Tossups:

1. **This element reacts with iron oxide in thermite. Molten cryolite is needed to extract this element via the Hall-Heroult process. Because it was more valuable than silver in 1884, this element was chosen for the (\*)** capstone of the Washington Monument. The ore bauxite is the primary source of this metal, the most abundant metal in Earth’s crust. For ten points, name this metallic element whose malleability is exploited to make soda cans.

ANSWER: **aluminum** (accept **Al**)

<SCI, CHEM>

1. **The speaker of one of this man’s poems asks the title creature, which is “perched upon a bust of Pallas,” “is there balm in Gilead?” The narrator of a short story by this author hears a sound like a (\*)** “watch enveloped in cotton” after killing his neighbor and hiding the body under his floorboards. In a poem by this man, the title animal repeatedly tells the grieving speaker “Nevermore.” For ten points, name this author of “The Raven” and “The Tell-Tale Heart.”

ANSWER: Edgar Allan **Poe**

<LIT, AMER>

1. **Music in this genre includes a Johann Strauss piece celebrating Joseph Radetzky, as well as Sir Edward Elgar’s *Pomp and Circumstance*. Chopin’s second piano sonata includes an unusually somber example of this style of music meant for a (\*)** funeral, but these pieces are often lively, as with the “Washington Post” and the “Liberty Bell” by John Philip Sousa. For ten points, name this type of music often performed by military bands, especially when on the move.

ANSWER: **march**es (accept additional information like military **march**; accept funeral **march** after “Chopin” is read)

<FA, AUDIO>

1. **This woman was the first president of the Ninety-Nines. With funding from Purdue, where she served as a technical adviser, this woman constructed a modified Model 10 Electra. A breakdown of communication between the *Itasca* and Fred (\*)** Noonan caused this woman’s failure to find Howland Island. For ten points, name this first woman to fly solo across the Atlantic Ocean, who disappeared over the Pacific in 1937 .

ANSWER: Amelia **Earhart**

<HIST, AMER>

1. **This deity was freed from a spinning-mill, and gave birth while protected by seven scorpions. This goddess discovered a sealed box by a cedar tree in Byblos and used saliva to make Ra reveal his secret name. With the help of her sister (\*)** Nephyths, this goddess retrieved thirteen of the fourteen parts of her husband after he was dismembered by Set. For ten points, name this Egyptian goddess, the wife of Osiris.

ANSWER: **Isis** (accept **Aset**; accept **Iset**; accept **Ase**)

<RMPSS, MYTH>

1. **An American member of this vertebrate class produces a toxin that only garter snakes can tolerate. Gills persist into adulthood in the mudpuppy, axolotl, and some other members of this class. A chytrid [ky-trid] fungus pandemic endangers many members of this class in the tropics, including several (\*)** poison dart species. A metamorphic phase in which water habitats are exchanged for land habitats characterizes, for ten points, what class that includes salamanders and frogs?

ANSWER: **Amphibia**ns (prompt on specific examples such as “frogs” or “newts”)

<SCI, BIO>

1. **This singer is listed as a “Miley Cyrus impersonator” in a music video that possibly references “23” by Cyrus. Chef Roy Choi appears in a music video by this singer in which she claims “I’m a five-star Michelin / A (\*)** Kobe flown in.” In a 2013 song, this singer says “You held me down, but I got up” before proclaiming that she has the “eye of the tiger.” For ten points, name this artist behind “Swish Swish”, “Bon Appe´tit”, and “Roar.”

ANSWER: Katy **Perry** (accept Katy **Hudson**)

<TRASH, POP CULT>

1. **In 1956, this country built the artificial Lake Tharthar. Cities in the north of the country include Kirkuk and Tikrit, the latter being the birthplace of a dictator that ruled this country for 34 years. This country’s city of Basra lies south of the junction between the (\*)** Tigris and Euphrates Rivers. For ten points, name this Middle Eastern country where, in 2003, US forces invaded and captured its capital, Baghdad.

ANSWER: Republic of **Iraq**

<HIST, WORLD>

1. **Politicians used the *candida* variety of this object to show their honesty. The Etruscans originally invented this object, whose heavy weight made it unpopular among the lower classes, who were forced to use it at triumphs. The *pulla* type of this object was (\*)** worn in mourning, and the *picta* was dyed purple to be worn by Emperors. For ten points, name this large, white, wool garment that was draped and folded over ancient Roman men.

ANSWER: **toga**s (accept **toga** candida, **toga** pulla, or **toga** picta)

<HIST, OTHER>

1. **This novel’s protagonist beats Noah Claypole for insulting his dead mother. In this novel, Old Sally steals a locket that is later thrown into a river by Mr Monks. The protagonist of this novel meets (\*)** Nancy and is inducted into a pickpocket organization led by Fagin after a run-in with the Artful Dodger. For ten points, name this Charles Dickens novel about a title orphan who says “please, sir, I want some more.”

ANSWER: **Oliver Twist**

<LIT, BRIT>

1. **This artist allegedly yelled “Speak!” at his realistic depiction of Habakkuk. This sculptor of *Zuccone* [zoo-koh-nay] designed a distorted *St Mark* for the Orsanmichele [or-sahn-mee-kay-lay]. He sculpted another biblical figure in bronze, wearing only a hat and boots and leaning on a defeated (\*)** giant’s sword while resting his foot on a severed head. For ten points, name this Florentine sculptor of a bronze *David*.

