



1. This compound inhibits prolactin secretion when it is released from the tubero-infundibular pathway. The enzyme tyrosine hydroxylase plays a key role in this neurotransmitter's synthesis. The mesolimbic and mesocortical pathways of the brain both use this neurotransmitter. Depletion of this neurotransmitter in the substantia nigra (NYE-gruh) leads to a disease characterized by shaking and other issues with movement. Identify this neurotransmitter whose deficiency is a cause of Parkinson's disease.

ANSWER: dopamine

126--105-05101

2. Picrotoxin and bicuculline (BUY-cook-YOU-lean) antagonize this compound's receptors. An agonist of this compound produced by the *Amanita* mushroom is called muscimol (MUSK-im-all). This compound is synthesized by decarboxylation of glutamic acid using a Vitamin B6 cofactor. This neurotransmitter's receptors are divided into A & B types and are the target of benzo-diazepines. It has a role similar to that of glycine. Name this chief inhibitory neurotransmitter, which has a four letter acronym.

ANSWER: GABA [or gamma-amino butyric acid]

245--105-05102

3. A longstanding problem concerns whether or not these objects destroy information. A region called the ergosphere surrounds these objects if they are rotating. These objects can evaporate by emitting Hawking radiation. These objects are surrounded by a boundary called the event horizon. The centers of many galaxies are probably home to "supermassive" versions of these objects. Name these astronomical objects so massive that nothing can escape their gravity.

ANSWER: black holes

185--105-05103

4. An unfinished highway started in 1970 that was planned to travel along this river had its endpoint set for Benjamin Constant. This river is the namesake of a species of dolphin that is also called the pink dolphin. In 2011, the first bridge to cross a major part of this river system was constructed to link Iranduba (EE-ron-DOO-nuh) and Manaus (mah-NAH-oos) across the Rio Negro. Name this river that has the largest drainage system in the world and is found in South America.

ANSWER: Amazon River

023--105-05104

5. The first large use of shell guns in a naval fight happened during this war's Battle of Sinope. Francois Canrobert and Lord Raglan took part in this war's year-long siege of Sevastopol. Nicholas I died while his country fought in this war, which was ended by the Treaty of Paris. The Battle of Balaclava during this war included the Charge of the Light Brigade. Name this mid-nineteenth century war lost by Russia to a European coalition and fought on the namesake peninsula.

ANSWER: Crimean War

023--105-05105

6. The influence of this group increased when Peter Porter took over the House Committee on Foreign Affairs and Langdon Cheves became the chairman of the House Ways and Means Committee. John Randolph coined this term, which denoted a group of politicians from Southern and Western states. Some elements of this faction, led by Henry Clay, agitated for an invasion of Canada. Identify these Democratic-Republicans who convinced James Madison to enter a conflict with Britain in 1812.

ANSWER: war **hawks**

020--105-05106

7. This country lost a war that started after two years of joint rule over Schleswig-Holstein. This country that lost the Seven Weeks' War was ruled for nearly seventy years by Franz Joseph. A minister from this country organized a meeting attended by Castlereagh and Talleyrand. In 1867, this country became part of a dual monarchy with its eastern neighbor, Hungary. Name this European country served by Klemens von Metternich, who used its capital to host the Congress of Vienna.

ANSWER: Republic of **Austria** [or Republik **Oesterreich**]

023--105-05107

8. Unusually, singlet oxygen and both hydrogen and hydroxyl radicals form during this type of reaction. Enthalpies of reaction are usually calculated by using substance-specific enthalpies of formation or enthalpies of this process. The Otto and Diesel cycles extract work from the enthalpy of this type of reaction. Carbon monoxide is generated in the incomplete form of this reaction, which occurs at low external oxygen concentrations. Name this exothermic reaction in which hydrocarbons produce water and carbon dioxide by burning.

ANSWER: **combustion** [or word forms; prompt on **burning** until it is read]

190--105-05108

9. One of this man's novels describes a group of counterrevolutionaries known as the Black Hundreds who work for the titular totalitarian government. That novel is supposedly based on a manuscript written by Avis Everhard and is *The Iron Heel*. This man also wrote a novel in which the main character was originally cared for by Judge Miller, develops a rivalry with Spitz, and supposedly visits the grave of John Thornton according to Yeehat legend. Name this author who wrote about Buck in *The Call of the Wild*.

