1. A small tumor arising in these glands is called a pheochromocytoma (fee-oh-crow-mow-sigh-TOH-mah), and one section of these glands contains layers called the zona glomerulosa (glah-meh-roo-LOH-sah), fasciculata (fah-shih-cue-LAH-tah), and reticularis (reh-tick-cue-LAH-rihs). One section of this gland responds to angiotensin (an-gee-oh-TEN-sin) by secreting the sodium-retaining hormone $\left(^{*}\right.$ ) aldosterone (al-DAHS-teh-rone), while another section of it secretes catecholamines (cat-teh- KOH -lah-meens). For 10 points, name these glands, whose cortex secretes cortisol and whose medulla secretes epinephrine (eh-pih-NEH-frin) and norepinephrine (NOR-eh-pih-neh-frin).
ANSWER: adrenal glands
048-12-53-08102
2. An artist from with this movement, Worthington Whittredge, was the model for George Washington in Washington Crossing the Delaware. A series from this movement show The Savage State and the Pastoral State prior to the Destruction and Desolation of the title entity. That series from this movement is The Course of Empire. Kindred Spirits by Asher (*) Durand is another painting from this movement. For 10 points, name this 19th century American art movement founded by Thomas Cole named for a waterway in New York.
ANSWER: Hudson River School
030-12-53-08103
3. The second branch of an energy reaction named for this particle involves lithium burning. This particle is believed to decay into a positron and neutral pion and has an estimated half-life of ten to the thirty-six years. The energy reaction named for this particle produces most of the Sun's energy. Composed of two up (*) quarks and one down quark, this particle is the most massive particle produced by beta decay. For 10 points, name this positively charged particle found in the nucleus.
ANSWER: proton
149-12-53-08104
4. This deity presides over twelve Judges called Diar in his hall of Gladsheim, and he defeated Vafthrudnir (vaf-TRUD-neer) in a contest of knowledge. This God hung from Yggdrasil (yig-DRAW-seel) for nine days and nights in order to discover the secret of the runes. With his brothers Vili and Ve, he slaughtered the Frost Giant Ymir (yee-MEER) and created Ask and Embla, the first humans. He lost his (*) eye when he sacrificed it to the Well of Mimir in order to gain its wisdom. For 10 points, name this father of Baldur and Thor, the supreme deity of wisdom, poetry and war in Norse mythology.
ANSWER: Odin
141-12-53-08105
5. This poet described "long fields of barley and of rye" where a woman weaves a "magic web of colors gay" before seeing Lancelot and dying. The speaker of one of this author's poems hopes to see his "pilot face to face" after doing the title action. This poet of "The Lady of (*) Shalott" described men whose job it was "not to make reply" and "not to reason why" as they rode "into the valley of Death." For 10 points, name this British poet of "Crossing the Bar" and "The Charge of the Light Brigade." ANSWER: Alfred, Lord Tennyson
6. In one poem by this writer, the speaker asks, "Do you know so much yourself, that you call the slave or the dull-face ignorant?" In that same poem, the speaker proclaims, "The armies of those I love engirth me, and I engirth them." In another poem by this writer, the speaker confesses, "These are really the thoughts of all men in all ages and lands, they are not original with me." He begins that poem with the line, "I (*) celebrate myself, and sing myself." For 10 points, name this American writer who wrote "I Sing the Body Electric" and "Song of Myself" as part of his collection Leaves of Grass. ANSWER: Walter Whitman
7. This leader did not resign his military position upon the passage of the Self-Denying Ordinance. The Instrument of Government granted this leader power, and included elements from the 'Heads of Proposals," drafted by this leader's son-in-law Henry Ireton. Along with Thomas Fairfax, this organizer of the $\left(^{*}\right)$ New Model Army won decisively at the Battle of Naseby. For 10 points, identify this leader who came to power after Charles I's execution as Lord Protector of England.
ANSWER: Oliver Cromwell
126-12-53-08108
8. The entrance and lobby of one of his buildings are restored in the Meiji Mura museum, and were originally part of his replacement for the burnt down Imperial Hotel in Tokyo. He designed a building with a coiled structure for New York City's Guggenheim Musem. One house designed by this architect in southwestern Pennsylvania is built over a (*) waterfall near Bear Run. For 10 points, name this architect who designed Fallingwater.