ANSWER: **Donatello** (accept either underlined part of **Donato** di Niccolo´ di Betto **Bardi**)

<FA, VISUAL>

1. **A theorem in this branch of math is known as “pons asinorum,” or the “bridge of donkeys,” because weaker mathematicians could not get past it in a textbook. Forms of this branch of math that differ in whether Playfair’s (\*)** postulate is assumed may be called “elliptic” or “hyperbolic.” For ten points, name this branch of mathematics studied in Euclid’s [yoo-klid’s] *Elements*, which opens by defining objects like points, lines, and angles.

ANSWER: **geometry**

<SCI, OTHER>

1. **William Plumer prevented this man from becoming the second unanimously elected president in 1820 . A policy created by this man was modified by the Roosevelt Corollary. This man launched a goodwill tour of America, causing a newspaper to declare that the country had entered an (\*)** “Era of Good Feelings.” For ten points, name this fifth President of the United States whose namesake doctrine limited European involvement in North America.

ANSWER: James **Monroe**

<HIST, AMER>

1. **People who live on this body of water carry out the kula exchange ring, as Bronislaw Malinowski described in a book titled for the *Argonauts* of this body of water. Elsewhere in this body of water, teenage girls on the island of T’au were studied by (\*)** Margaret Mead. Thor Heyerdahl’s raft *Kon-Tiki* crossed this ocean in a test of Polynesian technology. For ten points, name this ocean where Mead worked on the book *Coming of Age in Samoa*.

ANSWER: **Pacific** Ocean (accept (Argonauts of the) Western **Pacific**; accept South **Pacific**; prompt on “Solomon Sea” until “T’au” is read)

<RMPSS, SOC SCI>

1. **Under the MK system, stellar objects of this type occupy luminosity classes one through four. This adjective describes stars above the main sequence on the H-R diagram. Uranus and Neptune are described as (\*)** ice examples of these and, because more than 90 percent of their mass is hydrogen and helium, Jupiter and Saturn are the gas kind. For ten points, give this adjective that describes the size of the red star that our Sun will eventually become.

ANSWER: **giant** (accept **supergiant** or **hypergiant** before “four” is read)

<SCI, OTHER>

1. **In a novel by this man, the painter Titorelli sells three identical landscapes to Herr Huld’s client, Josef K. In a shorter work by this man, Grete is sent to study the violin after her brother’s death. This author of *The* (\*)** *Trial* wrote a novella in which an apple lodges in the protagonist’s back after he wakes up to discover he has been transformed into a giant insect. For ten points, name this author who wrote about Gregor Samsa in *The Metamorphosis*.

ANSWER: Franz **Kafka**

<LIT, EURO>

1. **This man threw a piece of wood into an oasis at Marah and struck a rock to create a spring at Rephidim. This religious figure rescued Zipporah in Midian, and returned to his homeland after a miraculous encounter on Mount (\*)** Horeb. This man’s brother, Aaron, made a golden calf when this man vanished on Mount Sinai after he led the Israelites out of slavery in Egypt. For ten points, name this Abrahamic religious leader who recorded the Ten Commandments.

ANSWER: **Moses** (accept **Moshe**; accept **Musa**)

<RMPSS, REL>

1. **A platinum wire around a ceramic core forms the highly accurate resistance type of this device. A psychrometer uses both the wet- and dry-bulb types of this to find the dew point, and one of them is used to collect data from a (\*)** calorimeter. An ammonium chloride mixture will register zero on the mercury type of this device invented by Gabriel Fahrenheit. For ten points, name this device that may use the Celsius scale to measure temperature.

ANSWER: **thermometer**

<SCI, CHEM>

1. **The IR8 strain of this crop was designed to avoid lodging, or falling over under its weight. Peter Bramley’s work on tomatoes inspired a genetically modified version of this crop that produces beta-carotene; that “golden” type provides dietary Vitamin A. (\*)** India and Thailand are the largest exporters of this crop, whose varieties include Japonica, Jasmine, and Basmati. For ten points, name this important cereal crop in many Asian cultures that is grown in paddies.

ANSWER: **rice** (accept **Oryza** sativa and/or **Oryza** glaberrima; accept golden **rice**)

<SCI, BIO>

1. **This grandson of Autolychos carves a bed out of an olive tree growing in his palace’s courtyard. This man successfully fires an arrow through twelve axes before killing his (\*)** wife’s suitors. This man’s dog, Argus, dies when this man returns home from a journey in which he is held captive on the island of Calypso and tricks the cyclops Polyphemus. For ten points, name this father of Telemachus who returns home to his wife, Penelope, after a ten-year voyage in a namesake Homeric epic.

ANSWER: **Odysseus** (accept **Ulysses**)

<LIT, OTHER>

1. **This country gained a 99-year lease on the New Territories by pressuring a weakened Qing [cheeng] dynasty. The expiration of that lease in 1997 led this country to return a city it had gained after its victory in the (\*)** Opium War. In 1947, this country’s largest Asian colony was partitioned, resulting in the creation of Pakistan. Hong Kong was once ruled by, for ten points, what European colonial power whose Queen Victoria was named Empress of India?

ANSWER: **United Kingdom** of Great Britain and (Northern) Ireland (accept **UK**; accept Great **Britain**; do not accept England)

<HIST, EURO>

1. **In this poem, the shores of Acheron echo with the cries of self-serving people, and an angel opens the way to the City of Dis. This poem’s narrator sees fortune-tellers walking backwards, (\*)** adulterers blown toward and away from each other, and the traitors Brutus, Cassius, and Judas in the mouths of Lucifer as he follows the poet Virgil through nine “circles” of sinners. For ten points, name this first section of Dante’s *Divine Comedy*, which describes a journey through Hell.