ANSWER: Jack **London**

030--105-05109

10. A location of this type included the House of Jaguars and the House of Bats. That location of this type was filled with obstacles such as a river of blood, a river of scorpions and a river of pus, and was the Mayan one, Xibalba (shih-BALL-buh). Aeneas uses the Golden Bough to visit his father Anchises (an-KAI-seez) in this location. One of these locations features the pits of Tartarus and the Elysian Fields. Name this type of mythological region exemplified by Hades.

ANSWER: **underworlds** [or **hells**; or specific sites before they are read, such as **Xibalba** and **Hades**]

186--105-05110

11. She wrote that man must "...get his bread with pain and sweat of face" as a "...penalty imposed on his backsliding race," in one of her "Contemplations." She wrote the line, "If ever two were one, then surely we," and also wrote, "Under thy roof no guest shall sit/Nor at thy table eat a bit." A poem in homage to her was written by John Berryman, and she wrote "To My Dear and Loving Husband" and "Upon the Burning of Our House." Name this writer, one of the first poets of the English American colonies and author of *The Tenth Muse Lately Sprung Up in America*.

ANSWER: Anne **Bradstreet** [or Anne **Dudley**]

030--105-05111

12. On an NFPA label, the square of this color, located on the left, indicates health hazards. Light shining through a colloid produces this color in the Tyndall effect. Anhydrous cobalt chloride, used as a desiccant, is this color, as is solid hydrated copper nitrate. In basic solutions, bromothymol sulfone phthalein (THAY-lean) will turn this color. In a flame test, most alcohols will burn this color. In CPK modeling kits, nitrogen is represented with this color. Name this color into which litmus paper turns in sodium hydroxide or other basic solutions.

ANSWER: **blue**

190--105-05112

13. This man was the closest collaborator with the librettist Lorenzo Da Ponte. In one of his operas, a maid is serenaded with a mandolin by a window and the title character commands his servant to gather girls for a party in the "Champagne Aria." The maid Susanna assists the title character in rekindling Count Almaviva's love for Rosina in another opera by this man, the sequel to *The Barber of Seville*. Name this composer of the operas *Don Giovanni* and *The Marriage of Figaro*.

ANSWER: Wolfgang Amadeus **Mozart** [or Johannes Chrysostomus Wolfgangus Theophilus **Mozart**]

020--105-05113

14. This man turned down an opportunity to be the first president of Texas A&M University. During the Battle of Monterrey, he led a successful charge on the La Teneria fort. This Secretary of War in Franklin Pierce's cabinet was captured while Given Campbell attempted to help him escape. His vice-president gave the "Cornerstone" speech and was Alexander Stephens. This man ordered Pierre Beauregard to attack Fort Sumter and gave Robert E. Lee command of the Army of Northern Virginia. Name this only president of the Confederate States of America.

ANSWER: Jefferson Finis **Davis**

186--105-05114

15. Shortly before this battle began, John Keane decided to stay at Lacoste's Plantation rather than advance further. During this battle, the 44th East Essex Regiment forgot the fascines (fah-SEENZ) and ladders needed to cross the canal and scale the earthworks. At this battle, Walter Overton led the defense of Fort St. Philip, and Edward Pakenham died. Pirate Jean Lafitte aided the winning side at this battle. Name this battle, fought two weeks after the Treaty of Ghent was signed, where Andrew Jackson defeated the British in the War of 1812.

ANSWER: Battle of **New Orleans**

186--105-05115

16. This country's six classical schools of philosophy include those devoted to enumeration, atomism, and logic. Kautilya authored a Machiavellian tract on government for a ruler from this modern-day country. In *The World as Will and Representation*, Schopenhauer borrowed ancient ascetic philosophy from this country. Satyagraha originated from this country. Name this country where the Vedas are an ancient work of Hindu philosophy.

