

2016 Terrapin XXIX: Lead Can't Penetrate Steele

Packet 14

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Tossups

1. **A general withdrew from a surprise attack at this battle when he realized that if he was captured, he might be tried for the graft he had committed as Secretary of War. Gunboats under the command of Andrew Foote caused havoc among the Confederates during this battle by shelling their positions. This battle ended shortly after John Floyd and Gideon (*) Pillow fled down the Cumberland River, leaving Simon Bolivar Buckner in command of the Confederate forces. As a result of this battle, Albert Sydney Johnston did not have enough soldiers to win the battle of Shiloh two months later. For 10 points, name this 1862 Union victory in Tennessee in which Ulysses S. Grant earned the nickname “Unconditional Surrender” by capturing the namesake fort.**

ANSWER: Battle of Fort Donelson

<JH American History>

2. **In the presence of this phenomenon, elastic forces on a quartz fiber are reduced in a Lauritsen electroscope. A lithium fluoride or silver halide crystal chip and several metal filters are used to measure the cumulation of this phenomenon in two devices called a TLD and a film badge. In one method of measuring this phenomenon, a sample is dropped in a surfactant-containing counting solution and a photomultiplier tube is used to amplify signals. A device for measuring this phenomenon uses the (*) gas multiplication effect to cause electron avalanches that signal a pulse. Those devices detect this phenomenon through their end window. Scintillation counters measure this phenomenon, whose doses are measured in sieverts or rads. For 10 points, Geiger counters detect what phenomenon whose “gamma” form can be partially shielded by lead?**

ANSWER: ionizing radiation [accept ionization; accept scintillation until read]

<SY Physics>

3. **A treatise titled for these things argues that one would find nothing to explain perception if one entered a giant thinking machine “as one enters a mill.” This term was borrowed from *The Principles of the Most Ancient and Modern Philosophy* by Anne Conway. The idea that any two entities with the exact same properties must be the same thing was used to argue that no two of these things can be exactly alike. A thinker used the example of synchronized clocks to explain how the principle of (*) pre-established harmony allows these entities to change despite their “windowless” nature. A treatise titled for these entities applies the principle of sufficient reason to God’s choices to claim that we live in the “best of all possible worlds.” For 10 points, name these non-spatial simple substances that make up the world in the philosophy of Gottfried Leibniz.**

ANSWER: monads

<JB Philosophy>

4. In a Kipling poem, this entity tells a “tale” that notes “your history books begin” when “the Romans left and the Danes blew in!” This entity “lies like a rod of rippled jade” in Oscar Wilde’s “Symphony in Yellow.” Thomas Gray’s poem about Eton College asks this entity, “What idle progeny succeed / To chase the rolling circle’s speed, hoop’s / Or urge the flying ball?” Matthew Arnold’s “The Scholar-Gypsy” contrasts “this strange disease of modern life” with a time when “life ran gaily” like this place. In a poem set near this (*) body of water, the speaker hears “mind-forg’d manacles” in voices as he wanders “thro’ every chartered street.” Each stanza of Edmund Spenser’s poem “Prothalamion” ends by asking this river to “run softly, till I end my song.” For 10 points, William Blake wanders near the flow of what river in his poem “London?”

ANSWER: River Thames (“temz”) [or Father Thames; prompt on river until “body of water” is read]

<AP Other Literature>

5. Jean Cocteau, in his short jingoistic essay *The Cock and the Harlequin*, praised Georges Auric (“oh-reek”) for escaping this country. Describing his Third Symphony, Vincent d’Indy (“dan-DEE”) contrasted “Latin” music with that of this country. A philosopher from this country contrasted its music with “Mediterranean” music and collected writings “contra” a composer from this country into a single essay. Saint-Saëns, in his essay series “[this country]-ophile,” wanted to (*) ban its “boche” music. A composer from here listed aesthetic ideals of “endless melody” and “total work of art” in his essays “Music of the Future” and “Artwork of the Future.” Debussy compared a technique used by that composer from here to “calling cards,” and in *Golliwog’s Cakewalk* he parodied that composer’s Tristan chord. For 10 points, name this country home to Nietzsche and Wagner.