ANSWER: **Inferno** (prompt on The “Divine Comedy” or “Divina Comedia” before it is read)

<LIT, EURO>

1. **This style of painting is contrasted with secco, which uses a dry base. Paintings of this type in the Stanza della Segnatura [say-nyah-too-rah] include the *Disputation of the Holy Sacrament* and a painting in which Plato and Aristotle debate. (\*)** Raphael’s *The School of Athens* is in this style, and was painted under an archway in the Vatican. For ten points, name this style of painting, in which pigment is bonded directly to freshly-laid, wet plaster walls.

ANSWER: **fresco**s by Raphael (prompt on “mural”s)

<FA, VISUAL>

1. **A number is algebraic if it can be the solution to one of these functions with integer coefficients. Horner’s method simplifies calculations of these functions, usually by employing synthetic division on them. Four to the *x* power is (\*)** not one of these expressions because the variable is in the exponent. For ten points, give this term for mathematical expressions like *x* squared plus 3, a term that comes from the Greek for “many named.”

ANSWER: **polynomial**s (accept **polynomial** equation, function, expression, etc.)

<SCI, OTHER>

1. **A character in this play describes a woman whose “chariot is an empty hazelnut” and who serves as “the fairies’ midwife.” In this play, the “Queen Mab speech” is given on the way to a masquerade ball at which a character hopes to find Rosaline. In this play, Benvolio and (\*)** Mercutio fight with Tybalt, the cousin of a woman who muses that “a rose by any other name would smell as sweet” after asking “wherefore art thou?” For ten points, name this Shakespeare play about “star-crossed lovers.”

ANSWER: **Romeo and Juliet**

<LIT, BRIT>

1. **This holiday takes place between Sha’ban and Shawwal. Suhur and iftar mark the limits of daily personal restrictions during this holiday, during which the pillars of zakat and sawm are observed. This holiday includes Laylat al-Qadr, the Night of Power during which the (\*)** Quran was first revealed, and is ended by Eid al-Fitr, a feast day. Able-bodied Muslims fast during, for ten points, what holiest Islamic month?

ANSWER: **Ramadan**

<RMPSS, REL>

1. **The C-rate is used to compare different types of these devices, and an early example of them, using zinc and copper sulfate, was the Daniell cell. A dry cell kind of these devices, the nickel-cadmium, can be (\*)** reused, while a lead anode is found in most automotive types. Portable electronics often employ the lithium-ion type of, for ten points, what device that converts stored chemical energy into electrical energy?

ANSWER: **battery**

<SCI, PHYS>

1. **The price of this crop was manipulated by a group of Glasgow-based “lords.” The original decision to grow this crop was due to American soil being too rich for European plants, a problem this crop solved by depleting the soil of its nutrients. John (\*)** Rolfe transformed the economy of Jamestown by introducing this crop, which was also grown by Thomas Jefferson. For ten points, name this cash crop that was vital to colonial Virginia and is used in cigarettes.

ANSWER: **tobacco** (accept **Nicotiana tabacum**)

<HIST, OTHER>

1. **In this film, Etta Candy helps a character buy modern clothing and Isabel Maru makes a poison that can destroy gas masks. The title character in this film charges across (\*)** no man’s land, deflecting bullets with her bracelets, while on a mission to kill Erich Ludendorff, whom she believes to be Ares. Steve Trevor’s plane crashes at Themyscira [the-mih-SKEE-rah] in, for ten points, what 2017 film that stars Gal Gadot as an Amazon warrior?

ANSWER: **Wonder Woman**

<TRASH, POP CULT>

1. **This author wrote a book in which the protagonist grows old with her “Lancashire husband,” Jemy, after accidentally marrying her half-brother in Virginia. This author of *Moll Flanders* was inspired by the adventures of (\*)** Alexander Selkirk to create a character who befriends the former cannibal Friday while stranded for twenty-eight years on a desert island. For ten points, name this English author of *Robinson Crusoe*.

ANSWER: Daniel **Defoe** (accept Daniel **Foe**)

<LIT, BRIT>

1. **This country’s fate was decided in the Molotov-Ribbentrop Pact, which did not follow the historical Curzon Line. In this country, the Charge at Krojanty [kro-yan-tee] led to a myth that this country’s army charged horses into (\*)** tanks. An invasion of this country dissolved the Free City of Danzig and began on September 1st, 1939 . For ten points, name this country whose invasion by Nazi forces officially started World War II a month before its capital, Warsaw, fell.

ANSWER: **Poland**

<HIST, WORLD>

1. **Diving below ten meters can lead to this element’s namesake narcosis. A drug containing three atoms of this element is commonly used to treat chest pains. The urea cycle excretes this element’s waste, and *Azotobacter* soil microbes (\*)** fix this element in its namesake cycle. Nucleotide bases like adenine and thymine include several atoms of, for ten points, what gaseous element with 7 protons in its nucleus and chemical symbol N?

ANSWER: **nitrogen** (accept **N** before it is read)

<SCI, CHEM>

1. **This man dedicated his *Variations on a Theme of Schumann* to Schumann’s widow, Clara. When this man was honored with a doctorate degree, he wrote student drinking songs into his *Academic Festival Overture*. This composer used Martin Luther’s translation of the Bible for his (\*)** *German Requiem* and a folk poem for his “Wiegenlied” [vee-gen-leed], which is also known as “Cradle Song.” For ten points, name this German composer of a famous lullaby.