ANSWER: **India**

190--105-05116

17. The main character of this novel speaks to the private investigator Britten and tries to frame Jan Erlone for a crime. Bessie Mears hides for a time with the protagonist before he kills her and throws her body down an air shaft. The Communist Boris Max represents the protagonist of this novel in trial, which sentences that character to death for the murder of Mary Dalton, a young white woman. Name this novel written about Bigger Thomas by Richard Wright.

ANSWER: **Native Son**

023--105-05117

18. The reaction of these things to stressful forces is called tenacity. Adding a drop of hydrochloric acid and seeing whether these things fizz can be used to test whether they contain carbonate. The color these things display in a powdered form is called streak. Their crystal lattice determines their properties of parting, fracture, and cleavage. The vast majority of Earth's crust is made up of the silicate type of these things. Name these constituents of rocks.

ANSWER: minerals [prompt on crystals until "crystal lattice" is read]

066--105-05118

19. This author created a character who causes Squeak to feel jealous when he dances with Sofia. In addition to Harpo, this author wrote about a character who befriends the mistress of her husband, Shug Avery. Shug teaches that character created by this author to stand up to her abusive husband, Albert. A novel written by this author includes letters that were written by Nettie to her sister Celie. Name this American author who wrote *The Color Purple*.

ANSWER: Alice Malsenior Walker

023--105-05119

20. During John Adams's lame duck period, this man served as Secretary of State after Timothy Pickering was fired. This man, Elbridge Gerry, and Charles Pinckney made up the delegation to France during the XYZ Affair. He wrote, "The power to tax involves the power to destroy" in his highest office, in which he followed Oliver Ellsworth. In that role, he also opined that the Judiciary Act of 1789 was unconstitutional, laying the groundwork for judicial review. Name this Supreme Court Chief Justice who presided over *Marbury v. Madison*.

ANSWER: John Marshall

190--105-05120



1. This man became next in line to his country's throne a few years after the suicide of his cousin Rudolf in Mayerling. He had to promise not to pass succession on to his children in order to marry Sophie Chotek. This man was the presumptive heir to Franz Joseph until he was killed on the Latin Bridge in Sarajevo, precipitating the July Crisis. Name this Austrian archduke whose assassination by Gavrilo Princip sparked World War I.

ANSWER: Archduke **Franz Ferdinand**

121--105-05121

2. Thales's (THAY-leez's) theorem describes this shape inscribed in a circle, with one side as a diameter to the circle. According to the exterior angle theorem, any exterior angle of this shape is greater than any remote interior angle. Two of these shapes may not be congruent in the ambiguous case, but they are congruent if they have side-angle-side or angle-side-angle equivalence. They can have at most one obtuse angle, since their internal angles sum to 180 degrees. Name this polygon with three sides.

ANSWER: **triangle**

132--105-05122

3. One of his novels begins with a plane exploding over the English channel, though Gibreel Farishta and Saladin Chamcha are miraculously saved. This novelist wrote about the long-nosed Saleem Sinai, who was born at the moment of India's independence from Britain, in his novel *Midnight's Children*. Name this Indian-British novelist whose book *The Satanic Verses* resulted in Ayatollah Khomeini calling for his death.

ANSWER: Salman **Rushdie**

014--105-05123

4. During a trial in this novel, Thomas Perez testifies that he cannot remember whether or not a character cried at a funeral, though he did definitely drink coffee and smoke. This novel's title character is initially disappointed that his incarceration prevents him from visiting Marie Cardona or his friend Raymond Sintes. The protagonist of this novel is executed after remorselessly shooting an Arab. Identify this novel about the foreigner Meursault, written by Albert Camus.

ANSWER: The **Stranger** [or L'**etranger**]

233--105-05124

5. During his Eastern Journey, this man survived an assassination attempt in the Otsu Incident. This man secretly supported a wave of pogroms in his country, and in his diary this man declared the "Bloody Sunday" massacre to be a "Bad Day!" This monarch refused to accept defeat in a 1905 war with Japan until his Baltic fleet was annihilated after going around the world. Name this final czar of the Romanov dynasty who was executed with his family in 1917.

