



1. This man's actions are history "as tragedy," as opposed to their repetition as "farce," according to Karl Marx. This man's brother Joseph was opposed in the siege of Salamanca during the Peninsular War. Abbe Sieyes (see-ESS) supported this man's coup of 18 Brumaire against the Directory, and his losses included the Battles of Leipzig and Borodino. This ruler died in exile on St. Helena. Name this First Consul who was previously exiled to Elba, a short emperor who lost at Waterloo.

ANSWER: **Napoleon** Bonaparte [or **Napoleon** I; prompt on **Bonaparte**]

104-13-84-04101

2. Irreversible steps in this pathway include the decarboxylation of alpha-ketoglutarate. Near the end of this pathway, the cofactor FAD helps ubiquinone oxidate succinate to fumarate. The products of this pathway include three NADH molecules and one GTP molecule. The first reaction in this pathway uses oxaloacetate and the acetyl CoA produced by glycolysis. This pathway is followed by the electron transport chain. Name this cycle central to cellular respiration.

ANSWER: **Krebs cycle** [or **citric acid cycle**]

014-13-84-04102

3. One example of this substance was placed on an oak tree by a son of Athamas and Nephele named Phrixus after he was flown from Thessaly. A vehicle shaped like a giant cup of this substance was used by Heracles to reach the Hesperides. Nathaniel Hawthorne added to a Greek myth about this substance, claiming that a daughter of the Lydian king turned into it as part of his reward for saving the satyr Silenus. Zeus appeared as this substance to impregnate Danae. Name this precious substance which appeared with King Midas's cursed touch.

ANSWER: **gold** [accept **golden fleece** during the first sentence]

104-13-84-04103

4. This building was originally designed by George Frederick Bodley but was overseen by Philip Frohman during the last fifty years of its eighty-three year construction, which ended in 1990 atop Mount St. Alban. It will become only the second-largest building of its type in the U.S. once New York's St. John the Divine is completed. Landmarks on its grounds include the Olmsted Woods, the only combination peal and carillon bell system in North America, and a Darth Vader gargoyle. Name this building in the District of Columbia which hosts Presidential funerals and prominent interfaith services.

ANSWER: Washington **National Cathedral** [or **Washington Cathedral**; or **Cathedral Church of St. Peter and St. Paul**]

019-13-84-04104

5. In this book, the protagonist is enraged when his group is compared to "mule drivers" and "mud diggers." Its main character meets a "tattered soldier" who makes the protagonist feel guilty by asking him about his wound. This book's main character witnesses the death of his friend, Jim Conklin. The protagonist is a member of the 304th New York Regiment, Henry Fleming, whose romantic vision of war is quickly shattered. Name this Stephen Crane novel about the Civil War.

ANSWER: *The* **Red Badge of Courage**

052-13-84-04105

6. Opposition to this event led Lord Fisher to resign, and its initial failure caused Charles Monro to replace Ian Hamilton. French participants in this operation landed at Kum Kale, while the British attacked Cape Helles and troops from Australia and New Zealand targeted what became known as the ANZAC beaches. Lasting from February 1915 to January 1916, it was repelled by troops under Mustafa Kemal. Name this bloody attempt at an amphibious invasion of Turkey during World War I.

ANSWER: **Gallipoli** landing [or **Dardanelles campaign**]

019-13-84-04106

7. This region's native Jemmy Button spoke its indigenous Yaghan language, which has only one native speaker left. Its largest island is home to a regional capital at Porvenir and the rainy town of Ushuaia. Its highest peak, Mount Darwin, lies near Beagle Channel. This region is separated from Patagonia by the Strait of Magellan. Name this archipelago south of Chile and Argentina which was named after Magellan saw distant fires rising from it.

ANSWER: **Tierra del Fuego**

104-13-84-04107

8. One character in this novel proposes a Persian carpet as a metaphor for life. That character is named Cronshaw. After the protagonist of this novel leaves for Paris, Fanny hangs herself. The protagonist of this novel loved the much older Miss Wilkinson. The waitress Mildred Rogers is another love interest of this novel's club-footed protagonist, who ultimately proposes to Thorpe's daughter, Sally Athelny. Name this semi-autobiographical novel about Philip Carey, written by W. Somerset Maugham.