ANSWER: Germany [or Deutschland]

<OL Music>

6. Near this city, a commune of escaped slaves was granted independence after its leader Gaspar Yanga beat back recapture attempts for forty years. Slave-trader John Hawkins was trapped with his cousin Francis Drake near this city’s San Juan de Ulúa complex. A plan named for this city called for the restoration of Congress, which had been dissolved by Agustín de Iturbide. That plan was promulgated by a leader who lost a leg defending this city from the (*) French during the Pastry War, and was named Antonio López de Santa Anna. After Victoriano Huerta’s forces arrested the crew of the USS *Dolphin* off of the coast of Tampico, Woodrow Wilson dispatched a fleet to occupy this port city. For 10 points, the campaign that saw the capture of Mexico City during the Mexican–American War began with the capture of which port city by Winfield Scott?

ANSWER: Veracruz Llave [or Heroica Veracruz]

<WC World History>

7. The use of unwanted goods and absorption of the cost of social change are among the 13 functions of this concept put forth by Herbert Gans. Oscar Lewis claimed that this phenomenon was a faulty “design for living” as part of his theory that it is caused by culture. The majority of people affected by this phenomenon are women, the result of a trend known as the “feminization” of this concept. It’s not racism, but much of William Julius Wilson’s work discusses (*) urban African Americans facing this phenomenon. The prevalence of this condition was likened to an “invisible land” in Michael Harrington’s *The Other America*. Barbara Ehrenreich attempted to live like someone in this condition in order to write *Nickel and Dimed*. For 10 points, the cost of a food budget multiplied by three forms the line for what condition, defined as a lack of money?

ANSWER: poverty [or being poor; anti-prompt on being unemployed]

<JB Social Science>

8. This compound's presence can be quantified in spectrophotometry by observing an intense absorption peak at 255 nanometers; that peak is the Hartley band. Fluoroelastomers like Viton are useful in chemical-resistant gloves because they are resistant to cracking upon reaction with this compound; that cracking reaction, which is performed in the laboratory using a methanol or dichloromethane solvent at negative 78 degrees Celsius, is a 1,3-dipolar (*) cycloaddition in which this compound cleaves alkenes. The Dobson unit was formulated to measure the concentration of this compound. In a light-catalyzed reaction, chlorine radicals break up this compound, which normally absorbs UV radiation in the stratosphere. For 10 points, a namesake "hole" in the Antarctic is deficient in what compound with formula O₃?

ANSWER: ozone [accept O₃ until read]

<SR Chemistry>

9. A letter to the inhabitants of this place is prefaced as "The words of him who holds the seven stars in his right hand, who walks among the seven golden lampstands." That letter also praises the inhabitants of this place for opposing the heretical Nicolaitans, unlike the inhabitants of Pergamum. Another letter to the inhabitants of this city states that the flaming darts of the evil one can be extinguished by the (*) shield of faith in its description of the metaphorical armor of God. That epistle also urges wives to submit to their husbands. A legend states that seven men from this city escaped persecution by Decius when they hid in a cave, where they fell into a miraculous sleep. For 10 points, name this city in Asia Minor that is the setting of the legend of the Seven Sleepers, the site of a church council that condemned Nestorianism.

ANSWER: Ephesus

<WC Religion>

10. One character in this novel jokes that the romance novel *Tears, Idle Tears* would be better titled as *Slop, Silly Slop*. Another character in this novel is mistaken for an Italian journalist by Walker, who suspects that the protagonist's typist is his mistress. During the Civil War, Jim Millon takes a bullet for the protagonist of this novel, who in return employs Millon's daughter Zerrilla Dewey. In this novel, Minister Sewell tells (*) Persis that her daughter is too romantic. After he forgets to put out a fireplace, this novel's protagonist's dream home on Beacon Street burns down. In this novel, the protagonist's elder daughter Penelope discovers that she is the love of Tom Corey. For 10 points, name this realist novel about the titular paint mogul, written by William Dean Howells.

ANSWER: *The Rise of Silas Lapham* ("LAP-um")

<AP American Literature>

11. A woman nicknamed "Granny," Melita Norwood, engaged in this action for over forty years, including while serving as a secretary for the "Tube Alloys" program. In 1962, a scandal erupted when John Vassall was revealed to have committed this crime after being photographed in a gay brothel. Peter Wright's memoir spread the idea that Harold Wilson engaged in this action while serving as prime minister. Anthony Blunt and (*) Guy Burgess committed this crime as part of a group called the Eugene Ivanov was alleged to have attempted to commit this action through his relationship with model Christine Keeler during the Profumo scandal. For 10 points, identity this treasonous action which involved passing state secrets to the KGB.