ANSWER: **Nicholas II** Romanov [prompt on **Nicholas**]

002--105-05125

6. Hiram Bingham discovered a city of this empire which is believed to have been built for Emperor Pachacuti (PACH-uh-koo-tee). This empire used knotted ropes called quipu (KEE-poo) for record-keeping. A conflict in this empire pitted Huascar (HWASS-car) against a man who was captured at Cajamarca (ca-ha-MAR-ka) and ransomed for a roomful of gold, Atahualpa (aht-uh-WALL-puh). Name this empire which contained Machu Picchu, and was located in modern-day Peru.

ANSWER: **Incan** Empire

122--105-05126

7. Some types of these biological objects have elaiosomes (EH-lie-oh-zomes), which allow them to undergo myrmecochory (MYRRH-meh-cok-oar-ee) through ants. The radicle is the first part to emerge from this object, which contain a triploid tissue called endosperm. The outer wall of these objects is sometimes called a testa, while cotyledons forms within them. Birds, insects, and wind help disperse these items, which are an embryo surrounded by nutrients and a coat. Name this result of fertilization in flowering plants, which can be sown to grow a new plant.

ANSWER: **seeds**

140--105-05127

8. Secondary battles to the south of this battle included Ligny and Quatre-Bras. Marshall Ney led the final assault in this battle, and the late arrival of Prussian forces under Gebhard von Blucher contributed to the Duke of Wellington's victory in this battle. Name this 1815 battle in Belgium that saw the final military defeat of Napoleon Bonaparte.

ANSWER: Battle of **Waterloo**

030--105-05128

9. Kenneth Spence worked within this theory, and wrote on "discrimination learning" in its framework. Edward Tolman developed a "purposive" form of this school of thought, which was extensively applied to learning by Clark Hull. A psychologist from this school conditioned "Little Albert" to fear white rats, and another member of this school used operant conditioning to train pigeons to play table tennis. Name this school to which John Watson and B.F. Skinner belonged, which denies the role of free will in its namesake phenomenon.

ANSWER: **behaviorism** [or **behaviorist** psychology, etc.]

019--105-05129

10. The models from this painting were costumed by the painter like "tintypes from [his] old family album." The background of this painting includes the Dibble House, and the foreground shows people based on Byron McKeeby, the artist's dentist, and the artist's sister Nan. This painting's setting is Eldon, Iowa, where a father and daughter live together on a farm. Name this painting by Grant Wood in which a dour-looking man holds onto a three-pronged pitchfork.

ANSWER: **American Gothic**

023--105-05130

1. Name these Renaissance paintings.

[5] Name the Titian painting depicting a nude goddess lounging on a bed.

ANSWER: **Venus of Urbino**

[10] A handmaid tosses a garment to clothe a newly-emerged goddess standing on a shell in what 1486 painting?

ANSWER: *The **Birth of Venus*** [or ***Nascita di Venere***]

[15] A number of pink statues receive rivulets from a giant fountain in the background of this painting, whose right depicts a hellscape, and whose left shows Adam being introduced to Eve in the title Biblical location.

ANSWER: **Garden of Earthly Delights**

[20] What Paolo Veronese painting depicts Suleiman the Magnificent and Francis I of France eating at the title dinner?

ANSWER: the **Wedding Feast at Cana** [or **Marriage at Cana**; or **Wedding at Cana**]

135--105-05101

2. Name these American politicians.

[5] What Attorney General had namesake raids in the 1920's directed against Communists?

ANSWER: Alexander Mitchell **Palmer**

[10] What first female Attorney General was criticized for her handling of the Waco siege standoff?

ANSWER: Janet **Reno**

[15] Henry Clay agreed to serve as the Secretary of State for this President, in return for swinging the election of 1824.

ANSWER: John **Quincy Adams** [prompt on **Adams**; do not accept "John Adams"]

[20] This Oregon senator was one of two who opposed the Gulf of Tonkin Resolution.

ANSWER: Wayne **Morse**

023--105-05102

3. Answer the following about fluid mechanics.

[5] What equation, a restatement of the principle of conservation of energy, notes that the pressure head, velocity head, and elevation head must sum to a constant?