ANSWER: Johannes **Brahms**

<FA, AUDIO>

1. **In this civilization’s creation myth, a goddess is decapitated by her own children after being impregnated by a ball of feathers. Soldiers in this civilization who died in battle were believed to have transformed into hummingbirds to join (\*)** Huitzilopochtli [hwee-tseel-oh-pock-tlee]. This civilization worshiped a feathered serpent who was not actually mistaken for Hernan Cortez. For ten points, name this civilization that constructed the Great Temple of Quetzalcoatl in Tenochtitlan, modern-day Mexico City.

ANSWER: **Aztec**

<RMPSS, MYTH>

1. **Two of these objects are orthogonal when their dot product equals zero. These objects can be added geometrically by constructing a parallelogram. Weight cannot exist in zero gravity because it is this type of quantity, while turning the steering wheel of a (\*)** moving car will generate an acceleration, which is this type of quantity. Displacement and velocity are also examples of, for ten points, what type of quantity that, unlike scalars, have both magnitude and direction?

ANSWER: **vector**s

<SCI, OTHER>

1. **John Wesley Powell explored this river’s rapids on an 1869 expedition that began on the Green River. The Gila [hee-la] River flows into this river near Yuma, shortly before this river flows into the Gulf of California. This river’s water forms Lake (\*)** Mead behind the Hoover Dam, which powers much of Arizona. For ten points, name this river that flows through the Grand Canyon and is named for its source state in the Rocky Mountains.

ANSWER: **Colorado** River (accept **Green** River before it is read)

<GEO, GEO>

1. **This short story’s title character is bewildered by “Babylonish jargon” including talk of “members of Congress” and “Bunker’s Hill,” and meets a group of Dutch settlers supposedly led by Hendrick (\*)** Hudson as they play nine-pins. At the beginning of this short story, the title character goes for a walk with his dog Wolf in the Catskills mountains. For ten points, name this Washington Irving short story about a title colonial man who falls asleep for twenty years.

ANSWER: **Rip van Winkle**

<LIT, AMER>

1. **The sulfur level in this substance is described by the terms *sweet* and *sour*. This substance, which can form from kerogen in shale deposits, was extracted at Titusville, Pennsylvania in 1859 . Fractional distillation of this substance produces (\*)** asphalt, paraffin wax, and the components of gasoline. The *Deepwater Horizon* rig spilled nearly 5 million barrels of, for ten points, what liquid fossil fuel?

ANSWER: **petroleum** (accept **crude oil**; prompt on “oil”)

<HIST, AMER>

1. **This man wrote a letter to “My Dear Fellow Clergyman” that noted “Injustice anywhere is a threat to justice everywhere;” that letter was written from a jail cell. While this winner of the 1964 Nobel Peace Prize was promoting a (\*)** strike of sanitation workers in Memphis, he was assassinated by James Earl Ray. For ten points, name this civil rights activist who, at the 1963 March on Washington, gave the “I Have a Dream” speech.

ANSWER: Dr. Martin Luther **King**, Jr.

<HIST, AMER>

1. **The 1610 observation of this body’s phases was the first solid proof of heliocentrism. This body, which was called Hesperus when it appeared as the Evening Star, has surface features called Maxwell Montes, Lakshmi Planum, and Ishtar Terra that are (\*)** obscured by a permanent cover of sulfuric acid clouds. A 96% carbon dioxide atmosphere led to a runaway greenhouse effect on, for ten points, what second planet in the Solar System?

ANSWER: **Venus**

<SCI, OTHER>

1. **A holder of this title controversially pushed his people away from polytheism in favor of a solar god worshiped at Amarna. Lord Carnavon funded Howard Carter’s 1922 expedition to discover the burial grounds of one of these people at (\*)** Luxor; that mission found a sarcophagus containing a solid gold funerary mask and mummified remains. For ten points, name this title given to Akenhaten, King Tut, and other ancient Egyptian rulers.

ANSWER: Egyptian **pharaoh**s

<HIST, OTHER>

1. **In a melodrama from this country, the servant Ninetta is accused of stealing a silver spoon that was actually stolen by the *Thieving Magpie*. A composer from this country included a “cavalry charge” galop in his overture to (\*)** *William Tell*. In an opera set in this country, Baron Scarpia lies about saving the painter Cavaradossi. For ten points, name this home country of Gioachino Rossini as well as Giacomo Puccini, who set his opera *Tosca* in Rome.

ANSWER: **Italy** (accept **Italia**; accept **Italian Republic** or **Repubblica italiana**)

<FA, OTHER>

1. **The Rydberg formula inspired one model of these objects, though it only fits the simplest of them. The first subparts of these objects were detected by deflection of cathode rays observed by J. J. (\*)** Thomson. A gold foil experiment determined that they possess a dense central mass, disproving their plum pudding model. Bohr and Rutherford name models of, for ten points, what objects that, according to Dalton’s theory, make up all matter?

ANSWER: **atom**s (accept **hydrogen atom** before “cathode” is read)

<SCI, CHEM>

1. **Rock climbers flock to this country’s Grampians National Park at the southern terminus of the Great Dividing Range. Gulf Saint Vincent on the southern shores of this country is home to the port of Adelaide, and the (\*)** Coral Sea on this country’s northeast is home to the endangered Great Barrier Reef. A sacred sandstone formation called Uluru is in the “outback” of, for ten points, what country whose cities include Melbourne and Sydney?