ANSWER: **Of Human Bondage**

149-13-84-04108

9. One catalyst used to form this substance contains two iodine and two carbonyl ligands attached to an iridium atom in a square planar arrangement. That is the Cativa catalyst, which forms this substance via the carbonylation of methanol. At 16.6 degrees Celsius, crystals of the anhydrous form of this substance can be isolated in the "glacial" form of it. Name this substance with formula CH₃COOH, which is the primary component of vinegar.

ANSWER: **acetic acid** [or **acetate**]

140-13-84-04109

10. This philosopher used the term "blond beast" to describe the predatory class of men who impose social organization on others. He developed the idea of "eternal recurrence" in a book proposing a man crossing a rope over an abyss as a symbolic representation of man approaching the state of the *Übermensch*. His tract *The Gay Science* contained his famous proclamation that "God is dead." Name this German philosopher who wrote *Thus Spoke Zarathustra*.

ANSWER: Friedrich **Nietzsche**

014-13-84-04110

11. This man is shown to the left of an empty chair draped with an ornate cloak, symbolizing rejected kingship, in a painting that shows him "resigning his commission." He is the subject of the Vaughan and Athenaum portraits. His right hand stretches out over a red-draped table with a quill while his left hand holds a sword in the Lansdowne portrait; those three paintings of him are by Gilbert Stuart. Identify this person whom Emmanuel Leutze depicted in a boat on icy waters "crossing the Delaware."

ANSWER: George **Washington**

019-13-84-04111

12. One example of this device uses a parabolic primary mirror and hyperbolic secondary mirror and was invented by Laurent Cassegrain. There are three primary types of this device: refracting, reflecting and catadioptric. Hans Lipperhey is commonly associated with the invention of this device. An improved version of this device that consisted of a convergent objective lens and a divergent eyepiece lens was created by Galileo. Identify this device commonly used to magnify and observe astronomical objects.
ANSWER: optical **telescope** [or reflecting **telescope** before it is read]

066-13-84-04112

13. Mario Vargas Llosa wrote a "retelling" of this man's most famous novel entitled *Bad Girl*. The veil of Tanit is stolen by Matho in this man's novel *Salamambo*. After moving to Yonville, a character in a novel by this man borrows money from Lheureux and gives birth to Berthe. In that novel by this man, the protagonist's husband botches an experimental surgery on the club-footed boy Hippolyte. That protagonist has affairs with Leon Dupuis and Rodolphe Boulanger. Name this French author of *Madame Bovary*.
ANSWER: Gustave **Flaubert**

149-13-84-04113

14. Music events in this city include the Earshot Jazz Festival and Bumbershoot. This city's native son Joshua Ramus joined Rem Koolhaas to design its public library. The namesake of this city ceded the land for it in the Treaty of Port Elliott. Suburbs including Everett, Bellevue, and Redmond surround this city. A major landmark here was built for the 1962 World's Fair and provides a view of Mount Rainier from its top. Name this city on Puget Sound, the home of the Space Needle in Washington.
ANSWER: **Seattle**

019-13-84-04114

15. Section markings in this piece include the "lentement" and the "rigaudon." The most familiar portion of this musical piece is the conclusion of its first suite, the "Alla Hornpipe." It is divided into three component suites, which are in F, D, and G major. At its debut, it was played three times in a row because it delighted its target audience, King George I. Name this composition by George Handel, which is named because of its debut performance from barges on the Thames River.
ANSWER: the **Water Music**

019-13-84-04115

16.
One way that this quantity is calculated is symbolized "W + I + R + P" and is called the factor income approach. This quantity's namesake "deflator" is the ratio between its nominal and real values. Another way of calculating it is to sum consumption, investment, government spending, and net exports, which is called the expenditure approach. This measure has been replaced by other measures like HDI because it fails to take into account leisure time or black market dealing. Unlike a similar measure, it does not include goods produced in foreign nations. Name this economic measurement of wealth, the value of final goods and services produced in one year in a country.
ANSWER: **gross domestic product** [or **GDP**]

190-13-84-04116

17. Cú Roí (COO roy) urges three rivals to perform this action in the Irish story of the feast of Bricriu (BRYE-croo). During the Aesir-Vanir war, Odin found Mimir after this had occurred to him. Diomedes (dye-AH-muh-deez) does this to the slow-witted Dolon in the Iliad, and another instance of it causes the birth of Chrysaor (chris-EY-or) and Pegasus from the resulting wound. Identify this act which Perseus does after defeating Medusa and David does after defeating Goliath.