ANSWER: **Bernoulli's** equation [or **Bernoulli's** principle]

[10] Bernoulli's equation can be used to determine the magnitude of what force, caused because air flows more rapidly over the top of an airfoil than beneath it?

ANSWER: **lift**

[15] Multiplying this quantity by gravitational acceleration and volume gives the buoyant force on an object in a liquid.

ANSWER: **density**

[20] What paradox in fluid mechanics states that an object moving with constant velocity relative to a fluid experiences zero drag?

ANSWER: **D'Alembert's** Paradox

140--105-05103

4. Answer the following about political speeches.

[5] What book did Ted Cruz read to his children during his non-filibuster prior to the government shutdown?

ANSWER: **Green Eggs and Ham**

[10] What justice denounced the decision against the Defense of Marriage Act as "real cheek" in his dissent to *U.S. v. Windsor*?

ANSWER: Antonin **Scalia**

[15] Cathy McMorris Rodgers responded to this speech, which begins by claiming that America, not China, is now "the world's number one place to invest."

ANSWER: the 2014 **State of the Union** Address

[20] In 2009, Barack Obama gave the "A New Beginning" speech in this Middle Eastern city.

ANSWER: **Cairo**, Egypt

052--105-05104



The Letter A

The Letter G

The Letter E

The Letter A

[10] Scorpions are members of what phylum of invertebrates with exoskeletons?

ANSWER: **arthropods**

[10] Hot Springs National Park is in what state?

ANSWER: **Arkansas**

[10] What electronic music star born Tim Bergling had hits with “Levels” and “Wake Me Up!”?

ANSWER: **Avicii**

[10] What Mauryan Emperor converted to Buddhism after conquering Kalinga?

ANSWER: **Ashoka**

[10] What pattern formed from diamonds derived originally from Scottish kilts and is now frequently used on socks?

ANSWER: **argyle**

[10] What Greek goddess was known as Minerva to the Romans?

ANSWER: **Athena**

[10] What animal is the mascot of UC Irvine and has similar characteristics to the aardvark?

ANSWER: **anteaters**

[10] What word refers to recognized configurations of stars which are not official constellations?

ANSWER: **asterisms**

[10] What member of the genus Bacillus was used as a bioweapon sent in letters in a series of 2001 attacks?

ANSWER: **anthrax**

[10] What capital of Kazakhstan is the site of the Bayterek tower?

ANSWER: **Astana**

014--105-0510-3

The Letter G

[10] What African country has its capital at Accra?

ANSWER: **Ghana**

[10] What company purchased Motorola and created the Nexus series of phones?

ANSWER: **Google**

[10] What Sumerian hero kills the Bull of Heaven in his namesake epic?

ANSWER: **Gilgamesh**

[10] What Soviet leader introduced the policies of “glasnost” and “perestroika”?

ANSWER: Mikhail **Gorbachev**

[10] What last name was shared by the German linguists Jacob and Wilhelm who collected folktales?

ANSWER: **Grimm**

[10] Peter Cooper and Benjamin Butler ran under the banner of what political party that advocated paper money?

ANSWER: **Greenback** Party

[10] Hydrochloric acid is the main component of what acid secreted into the stomach?

ANSWER: **gastric** acid

[10] What name is given to the taxonomic rank below family but above species?

ANSWER: **genus**

[10] In *The Lord of the Rings*, what is the name of Gimli’s father?

ANSWER: **Gloin**

[10] What name is given to the mythological creature with the head of an eagle and the body of a lion?

ANSWER: **griffin**

015--105-0510-3

The Letter E

[10] What CBS TV show stars Jonny Lee Miller as Sherlock Holmes?

ANSWER: **Elementary**

[10] What name did Ovid give to the nymph who wasted away when Narcissus fell in love with his own reflection?

ANSWER: **Echo**

[10] What Dutch artist was known for drawings of impossible constructions such as endlessly looping stairs?

ANSWER: M. C. **Escher**

[10] What American breakfast dish consists of English muffins topped with ham, poached eggs, and hollandaise sauce?