ANSWER: Commonwealth of **Australia**

<GEO, GEO>

1. **In 2009, Patrick Kane was arrested in this city, his hometown, for punching a taxi driver. Scott Norwood’s “wide right” kick is one focus of a documentary about the four consecutive Super Bowl losses by this city’s NFL team. This city’s Anchor Bar is the birthplace of a recipe for a (\*)** deep-fried snack covered in Frank’s RedHot sauce and usually dipped in blue cheese. For ten points, name this home city of the NFL’s Bills and a spicy form of chicken wings.

ANSWER: **Buffalo**

<TRASH, SPORTS>

1. **A character in this story earns $20 from Madame Sofronie, which she then combines with the $1 . 87 she had been saving. In this story, a woman assures her husband, Mr Young, that she will soon be able to use the (\*)** tortoiseshell combs he purchased for her even though, in order to buy a platinum fob chain, she sold her hair. For ten points, name this short story in which Jim and Della exchange ironic Christmas presents, written by O. Henry.

ANSWER: The **Gift of the Magi**

<LIT, AMER>

1. **Two years before his death, this man purchased Bofors and turned it into an arms manufacturer. The death of this man’s older brother Ludvig confused a French newspaper into printing this man’s obituary instead, calling him the “merchant of (\*)** death” for his work designing explosives like dynamite. For ten points, name this Swedish inventor who, after he actually died in 1896, funded a series of prizes for the sciences, literature, and peace.

ANSWER: Alfred **Nobel**

<HIST, EURO>

1. **This literary character follows pepper gatherers to an island where he escapes being buried alive with his dead wife. While in Serendib, this man rafts down a river of ambergris lined with rubies, allowing him to bring treasure home to (\*)** Baghdad. On his second adventure, this sailor is carried out of a diamond-lined valley by an enormous Roc bird. For ten points, name this sailor, who made seven voyages in *The Arabian Nights*.

ANSWER: **Sinbad** the Sailor (accept **Sindbad**)

<LIT, OTHER>

1. **In the Odyssey, this woman’s husband described how she imitated other women’s voices during a night raid. This sister of Clytemnestra was born from an egg because her mother, Leda, was seduced by Zeus in swan form. This wife of (\*)** Menelaus had the “face that launched a thousand ships.” For ten points, name this beautiful woman whose kidnapping by Paris started the Trojan War.

ANSWER: **Helen** of Troy

<RMPSS, MYTH>

1. **In the southern hemisphere, one ecosystem of this type contains steep koppies surrounded by veld. Fescue is a common plant of this biome that has been severely degraded in the Sahel. Aardvarks and anteaters specialize in feeding from giant termite mounds in this biome. The Eurasian (\*)** steppe, Pampas, and Serengeti are examples of, for ten points, what type of ecosystem, home to wildebeest, bison, and zebras, but very few trees?

ANSWER: **grassland** (accept **savanna**; accept **prairie**)

<SCI, BIO>

1. **Gottfried Helnwein parodied this painting in *Boulevard of Broken Dreams*, which replaces this painting’s figures with Marilyn Monroe and Elvis Presley. Two coffee canisters in this painting sit to the left of a yellow door without a knob. Five cent (\*)** Phillies Cigars are advertised on a sign above the main scene of this painting where a woman dressed in red sits next to one of the two men dressed in Fedoras. For ten points, name this diner scene painted by Edward Hopper.

ANSWER: **Nighthawks**

<FA, VISUAL>

1. **While holding this position, Alexander Haig incorrectly claimed that he was “in control here” after the shooting of Ronald Reagan. In the aftermath of the sinking of the *Lusitania*, William Jennings Bryan left this position. (\*)** Madeleine Albright, the first woman to hold this post, urged future holder Colin Powell to intervene in Bosnia. Rex Tillerson currently holds, for ten points, what US Cabinet post in charge of foreign affairs?

ANSWER: **Secretary of State** (prompt on “State” alone; prompt on descriptions of “the leader of the US State Department” or similar)

<HIST, AMER>

1. **During World War I, this scientist established mobile X-ray trucks for use on battlefields. Tumor cells were killed faster than healthy cells in one of this scientist’s radiation experiments. Another experiment separated pitchblende to yield a (\*)** new element named for this scientist’s homeland, polonium. The becquerel replaced a unit in the SI system named for, for ten points, what co-discoverer of radium with her husband Pierre, the first woman to win a Nobel Prize?

ANSWER: Marie **Sklodowska Curie** (accept either or both names)

<SCI, CHEM>

1. **This poem’s speaker notes that “the passing there” had left his options “really about the same,” since they are “grassy and [want] wear.” This poem’s speaker walks on “leaves no step had trodden black” after finding himself in a (\*)** “yellow wood” at a divergence. This poem concludes “I took the one less traveled by, / and that has made all the difference.” For ten points, name this poem about a choice between two paths, written by Robert Frost.

ANSWER: The **Road Not Taken**

<LIT, AMER>

1. **The biblical Daniel predicted that Nebuchadnezzar would live outside human society for this number of “periods of time” after interpreting his dream. This number each of healthy and sick (\*)** cows appeared in dreams that Joseph interpreted for Pharaoh. Two pairs of each unclean animal and this many pairs of each clean animal were on Noah’s ark, and it took the Abrahamic God this many days to create the world and rest. For ten points, give this number of Deadly Sins.

ANSWER: **seven**

<RMPSS, REL>

1. **The goal of this policy was supported in Horace Greeley’s “The Prayer of Twenty Million.” New Orleans and recently-occupied Tennessee were excluded from this policy, as it only applied to territory in rebellion. This war measure was announced after the Union victory at (\*)** Antietam, and it was bolstered by the Thirteenth Amendment after the Civil War. Abraham Lincoln issued, for ten points, what executive order that freed slaves in the South?