ANSWER: spying for the Soviet Union [or equivalents like committing espionage or stealing state secrets for the USSR or Russia; or equivalents of being a KGB agent until "KGB" is read; prompt with "for what country?" on answers like spying or espionage alone]

<JB European History>

12. An architect from this nation illustrated his “BIGamy” idea by designing an “unzipped wall” that served as the 2016 Serpentine Gallery Pavilion. That architect from this nation stacked apartments so that the roof of one apartment is the backyard of the next, to create “Mountain Dwellings.” That same architect from this nation recently opened a tetrahedral “courtscraper” in New York and announced plans to add a moat around the Washington (*) Redskins’ new stadium. An architect from this nation was inspired by a peeled orange to design a work eventually finished by Ove Arup. That advocate of “additive architecture” from this nation discovered that he could cut a sphere into shells to serve as the roof for an arts venue at Bennelong Point. For 10 points, name this birth nation of Bjarke (“BYAH-kuh”) Ingels and the designer of the Sydney Opera House, Jørn Utzon (“YUN OOT-sun”).

ANSWER: Denmark [or Danmark]

<AP Other Arts (Architecture)>

13. Due to their shape, some of the craters on this object are referred to as “radar-dark parabolas.” This body contains web-like arrays of concentric ridges thought to be formed by upwelling, called arachnoids. This body contains “tick-like” volcanoes, “anemones” characterized by outward radial flow, and broad, flat volcanoes referred to as “pancake domes.” Examples of shield volcanoes located on this object include (*) Sif Mons and Maat Mons. The first measurement of the astronomical unit was made when this planet was aligned with the Earth and the Sun, a situation called this planet’s namesake “transit.” This planet’s extremely strong greenhouse effect gives it a surface temperature of over 800 degrees Fahrenheit. For 10 points, name this second planet from the Sun.

ANSWER: Venus

<BB Other Science (Astronomy)>

14. A character in this play explains a plan to use bellows to pump air through a ship and onto cut onions in order to test sailors for plague. The protagonist of this play repeatedly begs for rescue from a woman who lectures him about poetry and philosophy, and is saved when another character claims to have seen her husband with a courtesan. The protagonist of this play sings “let us prove, While we can, the sports of love” in an attempt to (*) seduce the virtuous Celia. Sir Politic Would-be appears in this play, which ends with a trial before the senate at which the two main characters are convicted. With the help of his servant Mosca, this play’s main character pretends to be ill in order to get gifts from Corbaccio, Corvino, and Voltore. For 10 points, name this play subtitled “The Fox” about a wealthy Venetian nobleman by Ben Jonson.

ANSWER: Volpone, or *The Fox* [prompt on *The Fox* until read]

<JB British Literature>

15. A man of this surname condoned atrocities in the Rohilla War and had Nanda Kumar hung for accusing him of bribery, according to a man he shot in a duel, Philip Francis. John Conroy incompetently identified a tumor suffered by a lady-in-waiting of this surname as a pregnancy, leading to a scandal that damaged Queen Victoria’s popularity. Thomas McCauley wrote an essay about a man of this surname who was prosecuted by Edmund Burke during an (*) impeachment trial over his actions as Governor-General of India. At a battle of this name, Eustace of Boulogne fought at a ditch called the Malfosse; at that battle, a force of housecarls weakened by the Battle of Stamford Bridge lost after their leader took an arrow to the eye. For 10 points, give the name of the 1066 battle where Harold Godwinson was defeated by William the Conqueror.

ANSWER: Hastings [or Warren Hastings; or Flora Hastings; or the Battle of Hastings]

<JB European History>

16. Prostate-specific antigen is structurally related to a group of proteins involved in this process. GLA and Kringle domains keep a protein in this process inactive until in the presence of a molecule like Christmas factor. Transglutaminase catalyzes the formation of numerous cross-linkages during this process. Several zymogens of serine proteases cleave each other in a cascade reaction activated by (*) tissue factor in the “extrinsic” pathway for this process. Because they inhibit this pathway, enoxaparin and heparin are used to prevent and treat deep vein thrombosis. In this process, thrombin cleaves fibrinogen to form fibrin. For 10 points, warfarin inhibits what process in which platelets aggregate to close wounds?