ANSWER: **decapitation** [or word forms; or **beheading**; or **cutting off heads**, etc.; do not accept or prompt on "killing" or similar answers, since the whole point of the story is that Cu Roi is not killed by having his head cut off]

019-13-84-04117

18. This man's namesake theorem gives the radius of a fourth circle which is tangent to three other mutually tangent circles. An operation which gives all possible pairs from two sets is called his namesake "product." The number of positive roots of a polynomial has the same parity as the number of sign changes of the polynomial's coefficients according to his "rule of signs." This man's best-known mathematical achievement is extended to three dimensions with the inclusion of a z-axis, and is centered at the origin. Name this mathematician who formulated a rectangular coordinate system.

ANSWER: Rene **Descartes**

190-13-84-04118

19. This controversy grew from violations of the Boland Amendment and was first reported by Lebanon's *Ash-Shiraa* magazine. One man who lied to Congress during this scandal later hosted a show about "War Stories" on cable TV. The Tower Commission outed Oliver North's role in this scandal, which revealed the source of funds for anti-Sandinista Nicaraguan rebels. For 10 points, name this scandal stemming from the Reagan administration's illegal sale of arms to a hostage-holding Islamic Republic.

ANSWER: **Iran-Contra** affair [or obvious equivalents involving arms sales to **Iran** to fund the **Contras**]

104-13-84-04119

20. This author created a man who carries on an affair with Hilda Burgoyne, although he is married to Winifred, in *Alexander's Bridge*. Another of this author's characters, Emil Bergson, is shot under a white mulberry tree along with Marie Shabata by Marie's husband, Frank. This author wrote a novel narrated by Jim Burden, who details the maturation of the title Bohemian girl and her marriage to Anton Cuzak. Name this author of *O Pioneers!* and *My Antonia*.

ANSWER: Willa **Cather** [or Wilella Sibert **Cather**]

192-13-84-04120



1. One king of this name was responsible for the murder of Alfred the Aetheling, was the son of Canute, and was known as "Harefoot." Another king of this name was captured by Guy I of Ponthieu after a shipwreck and later defeated Tostig at the Battle of Stamford Bridge. That king of this name was shown being killed by an arrow to his eye in the Bayeux Tapestry. Give this name of the last Anglo-Saxon king of England who died in his battle against William the Conqueror at Hastings.

ANSWER: **Harold** [or **Harold I**; or **Harold Harefoot**; or **Harold II**; or **Harold Godwinson**]

030-13-84-04121

2. This man's government created Project Merlin to increase lending to small businesses in 2011. In 2012, he met with Alex Salmond to discuss a possible devolution that Salmond advocates. In January 2013, he claimed he didn't want to "pull up the drawbridge" in a speech that proposed holding a referendum by 2017 on whether his country should remain in the EU. This man's party formed a coalition with the Liberal Democrats led by Nick Clegg after the 2010 general election. Name this prime minister of the United Kingdom.

ANSWER: David **Cameron**

121-13-84-04122

3. Parts of this law were invalidated by the Peace of Alès (ah-LAY) thirty years later. Disputes caused by it were heard in the Chambre de l'Edit (SHOMB-breh del-EE-deet). This law guaranteed eight years of safety for currently occupied fortresses, which it termed "places de surete" (PLASS day soor-ey-TAY). This law was completely revoked in 1685 by Louis XIV's Edict of Fontainebleau. Name this 1598 promulgation by Henry IV that protected Huguenots in France.

ANSWER: **Edict of Nantes** [or **Edit De Nantes**]

019-13-84-04123

4. One piece by this man contains a slow trombone passage in A flat minor and a mysterious "Molto piu moderato" movement. A misattributed Saint Anthony theme is used in this man's *Variations on a Theme by Haydn*. One of this composer's symphonies uses an alhorn theme in its last movement; he replied "any ass can see that" when Hans von Bulow nicknamed that *First Symphony* by this man "Beethoven's Tenth." Name this German classical composer of the *Tragic Overture*, who wrote a lied (leed) that is a commonly-sung lullaby.