ANSWER: Frank Lloyd Wright
088-12-53-08109
9. This man convinced Sardinia to invade Venetia in a war that overturned the Convention of Gastein. This man's country, which won the aforementioned Seven Weeks' War, gained control of Holstein as a result. This leader concocted an alleged insult to Comte Benedetti in the Ems Dispatch and led the (*) Kulturkampf against Catholics in his nation. Known for provoking the Franco-Prussian War, for 10 points, name this "Iron Chancellor" and advisor to Wilhelm I who helped to unify the German Empire.
ANSWER: Otto Eduard Leopold von Bismarck
131-12-53-08110
10. One proponent of this philosophy described the free will as prohairesis in The Enchiridion (ENK-eer-ID-ee-on) and The Discourses. The "life breath" pneuma is a sustaining force in this philosophy, which was advanced by (*) Epictetus, Cleanthes, and Chrysippus. Virtue alone brings happiness according to one of its central texts, the Meditations of Marcus Aurelius. Zeno of Citium founded, for 10 points, what philosophy, which teaches that a person who has achieved perfection does not experience emotion?
ANSWER: Stoicism
079-12-53-08111
11. This is the number of unhybridized orbitals left in an sp hybridized bond. This is also the number of unbonded electrons on the central atom of an ozone molecule. In cupric oxide, copper has a positive charge of this magnitude. This is also the number of carbon atoms in a molecule of ethylene (EH-thuh-leen), the number of valence electrons in a (*) calcium atom, and the number of protons in an atom of the lightest noble gas. For 10 points, name this atomic number of helium.
ANSWER: two
12. One member of this political party, Chicago Mayor Levi Boone, incited the Lager Beer Riot by closing taverns on Sundays. Philadelphia mayor Robert Conrad and all the Massachusetts state politicians elected in 1854 were members of this party, which was led by William Poole. It grew out of the Order of the (*) Star Spangled Banner. Millard Fillmore ran for President on this party's ticket in 1856. For 10 points, name this anti-immigrant party whose members were very secretive.

ANSWER: Know-Nothing Party [or Know-Nothings; or Native American Party]
079-12-53-08113
13. John Fletcher's play The Custom of the Country takes several events from this author's Persiles and Sigismunda (per-SIL-eez and see-gees-MOON-duh). A love potion goes awry, turning Tomas Rodaja (row-DAW-huh) into the paranoid 'Lawyer of Glass," in one of this author's Exemplary Novels. This author's most famous novel focuses on a man who loves a woman he calls (*) Dulcinea (DOOL-see-NAY-uh), rides Rocinante (ROW-see-NON-tay), and travels with Sancho Panza. For 10 points, name the Spanish author of Don Quixote (kee-HOE-tay).
ANSWER: Miguel de Cervantes Saavedra
140-12-53-08114
14. These structures develop in response to interactions between EPF1, YODA, and Speechless, and they develop from asymmetric division of pavement cells. Organisms that undergo the CAM pathway open these structures during the night. Absciscic (ab-SCIH-SIHC) acid is one trigger for opening these structures. They are flanked by a pair of $\left({ }^{*}\right)$ guard cells, which shrivel up to close them. For 10 points, identify these holes used for transpiration in plants, most commonly found on the bottom of a leaf.
ANSWER: stomata
048-12-53-08115
15. Schubert and Ravel each wrote sets of "noble and sentimental" works of this type. This form is thought to descend from the Ländler ('LEND'-ler), and another famous example is from Lehar's The ${ }^{(*)}$ Merry Widow. Another of these pieces was originally written for the Vienna Men's Choir, but was later reformatted. For 10 points, "On the Beautiful Blue Danube" is an example of what type of dance, whose "King" was Johann Strauss the Younger and which is written in three-four time?
ANSWER: waltzes
023-12-53-08116
16. This country's Atbarah River meets a larger river near the ancient city of Meroe. This country's largest oil reserves are found in the Muglad Basin. To the northwest, the Nuba Mountains lie in the province of South Kordofan. This country disputes the Hala'ib triangle with its northern neighbor. It $\left(^{*}\right)$ ceased to be the largest country in Africa after a January 2011 referendum resulted in the independence of its southern portion. For 10 points, name this country that contains Darfur.