ANSWER: **Emancipation Proclamation** (prompt on “Emancipation” and descriptive answers relating to freeing slaves)

<HIST, AMER>

1. **This type of mathematical behavior is modeled by the differential equation dx over dt equals kx. The parent graph of this type of function has a horizontal asymptote along the *x*-axis and, thus, cannot go negative. Logarithmic functions are the (\*)** inverse of this type of function, which is subject to the shortcut “rule of 70 .” For ten points, give this adjective that describes expressions of the form *e* to the *x*, which often indicate very fast growth.

ANSWER: **exponential** (accept **exponential** function; accept **exponential** growth and/or decay)

<SCI, OTHER>

1. **After this novel’s protagonist watches the “feelie” *Three Weeks in a Helicopter*, he is reminded of his mother’s relationship with the mescal-loving Pope´. This novel opens with a description of the Bokanovsky process, which creates a (\*)** caste society that includes alphas and deltas. The recreational drug soma is used by the citizens of this novel. For ten points, name this dystopian novel about Bernard Marx and John the Savage, written by Aldous Huxley.

ANSWER: **Brave New World**

<LIT, BRIT>

1. **The Teller Amendment guaranteed that this island would not be annexed by the United States. Frederic Remington was told to remain on this island by William Hearst so that Hearst could “furnish the war” that earned its independence. (\*)** Theodore Roosevelt led the Rough Riders on this island at the Battle of San Juan Hill during the Spanish-American War. For ten points, name this Caribbean island where the USS *Maine* exploded in Havana Harbor.

ANSWER: **Cuba**

<HIST, AMER>

1. **These events are localized into a division of 754 regions made by Flinn and Engdahl. Elastic rebound theory explains the behavior of these events. Multiplying 8 . 4 by the lag time between these event’s P and (\*)** S-waves estimates the distance to their epicenter. Soil liquefaction is a concern during these events, which often occur along strike-slip faults like the San Andreas. For ten points, name these seismic events that were once measured on the Richter scale.

ANSWER: **earthquake**s

<SCI, OTHER>

1. **This god failed to down a drinking horn in one go because the drinking horn was connected to the sea. This god went fishing with Hymir, and disguised himself as a woman to get his favored weapon back from Thrymir. This husband of (\*)** Sif is destined to kill and be killed by Jo¨rmungandr [yor-mun-GON-dur], the Midgard Serpent, at Ragnaro¨k. For ten points, name this son of Odin, the wielder of Mjo¨lnir [mee-YOLL-neer], and Norse god of thunder.

ANSWER: **Thor** (accept **Donar**)

<RMPSS, MYTH>

1. **In this novel, a child with a “mulberry-colored birthmark” asks whether the “snake-thing” will be dealt with, and a panic is triggered when a dead fighter pilot is mistaken for a “beastie.” In this novel, Simon hallucinates a conversation with a (\*)** boar’s head, which had been mounted on a stick by Jack. Ralph, the conch-blowing chief, and Piggy, whose glasses are used to start fires, appear in, for ten points, what novel about a group of marooned boys, written by William Golding?

ANSWER: **Lord of the Flies**

<LIT, BRIT>

1. **Alexander Yee’s “y-cruncher” program has set numerous world records for this feat. Mario Lazzarini’s trial of the Buffon’s needle experiment cherry-picked its endpoint to do this mathematical process well. Archimedes did this action by drawing 96-sided polygons in and around a circle, finding (\*)** 223 over 71 for a lower bound and 22 over 7 as an upper bound. For ten points, name this mathematical process in which a certain irrational number’s digits are found.

ANSWER: **calculating pi** (accept **estimating pi** or **approximating pi**; accept anything related to **finding information about the digits of pi**)

<SCI, OTHER>

1. **In this modern-day country, the 722 Battle of Covadonga sparked a centuries-long war against Islamic forces. The Alhambra Decree expelled practicing Jews from this country, which was unofficially unified after the marriage of monarchs from (\*)** Castile and Aragon. Ferdinand and Isabella maintained Catholic power through the Inquisition in, for ten points, what country that signed the Treaty of Tordesillas with its western neighbor, Portugal?

ANSWER: Kingdom of **Spain**

<HIST, EURO>

1. **While filming a commercial for this brand, Michael Jackson’s hair caught on fire in a pyrotechnics accident. In *World War Z*, Brad Pitt’s character dramatically drinks this beverage before using it to distract the zombies. A “Perfect” form of this soda appears in the (\*)** *Back to the Future* series. In a quickly-pulled 2017 ad, Kendall Jenner ends a protest by giving a police officer a can of, for ten points, what soda that has fought the Cola Wars against Coke?

ANSWER: **Pepsi**-Cola

<TRASH, POP CULT>

1. **Areas of this organ are named for Wernicke and Broca. Phineas Gage suffered an accidental injury to this organ, which is divided by the corpus callosum and surrounded by three membranes known as meninges [meh-nin-jeez]. The (\*)** stem of this organ contains the medulla oblongata and pons, and it is divided into temporal, parietal, occipital and frontal lobes. For ten points, name this primary organ of the nervous system, located in the skull.

ANSWER: **brain**

<SCI, BIO>

1. **In a book from this country, three men in a Peach Garden swear an oath they will die on the same day. A character in this country is forced to help Tripitaka reach India after launching an attack on the Heavenly Kingdom, the domain of the Jade (\*)** Emperor. *The Romance of the Three Kingdoms* and *Journey to the West* are two of the Four Great Classics of, for ten points, what country whose poets commonly wrote about the Great Wall?