ANSWER: Johannes **Brahms**

023-13-84-04124

5. This interaction explains why the boiling point for butane is higher than for isobutene despite both having the same molecular formula. Willem Keesom explained a type of this interaction that arises from molecules having elements with different electronegativities. This force can be caused by the temporary clustering of electrons at one end of a molecule, which can create an induced dipole. That dispersion type of this force was described by Fritz London. Name this force that attracts molecules together more weakly than covalent and hydrogen bonds.

ANSWER: **Van der Waals** force [or **dipole-dipole** interaction before "dipole"; or London **dispersion** force before read; or **London** force before read]

023-13-84-04125

6. In one story by this author, James Nolan writes a script for the assassination of Fergus Kirpatrick, who betrayed the 1821 Irish rebellion. Another Irish rebellion one hundred years later is the setting for his story of how John Vincent Moon came to bear a scar on his face. This author of "The Theme of the Traitor and the Hero" and "The Form of the Sword" also wrote of a lottery which grows to encompass the entirety of life in Babylon, and of an endless structure containing all possible books, the Library of Babel. Name this blind Argentinian author of *Ficciones*.

ANSWER: Jorge Luis **Borges**

019-13-84-04126

7. In a costume party in this game, the player must talk to a man in a rabbit mask to find out whether to go after Lydia, Esma, or Waverly Boyle. An episode of this game is set in the sewers, where the player can choose to kill Granny Rags, Slackjaw, or neither to get the Master Key. It is set in a city patrolled by the Tallboys, which is threatened by a plague engineered by Lord Regent Hiram Burrows in the wake of the murder of the Empress. Name this 2012 Arkane Studios game whose protagonist is Corvo Attano, an assassin in the city of Dunwall.

ANSWER: ***Dishonored***

080-13-84-04127

8. In this film, Jane Lynch's character repeatedly punches another character in the face until they can grab Laffy-Taffy and escape from some quicksand. In one scene of this film, graffiti reading "Aerith Lives" can be seen in Central Station. This movie's title character drops stalactites made of Mentos into Diet Cola Mountain to cause an eruption and destroy the invading Cy-Bugs; he also helps Vanellope defeat King Candy in a race inside the game *Sugar Rush*. Name this 2012 Disney movie about an arcade villain who wants to be a hero.

ANSWER: ***Wreck It Ralph***

080-13-84-04128

9. This man collected some of his early work in the *Parmelian Prints*. He depicted a church and a cemetery overlooked by dark clouds in a rural town during a time in which he was hired by the Secretary of the Interior. Willard van Dyke and Imogen Cunningham joined this man in a group named for the small size of the aperture which he used, f/64. He also depicted a snow-capped monolith at Half Dome in a series of photographs. Name this photographer of *Moonrise, Hernandez, New Mexico* and several landmarks in Yosemite National Park.

ANSWER: Ansel **Adams**

190-13-84-04129

10. Italy and Romania disastrously entered the First World War just before this country's 1915 and 1916 offensives failed. This country's army made a Great Retreat after losing at Gorlice-Tarnow (gor-LICH-tar-now). Its forces destroyed the Austro-Hungarian Army as a fighting force during the Brusilov Offensive. This country was defeated at Tannenberg when it opened Germany's Eastern front. Name this country that exited World War I after overthrowing its tsar.

ANSWER: **Russian** Empire [do not accept or prompt on "USSR" or "Soviet Union"]

153-13-84-04130

1. Answer the following about the circulatory system.

[5] What medical technique's readouts include a P wave, a T wave, and a QRS complex? It monitors electrical signals generated by the heart.

ANSWER: **electrocardiogram** [or **EKG**; or **ECG**]

[10] What specific types of blood vessels in the human circulatory system carry deoxygenated blood from the heart to the lungs?

ANSWER: **pulmonary arteries** [or **pulmonary artery**; prompt on just **artery** or **arteries**]

[15] Members of what phylum possess a pseudocoelom body cavity but lack a circulatory system? This phylum includes the trichinella worm and *C. elegans*.

ANSWER: **nematoda** [or **nematodes**; prompt on **roundworms**]

[20] Major arteries develop from what six-component structure in the human embryo?

ANSWER: the **aortic arches**

189-13-84-04101

2. Answer the following about paranoia.

[5] A band called The Paranoids appears in what Thomas Pynchon novel about Oedipa Maas titled for an auction?

ANSWER: *The **Crying of Lot 49***

[10] Hitler Studies professor Jack Gladney fears his impending death in what novel by Don DeLillo?