ANSWER: Republic of Sudan
132-12-53-08117
17. As mayor of Bridgeport, Connecticut, this man helped start the Bridgeport Hospital. This man funded the Swedish opera singer Jenny Lind's expensive tour through America. He put a sign reading "This way to the egress" next to his $\mathbf{~}^{*}$ ) museum's exit, tricking his customers into accidentally leaving and paying to re-enter. The saying "There's a sucker born every minute" is attributed to this man. For 10 points, name this man who toured with a freak show and ran a circus with James Bailey.
ANSWER: Phineas Taylor Barnum
18. One shootout in this country occurred when an outlaw was captured at the Glenrowan Inn while wearing makeshift armor. Peter Lalor led a revolt of miners at the Eureka Stockade in this country, where William Bligh was deposed by the Rum Rebellion. This country home to Ned Kelly was one-half of the (*) ANZAC Corps of World War II. For 10 points, name this country where Prime Minister Kevin Rudd apologized for the "stolen generations" of the Aborigines.
ANSWER: Commonwealth of Australia
079-12-53-08119
19. In this novel, Nneka's husband allows her to leave him because she has borne four sets of twins. In this work, Mr. Kiaga acts as a translator for Mr. Brown, who accepts a plot of land in the Evil Forest. The protagonist of this work returns from Mbanta after a seven-year exile. That character in this novel had killed both a clansman by accident and his foster son (*) Ikemefuna (EE-keh-meh-FOO-nuh). Like its sequel No Longer at Ease, this novel is set in Umuofia. For 10 points, name this novel about the wrestler Okonkwo, a work of Chinua Achebe (CHIN-oo-ah uh-CHEB-ay). ANSWER: Things Fall Apart

131-12-53-08120
20. UMD professor George Ritzer coined a term for the way that this institution's efficient methods were coming to dominate society. In developing a theory of conflict prevention, Thomas Friedman claimed that no two countries where this institution existed had gone to war. In a documentary about this institution, the narrator is assisted by his girlfriend, Alexandra Jamieson, and examines its effects in Houston. That documentary was created by (*) Morgan Spurlock. For 10 points, name this subject of the documentary Supersize Me, a fast-food company accused of intensifying the childhood obesity problem.
ANSWER: The McDonald's Corporation
080-12-53-08121
21. Relations of the narrator of one of this man's works include his sickly Aunt Leonie, his maid Francoise, and a friend who loves the courtesan Odette de Crecy. This man wrote of the wealthy Guermantes (ger-MONT) in the same work. This man described the nostalgia brought on by the taste of a (*) madeleine dipped in tea in a work whose sections included Time Regained and Swann's Way. For 10 points, name this French author of the seven-volume In Search of Lost Time.
ANSWER: Marcel Proust (PREWST)
132-12-53-08122
22. One result of this battle was Mardonius taking over the conquest of Greece. Along with the Battle of Plataea, this battle marks the turning point of the war in favor of the defenders. In contrast to the battles of Artemisium and Thermopylae, the allies under Themistocles were able to decisively defeat the forces of Xerxes in this battle, counting over 300 damaged or $\left(^{*}\right)$ sunken ships against the invaders. For 10 points, name this naval battle fought in 480 BCE between the Persians and Greeks. ANSWER: Battle of Salamis

147-12-53-08123
23. This principle is used to draw fuel into carburetors and explains why pressure changes in a Venturi tube. Torricelli's law is a special case of this principle. This principle includes equations for both compressible and incompressible flow. This principle, which is responsible for the lift experienced by $\left({ }^{*}\right)$ airplanes, states that fluid pressure decreases when fluid velocity increases. For 10 points, name this principle of fluid dynamics that is named for a Swiss mathematician.
ANSWER: Bernoulli's principle

## hsapq

1. For 10 points each, answer these questions about the moon in literature.
[10] The Moon and Death plot the deaths of Leonardo and the Groom in this play by Federico Garcia Lorca.
ANSWER: Blood Wedding [or Bodas de Sangre]
[10] This author wrote a hoax about a Dutchman who supposedly visited the moon in "The Unparalleled Journey of One Hans Pfaal." He created the detective C. Auguste Dupin (doo-PAN).