ANSWER: coagulation [accept blood clotting]

<SY Biology>

17. The Jupiter Police Department charged a holder of this position with one count of simple battery after he was involved in an incident with Michelle Fields. The National Anti-Corruption Bureau implicated a holder of this position after it acquired a handwritten “black ledger” listing a series of payments made by the Party of Regions. That holder of this position, who had served as an advisor to (*) Viktor Yanukovich, gained this position after the firing of Corey Lewandowski. After the resignation of Paul Manafort, the female head of a polling company called WomanTrend was promoted to this position. For 10 points, name this position last held by Kellyanne Conway, which served a central role in the campaign of the winner of the 2016 presidential election.

ANSWER: Donald Trump’s campaign manager [or Donald Trump’s campaign chairman or head of Donald Trump’s presidential campaign or equivalents; prompt on Donald Trump’s campaign advisor]

<WC Other (Current Events)>

18. In the first chapter of a novel set in this region, the protagonist is admonished for visiting a brothel by his family Jesuit priest when they meet in his observatory tower. That novel set in this region abruptly notes that a ceiling decorated with Greek gods will be destroyed by a “bomb manufactured in Pittsburgh” while describing a lavish marriage ball. In a novel set in this region, a family’s plan to resell lupin beans is thwarted when a storm wrecks their boat, *The Providence*. This (*) island is the setting of the novels *The Day of the Owl*, *I Malavoglia*, and *The Leopard*. Characters with ancestry on this island are the subject of novels such as *The Last Don* by Mario Puzo. For 10 points, Leonardo Sciascia (“SHA-sha”) wrote novels about the Mafia of what Italian island?

ANSWER: Sicily [or Regione Siciliana; prompt on more general answers like Italy or the Mediterranean]

<JB European Literature>

19. To imprison Llao, the Klamath god of hell, the sky god Skell creates one of these natural features from the lava of Mount Mazama. It’s not a cave, but Percival uses an adder stone to kill the invisible Afanc monster, which terrorizes one of these natural features. The Ojibwe believe that the copper near one of these features is guarded by Mishipeshu, a scaly horned panther. After her birth from Pallas, Athena was raised near one of these natural features named for Triton. After she causes the execution of his mother, Sir (*) Balin the Savage beheads a spirit from one of these features. This sort of feature provides the name of a woman who enchanted Merlin and raised Lancelot near one of these places. For 10 points, the woman who gives Excalibur to King Arthur is known as the “Lady” of what sort of body of water?

ANSWER: lakes [or lacs; accept springs; prompt on bodies of water until read]

<AP Mythology>

20. In a painting of one of these events, a man with an apparent extra foot walks by a nobleman talking to a grey-cloaked monk. Petrus Christus portrayed participants in one of these events in a painting once thought to depict St. Eligius. In the foreground of a painting of one of these events, a boy in a large cap with a peacock feather licks his finger. A painting titled for one of these events features details such as an orange on a (*) windowsill, two wooden clogs, and a little dog. Two men use a door to carry pudding towards a feast table in a painting of a “peasant” one of these events by Pieter Brueghel. A convex mirror appears below the artist’s signature in a depiction of one of these events in which a man holds hands with woman in a green dress. For 10 points, name this type of event depicted by Jan van Eyck’s *Arnolfini Portrait*.

ANSWER: weddings [or marriages; or *Peasant Wedding*; prompt on dances]

<SY Painting>

Bonuses

1. Answer the following about the appearances of bears in Russian literature, for 10 points each.

[10] In this novel, Anatole Kuragin ties a police officer to a bear and drop them into a river. This novel's two-part epilogue describes the consequences of Count Rostov's death and attacks the Great Man theory of history.

ANSWER: **War and Peace** [or **Voyná i mir**]

[10] Tatyana dreams of being chased by a bear through a wintry forest in this Russian poet's verse novel *Eugene Onegin*.

ANSWER: Alexander **Pushkin**

[10] In this novel, an anthropomorphic bear blacksmith is renowned for his ability to sniff out kulaks. Nastya is adopted by some laborers building a housing complex for the proletariat in this novel.