ANSWER: **White Noise**

[15] Who wrote a book in which employees at a vanity press use the computer Abulafia to generate a fake conspiracy theory they call "The Plan?"

ANSWER: Umberto **Eco** [the book is *Foucault's Pendulum*]

[20] What liberal historian wrote *The Paranoid Style in American Politics* and *Anti-Intellectualism in American Life*?

ANSWER: Richard **Hofstadter**

121-13-84-04102

3. Answer the following about epic poems.

[5] What poet of the *Eclogues* told the story of Rome's legendary founder in his *Aeneid*?

ANSWER: **Virgil**

[10] Who is the namesake of a type of sonnet and wrote poems to Laura in his *Il Canzoniere*?

ANSWER: **Petrarch** [or Francesco **Petrarcha**]

[15] The Pandavas and the Kauravas go to war in what epic of India?

ANSWER: the **Mahabharata**

[20] What epic from Kyrgyzstan, with half a million verses, tells of the title hero's war with the Oirat chieftain Joloy?

ANSWER: **Manas**

192-13-84-04103

4. Answer the following about economic models.

[5] Aggregate demand is central to the mainstream school of economics named for what British author of *The General Theory of Employment, Interest, and Money*?

ANSWER: John Maynard **Keynes**

[10] What conservative school of economics, led at one point by Ludwig von Mises, distrusts the use of economic models?

ANSWER: the **Austrian** School

[15] What model devised by John Hicks consists of two intersecting curves that plot equilibria in the goods and money markets?

ANSWER: **IS-LM** model

[20] What activity is subject to the Leontief Paradox and Heckscher-Ohlin Model?

ANSWER: international **trade** [or free **trade**]

080-13-84-04104



Letter F

Letter K

Letter Z

Letter F

[10] What Ernest Hemingway novel is about Robert Jordan fighting in the Spanish Civil War?

ANSWER: **For Whom the Bell Tolls**

[10] What American Founding Father published *Poor Richard's Almanack*?

ANSWER: Benjamin **Franklin**

[10] What biological kingdom contains such organisms as yeasts, molds, and mushrooms?

ANSWER: **fungi**

[10] In what country were the Paleolithic Lascaux cave paintings found?

ANSWER: **France**

[10] What papal name did the recently elected Jorge Bergoglio take?

ANSWER: **Francis** [or **Franciscus**]

[10] What author wrote the satirical work *Penguin Island*?

ANSWER: Anatole **France**

[10] What German city was the site of the first democratically elected German parliament in 1848?

ANSWER: **Frankfurt**

[10] What element is the lightest halogen?

ANSWER: **fluorine**

[10] What American wrote the songs "Camptown Races" and "Oh! Susanna"?

ANSWER: Stephen **Foster**

[10] Who was Odin's wife and mother of Balder in Norse mythology?

ANSWER: **Frigg** [or **Frigga**]

052-13-84-0410-3

Letter K

[10] Name the dark-skinned Hindu goddess of death who is honored in a puja every November.

ANSWER: **Kalika** [or **Bhavatarini**]

[10] What Greek letter denotes the connectivity of a graph and the curvature of a curve?

ANSWER: **kappa**

[10] What declaration, whose name is Aramaic for "all vows," is recited before the evening service on Yom Kippur?

ANSWER: **Kol Nidrei**

[10] Give the term for spirits or deities in Japanese mythology.

ANSWER: **kami**

[10] What pan-African holiday, created by Maulana Karenga, is celebrated at the end of December?

ANSWER: **Kwanzaa**

[10] Name the civil rights leader who delivered the "I Have a Dream" speech.

ANSWER: Martin Luther **King** Jr. [or Dr. **King**]

[10] Name the puzzle video game series which involves the player rolling a ball and collecting myriad objects in order to form a star.

ANSWER: **Katamari** [or **Katamari Damacy**]

[10] Give the name of three kings of Hawaii, the first of whom outlawed human sacrifice.

ANSWER: **Kamehameha**

[10] Name the African kingdom in Southwest Africa which converted to Christianity and later became a vassal state to the Portuguese Empire.

ANSWER: Kingdom of **Kongo**

[10] Name the play by Shakespeare about a monarch with one grateful and two wicked daughters.

ANSWER: **King Lear**

020-13-84-0410-3

Letter Z

[10] What species of African equid is known for its black and white stripes?