ANSWER: Edgar Allan Poe
[10] This author of From the Earth to the Moon wrote about the voyage of Phileas Fogg in Around the World in Eighty Days.
ANSWER: Jules Verne
2. This country's rival Sunni and Shia factions united against the British in its 1920 revolution. For 10 points each:
[10] Name this Middle Eastern country whose brutal dictator Saddam Hussein was overthrown in 2003. ANSWER: Republic of Iraq [or Jumhuriyat al-Iraq]
[10] Hussein was a member of this party. Ideologically socialist and Pan-Arabist, it took over Iraq in 1963. ANSWER: Arab Socialist Ba'ath Party
[10] From 1932 to 1958, Iraq was ruled by this family, which claims direct descent from Muhammad. It still rules Jordan, which incorporates the name of this family into its official name.
ANSWER: Hashemites
080-12-53-08202
3. Karl Barth analyzed this text, which states, "For the wages of $\sin$ is death, but the gift of God is eternal life." For 10 points each:
[10] Name this lengthy epistle on which Martin Luther based his teaching of salvation through faith alone. ANSWER: Epistle to the Romans
[10] This man wrote the Epistle to the Romans. As recounted in Acts, this apostle was converted on the road to Damascus.
ANSWER: Paul [or Saul]
[10] In the First Epistle to the Corinthians, Paul claims that this concept is "patient" and "kind" and not "boastful" or "proud."
ANSWER: love [or agape]
079-12-53-08203
4. To the south of this location is a city wall called the Zhengyangmen (zong-yah-MEN), and its center contains a ten-story obelisk called the Monument to the People's Heroes. For 10 points each:
[10] Name this public location, to the south of the Forbidden City.
ANSWER: Tiananmen Square [or Tiananmen Guangchang; or T'ien-an Men Kuang-ch'ang]
[10] Tiananmen Square is located in this city.
ANSWER: Beijing [or Pei-ching; or Peking]
[10] This museum in the Forbidden City includes the Hall of Supreme Harmony, and is made up of the former home of the Chinese emperors.
ANSWER: Imperial Palace Museum [or Gugong Bowuyuan]
5. This composer served the Esterhazy family and he composed "Deutschland, Deutschland uber alles." For 10 points each:
[10] Name this Austrian composer of the Clock and Drumroll symphonies.
ANSWER: Joseph Haydn
[10] In this Haydn symphony, the musicians each leave the stage in turn during the final movement.
ANSWER: Farewell Symphony
[10] The libretto for this Haydn oratorio was based on Paradise Lost. It was planned to enable performances in either German or English and is believed to be the first musical work with text underlay in two languages.
ANSWER: The Creation
6. This man was executed along with his mistress in April 1945 by Lake Como. For 10 points each: [10] Name this Fascist dictator of Italy from 1925 into World War II.
ANSWER: Benito Amilcare Andrea Mussolini
[10] Mussolini negotiated this treaty with the Holy See, recognizing its sovereignty. It was signed in a Roman palace that was also the site of several church councils.
ANSWER: Lateran Treaty
[10] In 1939, Italy and Germany allied through this Pact of Friendship and Alliance.
ANSWER: Pact of Steel [or Stahlpakt; or Patto d'Acciao]
132-12-53-08206
7. The protagonist of this novel is proclaimed a leader after he beats Spitz in a fight and the others kill him. For 10 points each:
[10] Name this novel about Buck, a sled dog in the Yukon Gold Rush.
ANSWER: The Call of the Wild
[10] The Call of the Wild was written by this American writer, who wrote about a domesticated hybrid dog named White Fang in another novel.
ANSWER: Jack London [or John Griffith Chaney]
[10] After this Indian tribe kills Buck's master John Thornton, Buck kills several of them and scares the rest by becoming the Ghost Dog.

## ANSWER: Yeehats

8. Landor's Imaginary Conversations pairs this author with Rhodope (RAH-duh-pay). For 10 points each: [10] Name this ancient Greek author of numerous fables.
ANSWER: Aesop
[10] In one fable, a fox covets some of these food items. When they prove to be just out of his reach, the fox decides he never wanted them anyway.
ANSWER: grapes
[10] In another fable, these two opposing forces compete to make a traveler remove his cloak.