ANSWER: **Eggs Benedict**

[10] What adjective is used to describe projects designed to prevent workplace fatigue or injury?

ANSWER: **ergonomic**

[10] What character created by Orson Scott Card is the protagonist of *Speaker for the Dead*?

ANSWER: **Ender**

[10] What Spanish river flows through Zaragoza in northern Spain before flowing into the Mediterranean Sea?

ANSWER: **Ebro** River

[10] Elisha Otis revolutionized what product by creating a safety feature for it?

ANSWER: **elevator**

[10] What African country with a Red Sea coastline became independent from Ethiopia in the 1990s?

ANSWER: **Eritrea**

[10] What friend of Henry David Thoreau wrote the essays "Nature" and "Self-Reliance?"

ANSWER: Ralph Waldo **Emerson**

015--105-0510-3



1. One episode of this novel sees the attempted rape of the schoolteacher Fern Mullins by Cyrus Bogart, leading to charges of immorality towards Fern. The protagonist of this novel realizes that she is not in love with Guy Pollock when he states that he and she both want, "...to go back to an age of tranquility and charming manners." In this work, Carol Kennicott's attempt to stage Shaw's *Androcles and the Lion* is vetoed in a small Minnesota town. For 20 points, name this novel centering on the titular thoroughfare in the town of Gopher Prairie, a work of Sinclair Lewis.

ANSWER: Main Street

030--105-05101

2. In one play, this character interprets a thunderstorm as a sign of his impending death, prompting him to give his burial site as a gift to Athens. He spends most of that play in a grove sacred to the Furies near Colonus. In an earlier play, he learns that he was adopted by Merope and Polybus, wins a fight at a crossroad by killing Laius, marries Jocasta, and solves the riddle of the Sphinx. For 20 points, name this title character of two of Sophocles's Theban plays.

ANSWER: Oedipus [or Oedipus Rex; or Oedipus at Colonus]

029--105-05102

3. This man headed a federal commission on water quality and twice defeated Socialist Labor candidate Eric Hass. He rose to his executive position by defeating millionaire W. Averell Harriman. This man passed a series of namesake tough drug laws and once raised his middle finger at a reporter on the campaign trail. He controversially married a divorcee named "Happy" and stated "that's life" after thirty-nine people died in the Attica prison riots. For 20 points, name this governor of New York and Vice President under Gerald Ford.

ANSWER: Nelson Rockefeller

048--105-05103

4. In a "differential" setup named for these objects, two of them exert opposite and unequal torques on a third. The acceleration in another system with one of these objects at its apex is proportional to the difference of two masses divided by their sum. Their mechanical advantage increases as more of them are used at once. An idealized Atwood machine contains two weights, a string, and a massless one of these objects, which are used in a block and tackle to lift objects. For 20 points, name this simple machine.

ANSWER: pulley

132--105-05104

5. This event inspired Leo Ryan to spend a week as a substitute teacher. Former CIA director John McCone chaired a namesake commission after this event. This event, which occurred after the passage of Proposition 13, was instigated by Lee Minikus pulling over a car containing Donald and Marquette Frye. Police Chief William Parker compared its participants to "monkeys in the zoo" and called in the National Guard. The city where this event took place was later hit by the similar Rodney King Riots. For 20 points, name this 1965 riot in Los Angeles.

ANSWER: Watts riot [do not accept or prompt on "Los Angeles riots"]

048--105-05105

6. This instrument was used in jazz by Stephane Grapelli and Stuff Smith. Gustav Holst wrote a double concerto for this instrument for Jelly d'Aranyi and her sister Adila Fachiri. In the nineteenth century, leading players of this instrument included Johannes Brahms's collaborator Joseph Joachim and the virtuoso Niccolò Paganini. For 20 points, this instrument which Yehudi Menuhin and Itzhak Perlman also play using a shoulder rest and a bow.