ANSWER: **zebra**

[10] What landlocked African country is bounded by the Zambezi and Limpopo rivers?

ANSWER: **Zimbabwe**

[10] What painter was known as the Spanish Caravaggio for his use of *chiaroscuro*?

ANSWER: Francisco de **Zurbarán**

[10] What first Premier of the People's Republic of China served under Mao Zedong?

ANSWER: **Zhou** Enlai

[10] What dualistic Persian religion believed in two opposing forces: Ahura Mazda and Angra Mainyu?

ANSWER: **Zoroastrianism**

[10] What Swiss Reformation leader famously debated Martin Luther and attended the Marburg Colloquy?

ANSWER: Ulrich **Zwingli**

[10] What school of Mahayana Buddhism emphasizes achieving enlightenment?

ANSWER: **Zen** Buddhism

[10] Shaka was a leader of what South African people that fought a namesake war with the British Empire in 1879?

ANSWER: **Zulu**

[10] By what term is a fertilized egg known?

ANSWER: **zygote**

[10] What imaginary point lies directly above an observer on the celestial sphere?

ANSWER: **zenith**

066-13-84-0410-3



1. Alternating dark and light bands that occur as small wave crests in these objects are called ogives. Streams that originate from these objects often have multiple small channels separated by temporary islands and are called braided streams. Till deposited by these objects can create moraines. For 20 points, name these objects which form when their ablation is less than the accumulation of snow, which is why global warming is causing many of them to shrink.

ANSWER: glaciers

149-13-84-04101

2. When one side of this equation is divided by the other, a parameter symbolized Z , called the compressibility factor, is obtained. One correction to this equation uses parameters symbolized a and b , representing molecular volume and attractive forces. The virial equation is a more useful correction to this equation. A restatement of this equation uses particle number times Boltzmann's constant, rather than number of moles times this law's namesake constant. This law is a combination of Guy-Lussac's, Charles', and Boyle's Law. For 20 points, name this law often stated " $PV = nRT$ ".

ANSWER: ideal gas law

190-13-84-04102

3. This author wrote a *King Lear*-inspired novel in which the peasant Fouan divides his land between his three sons titled *The Earth*. In another of his books, Chaval tries to murder his lover Catherine during a cave-in after Etienne Lantier leads a failed miners' strike. This author wrote a twenty-novel cycle about a lower-class family during the Second Empire. That cycle about the Rougon-Macquart family includes his novel *Germinal*. For 20 points, name this French naturalist who defended Alfred Dreyfus in the letter *J'Accuse*.

ANSWER: Emile Zola

080-13-84-04103

4. Along with the pons, this structure develops from the rostral rhombencephalon (rom-been-SEPH-ah-lon). The vermis separates the two hemispheres of this structure, whose other subdivisions include the flocculonodular node. The substantia nigra (sub-STAN-sha NEE-gra) are located within it, while mossy and climbing fibers converge upon it. Featuring Purkinje neurons, this structure is located below the cerebral cortex. For 20 points, name this "little brain," whose responsibilities include coordinating motor actions.

ANSWER: cerebellum

192-13-84-04104

5. This author wrote a play in which Gooper attends a party honoring his father's release from the Ochsner Clinic. That character created by this man despises "mendacity" and tries to reunite with his son Brick. In another of his plays, a "gentleman caller" visits a crippled young woman who collects figurines. For 20 points, name this author of *The Glass Menagerie*, who also wrote a play featuring the brutal Stanley Kowalski and Blanche DuBois.

ANSWER: Tennessee Williams [or Thomas Lanier Williams]

052-13-84-04105

6. An equation for determining the net external value of this phenomenon rewrites Newton's second law as being equal to I times α . By facing fingers in the direction of an applied force, the right hand rule can be used to have the thumb point in the direction of this force. This force is equal to $r F$ times the sine of θ , where θ is the angle at which the force is being applied around a pivot. For 20 points, name this physics phenomenon defined as the tendency for an applied force to cause an object to rotate.

ANSWER: **torque** [or **moment** of force; or **moment** of a force]

023-13-84-04106

7. Conductivity times the electric field give the current type of this quantity. The square root of the bulk modulus over this quantity gives the speed of sound in a fluid. Also, in fluids, this quantity times gravitational acceleration times height yields pressure. At room temperature, osmium has the highest value for it. It must be smaller for an object in a fluid than the fluid it is in for the object to float. For 20 points, name this physical quantity equal to mass per unit of volume.