ANSWER: the North Wind and the Sun
9. For sand, this formula consists of one silicon atom and two oxygen atoms. For 10 points each: [10] Name this simplest ratio between atoms in a compound, which would be CH for benzene, whose actual chemical formula is $\mathrm{C}_{6} \mathrm{H}_{6}$.
ANSWER: empirical formula
[10] Empirical formulas ignore these differences in structural formulas between compounds with the same chemical formula. The terms cis and trans are used to distinguish between one type of this difference.
ANSWER: isomers [or isomerism]
[10] How many hydrogen atoms are there in the empirical formula for hydrazine (HIGH-druh-zeen)? ANSWER: $\underline{\underline{2}}$

020-12-53-08209
10. One character in this work sings "Vesti la giubba" (VES-tee la JOO-ba) about having to do his title job despite his sadness. For 10 points each:
[10] Name this Ruggero Leoncavallo (ru-JAY-ro lay-on-ka-VAH-lo) opera in which Nedda's affair with Silvio is discovered by the Nedda's violent husband Canio.
ANSWER: Pagliacci [or Clowns, or Players]
[10] Silvio and the tattletale Tonio are both played by opera singers with voices in this range, which is below tenor but not as low as the bass.
ANSWER: baritones
[10] Pagliacci is often performed as a double bill with this Pietro Mascagni (mas-KAH-nyi) work, in which Alfio kills Turiddu in a duel.
ANSWER: Cavalleria Rusticana [or Rustic Chivalry]
11. In this play, Cecily and Gwendolen believe they are in love with the same man. For 10 points each:
[10] Name this play in which the friends Jack and Algernon both pretend to have a certain name before Miss Prism reveals that Jack is actually Algernon's older brother.
ANSWER: The Importance of Being Earnest
[10] This author of The Importance of Being Earnest also wrote about a man whose portrait ages in his stead in The Picture of Dorian Gray.
ANSWER: Oscar Fingal O'Flahertie Wills Wilde
[10] In this Wilde play, Mrs. Erlynne claims the title object after it is found in Lord Darlington's rooms to save her long-lost daughter's reputation.
ANSWER: Lady Windermere's Fan
105-12-53-08211
12. This author created the overbearing Tulsi family in A House for Mr. Biswas. For 10 points each:
[10] Name this Trinidadian author, who wrote Miguel Street and A Bend in the River.
ANSWER: Vidhiadar Surajprasad Naipaul
[10] Naipaul's works describe the postcolonial landscape of Trinidad, which had been controlled by this empire. This empire also controlled modern-day India and Ghana.
ANSWER: the British Empire
[10] Mr. Biswas stays at a house named for this Hindu god, a monkey who accompanies Rama in the Ramayana.
ANSWER: Hanuman
13. Emile Durkheim claimed this phenomenon is unavoidable and can even be desirable, as it can help determine the form "new collective sentiments" will take, using the example of Socrates in Athens. For 10 points each:
[10] Name this social phenomenon. According to Robert Merton's strain theory, this occurs when society fails to provide everyone with the legitimate means to achieve its legitimate goals.
ANSWER: crime [or obvious equivalents such as breaking the law]
[10] The "strain" of Merton's strain theory comes from this Durkheim concept. It is the breakdown between individual and societal norms, and Durkheim considers it one of the possible causes for suicide.
ANSWER: anomie
[10] Thanks largely to the work of Talcott Parsons, the three men usually considered the founding fathers of sociology are Durkheim, Marx, and this man. This man traced the rationality and self-denial of capitalism to Calvinist doctrine in his The Protestant Ethic and the Spirit of Capitalism.
ANSWER: Max Weber
14. One figure in this series of conflicts was Richard Neville, who was known as "The Kingmaker." For 10 points each:
[10] Name this series of civil wars in English history between the Houses of York and Lancaster.
ANSWER: Wars of the Roses [or War of the Roses]
[10] This first battle in the Wars of the Roses was instigated by the the Duke of York's fear that Margaret of Anjou was planning his destruction. It ended with the capture of King Henry VI.
ANSWER: First Battle of Saint Albans
[10] This man was the last Yorkist King of England. He was killed after his defeat to Henry Tudor at the Battle of Bosworth Field.