ANSWER: *The **Foundation Pit*** (by Andrey Platonov)

<JH European Literature>

2. This woman chronicled her visits to Nationalist Socialist "holy sites" in her 1958 book *Pilgrimage*. For 10 points each:

[10] Name this whacko Nazi spy and Holocaust denier who claimed that Adolf Hitler was an avatar of Vishnu in her 1958 book *The Lightning and the Sun*.

ANSWER: **Savitri Devi** ("SAH-vit-ree DAY-vee") Mukherji [or Maximiani **Portas**; or Maximine **Portaz**]

[10] *The Lightning and the Sun* opens with a quote by Rudolf Hess, who in 1935 signed into law anti-Semitic legislation named for this city. After World War II, trials in this city prosecuted Nazi leaders for war crimes.

ANSWER: **Nuremberg** [or **Nürnberg**]

[10] Savitri Devi and her husband Asit Krishna claimed to be responsible for establishing contact between the Japanese army and this Indian founder of the Forward Bloc who revived the Indian National Army and was called "Netaji" ("NAY-tah-jee").

ANSWER: Subhas Chandra **Bose**

<AP European History>

3. George Dickie defined this concept as a network of institutions in response to an essay defines art as "something the eye cannot descry." For 10 points each:

[10] Identify this concept described as an atmosphere of artistic theory and a knowledge of history of art in an essay by Arthur Danto.

ANSWER: **artworld**

[10] Danto's essay was written in response to this Andy Warhol work in which he printed the logo for a brand of soap pad onto a wooden box.

ANSWER: **Brillo Boxes**

[10] *Brillo Boxes* was created in this decade. Thomas Crow wrote a book about the "Rise of" this decade, during which Peter Blake photographed the Beatles for the *Sgt. Pepper* album cover.

ANSWER: 19**60**s

<SY Painting>

4. Answer the following about the career of Karl Barry Sharpless, for 10 points each.

[10] Sharpless won half of the 2001 Nobel Prize in Chemistry for his work on stereoselective reactions, such as one which uses a titanium catalyst and DET to synthesize these cyclic compounds, which can also be synthesized by reacting an alkene with mCPBA.

ANSWER: epoxides

[10] Sharpless coined the term “click chemistry” and stated that the classic example of a click reaction is the Huisgen cycloaddition between azides and these compounds, which have a carbon–carbon triple bond.

ANSWER: alkynes

[10] Another asymmetric reaction named for Sharpless uses potassium ferricyanide and NMO to generate these compounds, which can be cleaved using periodic acid.

ANSWER: vicinal diols

<SR Chemistry>

5. This man brought to light the harsh treatment of miners in Spring Valley, Illinois, but his writings were unable to prevent a large race riot by anarchist Italian miners. For 10 points each:

[10] Name this author of the 1894 exposé *Wealth Against Commonwealth*, in which he criticizes the business practices of monopolies, most notably Standard Oil.

ANSWER: Henry Demarest Lloyd

[10] This later muckraking journalist exposed the malpractices of Standard Oil in her book *The History of the Standard Oil Company* and articles in McClure’s Magazine.

ANSWER: Ida Minerva Tarbell

[10] Another muckraker, Jacob Riis (“reese”), exposed the plight of workers living in poverty in *How the Other Half Lives*, a collection of works in this medium. Riis was able to produce these images indoors using flash powder.

ANSWER: photographs [prompt on pictures]

<AP American History>

6. An author of this surname wrote about Dr. Hata, a Japanese doctor who served as a medic for comfort women, in *A Gesture Life*. For 10 points each:

[10] Give this surname shared by *Native Speaker* author Chang-Rae and a Chinese-American poet who wrote “How to choose / persimmons. This is precision.” in his poem “Persimmons.”

ANSWER: Lee [accept Chang-Rae Lee or Li-Young Lee]

[10] Li-Young Lee’s “Persimmons” describes a painting of persimmons made by the narrator’s person of this type. Sylvia Plath’s best-known poem describes a person of this relation as “a man in black with a Meinkampf look.”

ANSWER: a father [or “Daddy”; or equivalents]

[10] A mechanic who works on these vehicles searches for his father in Charles Yu’s *How to Live Safely in a Science Fiction Universe*. After exiting one of these vehicles, the protagonist of a short story finds a butterfly on his boot and is shot by Travis.

ANSWER: time machines [or anything indicating devices used for time travel] (The story is “A Sound of Thunder” by Ray Bradbury.)