ANSWER: **density** [prompt on **rho**]

104-13-84-04107

8. One character in this novel tells the protagonist not to "struggle so like a wild, frantic bird, that is rending its own plumage in its desperation." That same protagonist is locked in the "red room," and other characters in this novel include Helen Burns and Bertha Mason, the latter of whom burns down Thornfield Manor. Its title character ultimately marries Edward Rochester. For 20 points, identify this Victorian novel by Charlotte Bronte.

ANSWER: ***Jane Eyre***

189-13-84-04108

9. Over one character's shoulder in this painting sit a geranium and a mother-in-law's tongue. This work's creator was inspired by a house in Eldon. One of the people in this painting was Byron McKeeby, who stands next to the artist's sister Nan. For 20 points, name this painting, in which McKeeby holds a three-pronged hay fork in his right hand.

ANSWER: ***American Gothic***

023-13-84-04109

10. A "superheavy" entity of this kind may contain both a branching nucleus and a coda; the other segment present in the general structure of these entities is the onset. Hermann Ebbinghaus developed learning and forgetting curves by memorizing "nonsense" ones. "Open" ones may have up to four different tones in Mandarin Chinese. Tablets unearthed in Ur reveal the shift from pictograms to these in depicting writing. For 20 points, identify these units which appear in five-seven-five fashion in haikus.

ANSWER: **syllables**

020-13-84-04110

11. Antoine-Jean Gros painted this man visiting plague victims at Jaffa. A depiction of this man commonly shown in biographies includes a clock displaying the time of 4:13 AM and a ruffled white-on-blue outfit, suggesting that this man has been working through the night. In another painting, he is pointing to the left while looking towards the viewer and riding a bucking horse in rocky terrain. For 20 points, identify this historical figure depicted "in his study at the Tuileries" and "crossing the Alps" by Jacques-Louis David.

ANSWER: **Napoleon** Bonaparte [or **Napoleon** I; or Napoleon **Bonaparte**]

019-13-84-04111

12. In the months before this war, Britain almost became involved when the troop carrier *Kowshing* was sunk. This war began over an accused violation of the Lito Convention, when one side sent troops to suppress the Tonghak rebellion. This war resulted in the Pescadores, the Liaodong Peninsula, and Taiwan being ceded to the victors under the Treaty of Shimonoseki. For 20 points, name this war over control of Korea between two other East Asian powers, which was fought from 1894 to 1895.

ANSWER: First **Sino-Japanese** War [or First **China-Japan** War]

019-13-84-04112

13. This character introduces James Steerforth, a friend of his from Salem House, to Little Emily, the niece of the fisherman Dan Peggotty. This man marries Dora Spenlow, although he eventually marries a lawyer's daughter, Agnes Wickfield. He is eventually raised by his aunt Betsey Trotwood after growing up abused by his stepfather Mr. Murdstone. For 20 points, name this character who is patronizingly called "master" by his nemesis, Uriah Heep, and is befriended by Mr. Micawber.

ANSWER: **David** Copperfield [or David **Copperfield**; or **Trotwood** before it is read; or **Trot** before "Trotwood" is read]

052-13-84-04113

14. The first of these institutions was bought out by Stephen Girard. William Jones was the first president of another of these institutions, which was also led by Langdon Cheves. The second of these institutions was unconstitutionally taxed according to the ruling in *McCulloch v. Maryland*. Roger Taney (TAW-nee) was directed by Andrew Jackson in a feud with Nicholas Biddle to remove all federal deposits from one. For 20 points, name these institutions, whose second and last one controversially did not have its charter renewed in 1836.

ANSWER: **Banks of the United States** [or **Banks of the U.S.**; or **First and Second Banks of the United States**; or **First and Second Banks of the U.S.**; or **First Bank of the United States** until "William Jones"; prompt on **banks**; do not accept "Federal Reserve"; do not accept "the Fed"]

121-13-84-04114

15. The further adventures of this group are chronicled in *Twenty Years After* and *The Vicomte of Bragelonne*. They employ the servants Bazin, Grimaud, and Mousqueton. Each of these characters is challenged to a duel by the protagonist on the same day. They have the motto "all for one, one for all." This group's frequent adversaries include Milady de Winter and Cardinal Richelieu. For 20 points, name this group of soldiers that befriends D'Artagnan in an Alexandre Dumas novel.