ANSWER: violin

019--105-05106

7. A song by Arthur Herzog and this singer notes that, "Them that's got shall get, Them that's not shall lose." Frank O'Hara wrote a poem about the day this singer died. This singer received her nickname from her frequent collaborator Lester Young. She sang about "Blood on the leaves and blood at the root" in a song by Abel Meropool that she popularized. For 20 points, name this jazz singer who was nicknamed "Lady Day," wrote *Lady Sings the Blues*, and sang the anti-lynching piece "Strange Fruit."

ANSWER: Billie Holiday [or Elinore Harris; prompt on Lady Day until it is read]

030--105-05107

8. A king of this name died from food poisoning after eating an excess of lampreys. An emperor of this name was forced to abdicate in 1105. A 1587 namesake war was fought between three men of this name, and a French king of this name enacted the Edict of Nantes. Another person with this name was the first monarch of the Tudor dynasty. For 20 points, give this name shared by many European rulers.

ANSWER: Henry

145--105-05108

9. This man created a namesake hierarchy to categorize "context-sensitive" and "context-free" languages. He argued that a "poverty of the stimulus" discredited behaviorist explanations for language development. This man composed the sentence "colorless green ideas sleep furiously" in *Syntactic Structure* as an example of a sentence that was grammatically correct, but made no sense. For 20 points, name this MIT linguist who established the concept of generative and universal grammar.

ANSWER: Noam Chomsky

227--105-05109

10. After this battle, Gregorio Esparza was the only member of the losing side to receive a burial. William Barrett Travis wrote several letters requesting additional reinforcements before this battle. This battle became part of a slogan along with the similar Goliad massacre. Pneumonia caused Jim Bowie to be confined to bed during this battle, but Davy Crockett and the other defenders fought to the last man against Santa Anna. For 20 points, name this battle of the Texas Revolution.

239--105-05110

11. The MV Transpacific was responsible for transferring this substance to the Johnson Atoll as part of Operation Pacer IVY. A class-action lawsuit concerning this substance was spearheaded by Hy Mayerson and Victor Yannacone on behalf of Charles E. Hartz. This substance, which was used extensively during Operation Ranch Hand, consisted of equal parts of 2,4,5-T and 2,4-D and got its name from the stripes on the barrels containing it. For 20 points, name this dangerous herbicide that was sprayed during the Vietnam War.

ANSWER: Agent Orange

048--105-05111

12. This man supposedly dismissed the report of two Yale professors about "rocks that fell from the sky." This scientist was inspired by the Chinese to create a "Great Clock" that used a gong to signal the hour. Though not Franklin, he wrote to John Jay about interchangeable parts while ambassador to France in 1785. He ordered an expedition that documented hundreds of new species in the as-yet-unexplored Louisiana Purchase, which he made. For 20 points, name this man who designed the University of Virginia campus.

ANSWER: Thomas **Jefferson**

239--105-05112

13. A participant in this 2013 event once killed a television thief by setting fire to a tire around his neck. Ileana Ros-Lehtinen (ROSS-leh-TIE-nen) said this event was "a propaganda coup for the tyrant," referring to Barack Obama shaking Raul Castro's hand here. At this event, Obama took a "selfie" with the Danish Prime Minister's phone. For 20 points, name this December 2013 event, held at FNB Stadium in Johannesburg, where fraudulent sign language interpretation was performed.

ANSWER: state **funeral** of Nelson **Mandela** [or **Mandela's memorial** service, etc.]

052--105-05113

14. In this novel, the lawyer Mr. Green arrives too late to change a dying man's will. One character in this novel falls in love with a young man after being bitten by a dog at his house. This novel's frame story concerns Lockwood, who stays at Thrushcross Grange. This novel's Byronic hero, the rival of Edgar Linton, is a dark orphan from the streets of London. For 20 points, name this novel about the destructive love between Catherine Earnshaw and Heathcliff.

ANSWER: **Wuthering Heights**

192--105-05114

15. These objects are slowed by viscous drag in a dashpot. They are described by a second-order differential equation with characteristic frequency equal to the square root of k over m . A mass hanging from one of them will be displaced by a distance of $m g$ over k . The restoring force on these objects is proportional to the displacement in their total length according to Hooke's law, making them harmonic oscillators. For 20 points, name these systems that store energy by being stretched or compressed.