<JB Other Literature>

7. This number's namesake, a French politician, determined it to be irrational in 1979, although it is still unknown whether or not it is transcendental. For 10 points each:

[10] Name this number that is approximately equal to 1.202. The probability that any three natural numbers are relatively coprime is equal to the reciprocal of this number.

ANSWER: **Apéry's** constant [accept, but DO NOT REVEAL: $\zeta(3)$ or the Riemann **zeta** function of **3**]

[10] Apéry's constant is equal to this function of 3, and this function of 2 is the solution to the Basel problem. This function is an analytic continuation of the infinite sum of p over n to the s , where s can be any complex number.

ANSWER: Riemann **zeta** function [or Euler–Riemann **zeta** function]

[10] The Riemann hypothesis states that every nontrivial zero of the Riemann zeta function has a real part equal to this value. This fraction of the values of a data set are both greater than and less than the median.

ANSWER: one-**half** [or **1/2** or **0.5** or **50%**]

<SR Other Science (Math)>

8. Except for the first part of the double finale, all movements of this F-sharp minor symphony are in triple time. For 10 points each:

[10] Name this symphony from Joseph Haydn's *Sturm und Drang* period. The musicians at its premiere snuffed out their candles and left the stage one at a time to give the hint that they wanted to leave Esterháza.

ANSWER: **Farewell** Symphony [accept Symphony No. **45**; or **Abschieds**-Symphonie]

[10] After a dotted introduction, this B-flat major Haydn symphony's monothematic exposition features a held oboe note over a descending scale and quotes Farewell. This fourth Paris symphony, Marie Antoinette's favorite, includes variations on "La gentille et jeune Lisette" ("la jon-TEE yay juhn lee-ZET").

ANSWER: Symphony No. **85** [accept "**La Reine**" or "The **Queen**"]

[10] This composer's ballet *Don Juan* has a fearsome *Sturm und Drang* finale. He reformed opera with Calzabigi ("kalt-sah-BEE-jee") in *Orfeo ed Euridice* and *Alceste*, integrating overtures and using music to reflect drama not vocality.

ANSWER: Christoph Willibald von **Gluck**

<OL Music>

9. In a Thomas Wolfe story titled in reference to this poem, Spangler recounts the sudden killing spree of an African American man named Dick Prosser. For 10 points each:

[10] Name this poem. A phrase from this poem titles a critical study whose style of symbolic analysis was expanded on by its author, Northrop Frye, in *Anatomy of Criticism*.

ANSWER: "The **Tyger**" (by William Blake)

[10] The author of "The Child by Tiger," Thomas Wolfe, also wrote this novel about North Carolina-resident Eugene Gant. This novel was followed in a trilogy by *Time and the River* and *The Web and the Rock*.

ANSWER: **Look Homeward, Angel**

[10] The original draft of *Look Homeward, Angel* was called *O Lost* and was intended to be a book of this type. Alex Haley ghost-wrote one of these books about Malcolm X.

ANSWER: **autobiography** [or **autobiographical** novel; or **memoirs**]

<AP American Literature>

10. The illustration accompanying this document depicts an emperor stepping on top of an usurper called Gautama and being blessed by a Faravahar. For 10 points each:

[10] Name this inscription in which Darius the Great proclaimed his victory in nineteen rebellions in his empire. This inscription allowed for the interpretation of cuneiform script by Henry Rawlinson.

ANSWER: **Behistun** stone [or **Bisotun** inscription; or **Bagastana** relief]

[10] The Behistun stone was excavated in this country's Kermanshah province, where Darius ruled as Persian emperor.

ANSWER: **Iran**

[10] The Behistun inscription is written in Old Persian, Babylonian, and the language of these peoples, whose capital was Susa. This civilization's Old dynasties included the Awan, Simashki, and Epartid.

ANSWER: **Elam** [or **Susiana**; accept **Elamite**]

<AP World History>

11. Both this god, whose name literally means "corn," and his son Ba'al were agriculture gods. For 10 points each:

[10] Name this Mesopotamian god of fertility who was worshipped along with his consort Belatu at Ebla. The Greeks at Gaza identified him as Marnas.