ANSWER: **China** (accept **Zhongguo**)

<LIT, OTHER>

1. **This artist painted the title Babylonian king turning in shock at a Hebrew inscription on the wall in a scene from the Book of Daniel. This artist of *Belshazzar’s Feast* depicted the arm of a convict being dissected in *The* (\*)** *Anatomy Lesson of Dr. Nicholaes Tulp*. A man waves a blue and yellow striped flag in a painting by this artist that was commissioned by Franz Banning Cocq and named for its dark varnish. For ten points, name this Dutch artist of *The Night Watch*.

ANSWER: **Rembrandt** (Harmeenszoon) **van Rijn** (accept either underlined part)

<FA, VISUAL>

1. **In this novel, Walter Chase spends a month in jail, but doesn’t snitch on the protagonist because he is afraid of Meyer Wolfsheim. On the narrator’s thirtieth birthday in this novel, Tom sends his wife away from the Plaza Hotel, allowing her to kill (\*)** Myrtle with a car while driving through the valley of ashes. The title character woos Daisy Buchanan in this novel, which is narrated by Nick Carraway. For ten points, name this novel by F. Scott Fitzgerald.

ANSWER: The **Great Gatsby**

<LIT, AMER>

1. **In this state, a tree stump called the “Old Man of the Lake” floats in a lake created by the collapse of Mount Mazama. The cities of Eugene and Corvallis lie on Interstate 5 as it moves north through this state, which is home to Crater Lake. Settlers who flocked to the (\*)** Willamette Valley via a wagon trail eventually formed, for ten points, what Pacific Northwest state whose largest city, Portland, is just south of Washington?

ANSWER: **Oregon**

<GEO, GEO>

1. **This scientist may have missed his chance at a Nobel Prize due to a feud with Svante Arrhenius over the nature of solutions. This scientist’s prediction of the densities and melting points of eka-silicon and eka-boron was confirmed by the discovery of (\*)** germanium and gallium. This man used atomic weight to arrange index cards, noting a repeating pattern in the properties of elements. For ten points, name this Russian chemist, the father of the Periodic Table.

ANSWER: Dmitri **Mendeleev**

<SCI, CHEM>

1. **In 1970, a member of this family activated the War Measures Act and responded “Just watch me” to the question of how much liberty would be suspended to stop the October Crisis. Another member of this family stated “Because it’s (\*)** 2015” when asked why his cabinet was gender-balanced, shortly after he defeated Stephen Harper. For ten points, name this Canadian political family that includes former Prime Minister Pierre and current Prime Minister Justin.

ANSWER: **Trudeau** family (accept Pierre **Trudeau**; accept Justin **Trudeau** after “2015” is read)

<HIST, WORLD>

1. **This philosopher described objects as having four *aitia*: its material, form, producer, and purpose, collectively known as the “four causes.” That argument was posed in this man’s *Metaphysics*, which some scholars believe are a series of lecture notes from his school, the (\*)** Lyceum. *Poetics* and *Politics* were also written by, for ten points, what ancient Greek philosopher who mentored Alexander the Great and was a student of Plato?

ANSWER: **Aristotle**

<RMPSS, PHIL>

1. **This animal was the subject of a riddle given at Timnah, after Samson discovered honey inside the carcass of one of these animals. Revelation describes Jesus as this animal “of Judah,” which is honored in Rasta by wearing (\*)** dreadlocks. King Darius punished Daniel by throwing him into a den of these animals, which “roar for their prey” in Psalms. For ten points, name these ferocious big cats with dramatic manes.

ANSWER: **lion**

<RMPSS, REL>

1. **This instrument plays a solo in the song “I’m Getting Sentimental Over You” and is featured in the standards “Moonlight Serenade” and “In the Mood.” This instrument, played by Tommy Dorsey and Glenn Miller, was derived from the medieval (\*)** sackbut. It requires little effort to perform a glissando on this instrument, 76 of which lead the parade in *The Music Man*. For ten points, name this brass instrument that uses a slide to change pitch.

ANSWER: **trombone**

<FA, OTHER>

1. **A poem of this type addressed to a “Fair Youth” describes the “rough winds” that “shake the darling buds of May” and mentions that the title season has “all too short a date.” A group of these poems addressed to a “Dark Lady” describe her eyes as (\*)** “nothing like the sun.” The poems “Gather ye rosebuds while ye may” and “Shall I compare thee to a summer’s day?” are poems of this type, consisting of three quatrains and a couplet. For ten points, name these 14-line poems, many of which were written by Shakespeare.

ANSWER: Shakespearean **sonnet**s (accept Elizabethan **sonnet**s; accept **sonnet**s by William Shakespeare)

<LIT, BRIT>

1. **For his role in implementing this act, Andrew Oliver was burned in effigy. The repeal of this act led the British government to pass the Declaratory Act. The Sons of Liberty were originally founded to protest this act, which raised the cost of (\*)** playing cards and legal documents. The phrase “taxation without representation is tyranny” was coined in response to, for ten points, what 1765 tax on printed goods in the American colonies?

ANSWER: **Stamp Act** of 1765

<HIST, AMER>

1. **The Venturi effect is a decrease in this quantity due to choked flow. Hydraulic brakes function when a change in this quantity is transmitted to all points throughout the fluid, according to Pascal’s principle. A manometer measures this quantity with a (\*)** column of liquid, using units such as millimeters of mercury. A barometer indicates the atmospheric type of, for ten points, what quantity, the force per unit area?