ANSWER: **springs** [prompt on simple **harmonic oscillator**s until it is read]

132--105-05115

16. This region was the subject of a Marjory Stoneman Douglas book which referred to it as the "river of grass," and it contains the almost entirely uninhabited Ten Thousand Islands. The Tamiami Trail, eventually known as "Calle (KAI-yay) Ocho," runs through it. Over twelve hundred invasive Burmese pythons have been removed from this region since 2009. Napoleon Bonaparte Broward proposed draining it. This region is fed by the Kissimmee River, which empties directly into Lake Okeechobee. For 20 points, name this large tropical wetlands region.

ANSWER: **Everglades**

052--105-05116

17. This mountain range was mythically home to spirits called "apus." The highest mountain in this range features the Polish glacier, and another mountain in it is farther from the center of Earth than any other location on the planet's surface. This mountain range features such native animals as chinchillas and the alpacas. It is home to mountains such as Chimborazo and Aconcagua. For 20 points, name this long mountain range.

ANSWER: **Andes** [or **Andean** range]

052--105-05117

18. This man wrote a story in which a lawyer spends fifteen years in a garden house as part of a bet with a lawyer. In a play by this writer, the author Boris Trigorin abandons the actress Nina, who is presented with the dead title bird by the infatuated Konstantin. This playwright names a concept that a gun shown in the first act must go off in the third act. For 20 points, name this Russian playwright whose works include *The Cherry Orchard* and *The Seagull*.

ANSWER: Anton Pavlovich **Chekhov**

023--105-05118

19. This artist's *Separation of Light from Darkness* is surrounded by four ignudi. James Beck has criticized the 1980 to 1994 project to restore this man's paintings. This artist painted a critic with donkey ears and snake-covered genitalia in his largest painting, which includes a self-portrait as St. Bartholomew holding his flayed skin. He also created a painting in which the fingers of God and Adam nearly touch. For 20 points, name this Renaissance painter and sculptor.

ANSWER: **Michelangelo** Buonarroti

189--105-05119

20. The system described by this set of statements has a conserved quantity called the Laplace-Runge-Lenz vector. One of these statements holds that a body's areal velocity is constant, while another relates the square of the sidereal period to the cube of an ellipse's semimajor axis. Isaac Newton used calculus to rigorously prove these laws, which were based on examinations of data taken by Tycho Brahe. For 20 points, identify this set of three laws that describe how planets move.

ANSWER: **Kepler**'s laws of planetary motion

132--105-05120



1. One episode of this novel sees the attempted rape of the schoolteacher Fern Mullins by Cyrus Bogart, leading to charges of immorality towards Fern. The protagonist of this novel realizes that she is not in love with Guy Pollock when he states that he and she both want, "...to go back to an age of tranquility and charming manners." In this work, Carol Kennicott's attempt to stage Shaw's *Androcles and the Lion* is vetoed in a small Minnesota town. For 20 points, name this novel centering on the titular thoroughfare in the town of Gopher Prairie, a work of Sinclair Lewis.

ANSWER: Main Street

030--105-05131

2. In one play, this character interprets a thunderstorm as a sign of his impending death, prompting him to give his burial site as a gift to Athens. He spends most of that play in a grove sacred to the Furies near Colonus. In an earlier play, he learns that he was adopted by Merope and Polybus, wins a fight at a crossroad by killing Laius, marries Jocasta, and solves the riddle of the Sphinx. For 20 points, name this title character of two of Sophocles's Theban plays.

ANSWER: Oedipus [or Oedipus Rex; or Oedipus at Colonus]

029--105-05132

3. This man headed a federal commission on water quality and twice defeated Socialist Labor candidate Eric Hass. He rose to his executive position by defeating millionaire W. Averell Harriman. This man passed a series of namesake tough drug laws and once raised his middle finger at a reporter on the campaign trail. He controversially married a divorcee named "Happy" and stated "that's life" after thirty-nine people died in the Attica prison riots. For 20 points, name this governor of New York and Vice President under Gerald Ford.

ANSWER: Nelson Rockefeller

048--105-05133