ANSWER: **Dagon** [accept **Dagan** or **Dgn** or **Dagnum**]

[10] Like the first Mesopotamian sage, Adapa, Dagon was sometimes depicted as being half an animal of this type. Finn MacCool gained his knowledge by licking his thumb while cooking one of these animals.

ANSWER: **fish** [accept specific types of fish, like **carp** or **salmon**]

[10] Anu attempted to give Adapa food of immortality after Adapa broke Ninlil's wings, but he refused it because this god told him not to eat while in heaven. This god of water lived in Abzu with his consort Ninhursag.

ANSWER: **Enki** [or **Ea**]

<AP Mythology>

12. The central zinc atom of this protein is coordinated by two cysteine residues and a histidine residue. For 10 points each:

[10] Name this protein that oxidizes its substrate to an aldehyde using NAD⁺ as a cofactor.

ANSWER: **alcohol dehydrogenase** [or **ADH**]

[10] The reaction converts NAD⁺ to its reduced form, which is referred to using this abbreviation.

ANSWER: **NADH**

[10] In the reaction mechanism of ADH, the target alcohol is deprotonated via a proton shuttle involving histidine and this other amino acid. The 14-3-3 motif binds to phosphorylated residues of this amino acid and a demethylated version of this amino acid.

ANSWER: **threonine** [or **Thr** or **T**]

<SR Biology>

13. The legitimacy of this empire was challenged by the empire of Nicaea, which was ultimately ruled by the general-turned-emperor Michael Paleologus, who captured this empire's capital. For 10 points each:

[10] Name this empire created in the wake of the Fourth Crusade, whose first ruler was Baldwin of Flanders.

ANSWER: **Latin** Empire [or **Romania**]

[10] The Latin Empire was founded after this disastrous 1203 event, during which the crusaders looted various objects, such as the four bronze statues called the Horses of Saint Mark, from the capital of the Byzantine Empire.

ANSWER: **Sack** of **Constantinople** [accept **Siege**, **Fall**, **Conquest**, or equivalents in place of "Sack"]

[10] This leader of the Fourth Crusade, who succeeded Thibaut of Champagne in that position, was persuaded to attack the Byzantine Empire by Alexios IV Angelos while on a visit to the court of his cousin Philip of Swabia.

ANSWER: **Boniface of Montferrat** [or **Boniface I**; or **Bonifacio del Monferrato**; or **Bonifacio I**]

<WC European History>

14. The subjects of one of this man's experiments started rocking hysterically and ripping out pieces of their hair and skin. For 10 points each:

[10] Name this psychologist who with student Stephen Suomi observed the preference of his subjects for fake mothers made of cloth over ones made of wire.

ANSWER: Harry **Harlow**

[10] These experiments devised by Mary Ainsworth arrived at conclusions related to Harlow's research without torturing any Rhesus monkeys. These experiments, in which a mother leaves an infant alone in a playroom, can be used to assess attachment styles.

ANSWER: **Strange Situation** experiments [or **Strange Situation Classification**]

[10] In 1958, Harlow published his findings in a paper titled for the "nature" of this concept. John Lee's color wheel theory of this feeling features types such as *agape* and *eros*.

ANSWER: **love**

<JH Social Science>

15. A person of this surname claims to "honor the name" of "Dr. Lysander Starr," a person whom Sherlock Holmes had made up on the spot. For 10 points each:

[10] Identify this surname used by the American criminal "Killer" Evans to trick Nathan to leave his house so he can recover the counterfeit money in his cellar.

ANSWER: **Garrideb**

[10] "The Adventure of the Three Garridebs" is a short story by this British author who created Dr. Watson and, to public outrage, temporarily killed off Sherlock Holmes.

ANSWER: Sir Arthur Conan **Doyle**

[10] In another short story, Holmes's client Jabez Wilson responds to an ad claiming to only hire people with this quality. It turns out that the "league" of this quality was made up by Wilson's assistant to dig a tunnel to a nearby bank.

ANSWER: **red hair** [or **redhead**] (The story is "The Red-Headed League.")

<AP British Literature>

16. Tearoom owner Kate Cranston commissioned many of this architect's works, and critics mocked his and his wife Margaret Macdonald's art as belonging to the "Spook School." For 10 points each:

[10] Name this Scottish architect who used elements of Art Nouveau in his design for the Glasgow School of Art and created the Willow Tearooms.