ANSWER: the **Three Musketeers**

015-13-84-04115

16. Historian Martin Bernal wrote a work with a title that referred to this goddess as "Black." Cecrops mediated a dispute between Poseidon and her for the possession of Attica. In response to the rape of Cassandra by Ajax, she sent a storm that sank the Greek fleet returning from Troy. This goddess ripped apart a tapestry depicting the faults of the gods after losing a weaving contest to Arachne. For 20 points, name this Greek goddess of handicraft and war, who was born out of the head of Zeus.

ANSWER: Pallas **Athena** [or **Athene**]

030-13-84-04116

17. This author outlined his principles of writing in the essay "The World and the Jug." In a short story by this author, a man waits for a movie to end so that he can attempt to win \$36.90 in a bingo game. This author also created a man who is accused of kidnapping Tod Clifton after adding "concentrated remover" to the "Optic White" batch at the Liberty Paints factory. He also created Alonzo Hickman, who fails to avert the assassination of the racist and possibly black Adam Sunraider in *Juneteenth*. For 20 points, name this African-American author of *Invisible Man*.

ANSWER: Ralph **Ellison** [or Ralph Waldo **Ellison**]

019-13-84-04117

18. All practicing members of this religion take on a name meaning either "princess" or "lion." Members of this religion undergo the "amrit sanskar" ritual to become a member of its order of adult believers. This religion's last leader was Gobind Singh, who decreed that it would thereafter be led by its sacred text, the Granth, rather than human gurus. This religion dominates India's Punjab region and was founded by Guru Nanak. For 20 points, name this monotheistic faith which draws on both Hinduism and Islam.

ANSWER: **Sikhism**

019-13-84-04118

19. This city's influence in Sicily was weakened after its defeat in the battle of Himera. It contained the "Tophet of Salamambo" where skeletal remains suggest children may have been sacrificed to Ba'al Hammon. In one war, this city's opponent used a boarding device called a corvus to attack its ships. In another war, this city lost at the Battle of Zama after a huge victory at Cannae. For 20 points, name this opponent of Rome in the Punic Wars and home of Hannibal.

ANSWER: **Carthage** [or **Carthago**; or **Kart-hadasht**]

121-13-84-04119

20. After one battle in this war, dozens of people who were unable to walk to Fort Malden were brutally killed in the Raisin River Massacre. Sir Isaac Brock was killed at this war's Battle of Queenston Heights. The Battle of Bladensburg occurred during this war and led to one side's capital being burned. For 20 points, name this war in which Jean Lafitte helped a commander win a pivotal battle two weeks after a peace treaty had already been signed at Ghent.

ANSWER: War of **1812**

190-13-84-04120



1. The rate of this process in crystal lattices takes an Arrhenius-like form and creates point defects. This process is governed by a law which takes the same form as Fourier's Law of heat conduction. Another equation governing this process sets velocity to be inversely proportional to the square root of molar mass. This process governed by Fick's Law and Graham's Law occurs to pollen in water in Brownian motion. Name this process which occurs biologically as osmosis, the net movement of particles from regions of high concentration to low concentration.

ANSWER: diffusion [prompt on "effusion"]

190-13-84-04151

2. This thinker studied the mixture of features from patrilineal and matrilineal cultures, along with the practice of potlatch, in the Kwakiutl tribes. He attacked pseudoscientific theories of racial superiority and advocated the methodology of cultural relativism in his book *The Mind of Primitive Man*. He founded the anthropology department at Columbia University, where he taught Margaret Mead and Ruth Benedict. Name this German-born "Father of American Anthropology."

ANSWER: Franz Boas

014-13-84-04152

3. One side in this battle gained a strategic advantage by removing espolones in advance of the fight. The victorious side in this battle had a gap in its line held by reserves under Alvaro de Bazan. Augustino Barbarigo was outflanked in this battle by the forces of Mahomet Sirocco. The losing commander's head was displayed on a pike in this battle that involved forces under Uluj-Ali and Ali Pasha losing to Andrea Doria and Don John of Austria. Name this 1571 naval battle in which the Holy League fleet defeated the Ottomans.

ANSWER: Battle of Lepanto

023-13-84-04153