ANSWER: Richard III of England
15. One type of this class of macromolecule obtains a 5 prime cap and a poly-A tail after its synthesis. For 10 points each:
[10] Name this molecule that comes in messenger, transfer, and ribosomal varieties and is single stranded unlike DNA.
ANSWER: RNA [or ribonucleic acid]
[10] This base appears in RNA, but not in DNA. During mRNA synthesis, this base replaces thymine.
ANSWER: uracil (YOO-rah-sihl)
[10] Small fragments of RNA called siRNA are important to this process, also known as gene silencing. which regulates gene expression.
ANSWER: RNA interference
127-12-53-08215
16. This hero's nephew Iolaus (ee-OH-louse) wields a torch to help him defeat the Hydra. For 10 points each:
[10] Name this Greek demigod who is forced to complete twelve labors.
ANSWER: Heracles [or Hercules]
[10] Heracles manages to clean some of these buildings belonging to Augeus by diverting the flow of two rivers.
ANSWER: the Augean stables
[10] Heracles must complete the labors as penance for killing this wife of his and their children.
ANSWER: Megara
17. Name these American criminals, for 10 points each.
[10] This Prohibition era gangster orchestrated the Saint Valentine's Day Massacre and numerous other crimes before being indicted on tax evasion.
ANSWER: Alphonso Gabriel Capone
[10] This bank robber led a gang that killed several police officers during the Great Depression before the "woman in red," Ana Cumpanas, told the FBI where to find him.
ANSWER: John Herbert Dillinger
[10] This amorous duo were notorious bank robbers as part of the "Barrow Gang." They were eventually brought down in Louisiana by ex-Texas Ranger Frank Hamer.
ANSWER: Bonnie Elizabeth Parker and Clyde Chestnut Barrow [or Parker and Barrow]
080-12-53-08217
18. For $x^{2}$, it is 1 and for $3 y$, it is 3 . For 10 points each:
[10] Give the term for a quantity, typically a constant, that multiplies a variable in an algebraic term. ANSWER: coefficient
[10] This coefficient equals the covariance of two variables divided by the product of the standard deviations of each variable and is used to quantify the strength of a linear relationship.
ANSWER: Pearson product-moment correlation coefficient [or $\underline{\mathbf{R}}$ ]
[10] A correlation coefficient of plus or minus one indicates that a set of data points has this property, meaning they fit an equation of the form $\mathrm{y}=\mathrm{mx}+\mathrm{b}$.
ANSWER: the data is linear [accept equivalents like "the data is a line"]
003-12-53-08218
19. They can come in spiral, lenticular, and elliptical varieties. For 10 points each:
[10] Name these large astronomical structures that are composed of many stars. The Milky Way is one example of these structures.
ANSWER: galaxy
[10] This mysteriously named substance constitutes most of the matter in the universe and explains the "flat" rotational velocity curve of spiral galaxies.
ANSWER: dark matter
[10] One of the candidates for dark matter are these hypothetical particles that only interact through gravity and the weak force. They are often contrasted with MACHOs.
ANSWER: Weakly Interacting $\underline{\text { Massive }} \underline{\text { Particles }}$
127-12-53-08219
20. Two panels in this work depict male and female martyrs, and its upper panels shows Mary and John the Baptist holding open books and flanking God the Father. For 10 points each:
[10] Identify this Polyptych of 24 panels, one of whose central panels show The Adoration of the Lamb.
ANSWER: Ghent Altarpiece
[10] The Ghent altarpiece was created by this artist and his brother Hubert. This artist also painted a couple standing in their bedroom in The Arnolfini Wedding.
ANSWER: Jan van Eyck
[10] Another work by van Eyck depicts this man in a red robe sitting at a desk reading a book, and shows a lion resting in the foreground. That work is titled after this man "in his study".
ANSWER: Saint Jerome
21. Concepts in this programming paradigm include polymorphism and inheritance. For 10 points each: [10] Name this paradigm which organizes data and methods using its namesake constructs, which are usually instances of classes.
ANSWER: object-oriented programming [or OOP]
[10] This object-oriented language is known for its "write once, run anywhere" philosophy. Developed by Sun Microsystems, it is widely used on mobile devices and web applets.
ANSWER: Java
[10] Object-oriented programming is contrasted with this paradigm based on the evaluation of expressions. Common languages in this paradigm include Haskell and Lisp.
ANSWER: functional programming