ANSWER: Charles Rennie **Mackintosh** [or Charles Rennie **McIntosh**]

[10] In his Willow Tearooms, Mackintosh debuted his design for these items. Gerrit Rietveld ("REET-felt") used red and blue paint in his design for one of these items, and an architect designed a futuristic-looking item of this type that resembles a tulip.

ANSWER: **chairs** [or **benches**; accept tulip chairs; prompt on **seats**]

[10] Eero Saarinen, the Finnish-American designer of the tulip chairs, also designed this 630-foot-tall catenary curve-shaped monument in St. Louis.

ANSWER: **Gateway Arch**

<JH Other Arts (Architecture)>

17. A discourse on this concept was followed by its author's *Discourse on Political Economy*. For 10 points each:
[10] Name this concept, the title subject of a discourse by Jean-Jacques Rousseau that calls the first man to have enclosed a piece of land and declared "this is mine!" the founder of civil society.

ANSWER: **inequality**

[10] Rousseau's *Discourse on Inequality* was wrongly accused of promoting the "noble savage" due to its discussion of this condition that humans existed in before society formed. Hobbes called life in this state "a war of all against all" and "nasty, brutish, and short."

ANSWER: state of **nature**

[10] *Discourse on Inequality* contrasts a form of this concept that causes primitive man to preserve his own well-being with a more harmful type in which people are aware of how others perceive them.

ANSWER: self-**love** [or **amour** *de soi*; or **amour** *propre*; prompt on similar answers]

<JB Philosophy>

18. Filamentation, the propagation of a laser pulse through a medium without diffraction, can be attributed to this phenomenon that can be either self-phase or cross-phase modulated. For 10 points each:

[10] Name this phenomenon, a refractive-index change proportional to the square of the E-field caused by an incident light ray propagating through a material. This phenomenon causes filamentation due to a self-focusing of the incident ray.

ANSWER: optical **Kerr** effect

[10] Filaments created by focused terawatt pulsed lasers can perform this function on other laser radiation. Total internal reflection allows for glass fibers to serve as one of these devices, which restrict the propagation of electromagnetic radiation in a specific direction.

ANSWER: **waveguides**

[10] When ultra-fast laser pulses are focused as a point, one of these substances is created. This "fourth state of matter" is composed of an ionized gas.

ANSWER: **plasma**

<SY Physics>

19. Jan Kaplický's ("kah-PLIT-ski's") Selfridges Building in Birmingham, England is considered to exemplify a style of architecture named for this word. For 10 points each:

[10] Identify this word that names a style of architecture that designs wavy, amorphous buildings. Influential designer Karim Rashid popularized a portmanteau of this word and "object" that describes curvy, bright-colored consumer items.

ANSWER: **blob** [accept **blobitecture**, **blobism**, or **blobject**]

[10] Blobjects produced by this company under the direction of head designer Sir Jonathan Ive include the Mighty Mouse and iMac G3.

ANSWER: **Apple** Inc.

[10] Many blobjects are squircles, or rounded rectangles; this Finnish electronics company that developed Here WeGo often uses squircles in its designs. Its ex-CEO Stephen Elop sent out a scathing "burning platform" memo in 2011, and later unveiled its Lumia series.

ANSWER: **Nokia** [or **NOKIA** Oy]

<AP Other (Academic)>

20. An oft-recited mantra asks this god to separate the devotee from the clutches of this world like a cucumber detaches from its vine. For 10 points each:

[10] Name this god whose violent aspect is asked to unstring his bow and compared to thieves and murderers by the text *Śrī Rudram*. The *rasa* form of an idol of this god is made of solid mercury, and an ice idol of this god is worshipped in the Amarnāth cave.

ANSWER: Śiva [or Īśvara; or Maheshwara] (The mantra is the Mahā-Mrutyunjaya Mantra, and the idols are *lingas*.)

[10] The precise median of *Śrī Rudram* is a five-syllable mantra that proclaims “*Namah Śivāya*” after reciting this Hindu cosmic syllable that is followed in other instances by “*Śāntih*.”

ANSWER: Om [or Ōmkāra or Aum or Pranava]

[10] Devotees of Śiva spread this many *horizontal* lines of ash on their foreheads. In contrast, devotees of Vishnu spread this many *vertical* lines of ash on their foreheads.

ANSWER: three [accept tripundra]

<AP Religion>