story begins with a barber finding this character in a loaf of bread and throwing him in a river.

ANSWER: Major Kovalyov's **nose**

[10] Major Kovalyov's nose falls off in a short story by this 19th-century Russian author, who also wrote "The Overcoat" and the novel *Dead Souls*.

ANSWER: Nikolai **Gogol**

[10] In this Gogol story, a witch forces the philosophy student Khoma to carry her and chant hymns over her corpse. He later dies in fright of the fiends summoned by the title demon, who has eyelids that touch the floor.

ANSWER: "**Viy**" ("vee")

<AP, European Literature>