ANSWER: **pressure**

<SCI, PHYS>

1. **A 1927 essay by Arthur Eddington described how this process would reduce a “random element,” but break a vital symmetry. Faster than light speeds would allow tachyons to perform this action, and the grandfather (\*)** paradox may indicate that this action is impossible. In 2009, Stephen Hawking threw a party for people performing this action, but no one came. A wormhole might permit, for ten points, what staple action of science fiction that violates the arrow of time?

ANSWER: **time travel** (accept equivalents such as **traveling back in time**)

<SCI, PHYS>

1. **A story by this man inspired Shakespeare’s play *The Two Noble Kinsmen*. A character created by this man is sent on a quest to find what women want and learns the answer is sovereignty. In another story by this man, Arcite and Palamon duel over Emily. “The (\*)** Knight’s Tale” and “The Wife of Bath’s Tale” are in this man’s collection about pilgrims who tell stories on the way to Thomas Becket’s shrine. For ten points, name this Middle English author of *The Canterbury Tales*.

ANSWER: Geoffrey **Chaucer**

<LIT, BRIT>

1. **Native Americans living in this territory were forced to sign the Treaty of Payne’s Landing in 1832 . A dispute over this territory’s northern border was settled by Thomas Pinckney, who set it at the 31st parallel. This territory was acquired in the Adams-Onis Treaty, shortly after (\*)** Andrew Jackson invaded it in the First Seminole War, sparking outrage from its owner, Spain. For ten points, name this US territory that became a state governed from Tallahassee.

ANSWER: **Florida** (accept West **Florida**; accept East **Florida**; accept Spanish **Florida**)

<HIST, AMER>

1. **This man used an ant to thread a string through a conch shell for the King of Crete. A structure created by this man imprisoned the son of Pasiphae and a white bull, and was navigated by (\*)** Theseus using a ball of string. This man used honey and wax to build wings after he and his son were imprisoned by Minos for building the Labyrinth. For ten points, name this Greek inventor, whose son Icarus died after flying too close to the sun.

ANSWER: **Daedalus**

<RMPSS, MYTH>

1. **A melody from this suite was used in the hymn “Thaxted,” which was later adapted to fit Cecil Spring Rice’s poem “I Vow to Thee, My Country.” In 2000, Colin Matthews composed an eighth movement for this suite about “the Renewer,” and other subtitles to this suite’s sections include “the (\*)** Bringer of War” and “the Bringer of Jollity.” For ten points, name this orchestral suite by Gustav Holst that depicts celestial bodies like Mars and Jupiter.

ANSWER: The **Planets**

<FA, AUDIO>

1. **A simple model of this process was designed by Heckscher and Ohlin. That model was inspired by David Ricardo, who explained how this action can benefit countries through comparative advantage, even if one country is absolutely better at (\*)** producing everything, using an example of wine and cloth. Tariffs may slow this process. A global market allows for, for ten points, what economic action, the exchange of goods between countries?

ANSWER: (international) **trade** (accept elaborations, such as free **trade**)

<RMPSS, SOC SCI>

1. **A waterway named for this location is the longest undammed river in the contiguous United States. This location’s Lake Isa straddles the continental divide, and its Obsidian Cliff was used for tool making by ancient Native Americans. This World Heritage Site sits above North America’s largest (\*)** active supervolcano. Grand Prismatic Spring and the Old Faithful geyser are in, for ten points, what first US National Park found mostly in Wyoming?

ANSWER: **Yellowstone** National Park

<HIST, AMER>

1. **The protagonist of one novel by this author descends into an Icelandic volcano with his nephew Axel. This creator of Otto Lidenbrock wrote a novel about Phileas Fogg winning a wager with the help of (\*)** Passepartout with the assistance of time zones. In another novel by this author, Nemo captains the *Nautilus* submarine. For ten points, name this author of *A Journey to the Center of the Earth*, *Around the World in 80 Days*, and *20,000 Leagues Under the Sea*.

ANSWER: Jules Gabriel **Verne**

<LIT, EURO>

1. **One of this country’s ships accidentally killed three British fisherman in the Dogger Bank incident. When this country was denied use of the Suez Canal in 1904, it launched a months-long journey around Africa to reinforce its Pacific Fleet; this country then lost much of its navy in the Battle of (\*)** Tsushima Straits against Japan and had its admiral, Zinovy Rozhestvensky, taken prisoner. For ten points, name this country whose navy received orders from Moscow.

ANSWER: **Russia**n Empire (do not accept Soviet Union)

<HIST, EURO>

1. **According to the Red Queen hypothesis, predators and prey force each other to develop these traits. By closely matching with local food sources, the beaks of Galapagos finches qualify as these traits. Opposable (\*)** thumbs and a bipedal stance are among the most important of these in humans, leading to an increase in fitness by natural selection. For ten points, name this type of trait that develops to help an organism survive in its environment.

ANSWER: **adaptation**s (accept word forms like **adaptive** traits; prompt on less specific answers such as “useful traits” or “helpful traits”)

<SCI, BIO>

1. **This singer states “I love the way you know who you are” in a song she performed with The Scene. “Take away your things and go / You can’t take back what you said, I know” opens a 2015 song by this artist. In a song with (\*)** Kygo, this artist asks “Who’s waking up to drive you home / when you’re drunk and all alone?” For ten points, name this former Disney Channel star and singer of “Naturally, “Same Old Love”, and “It Ain’t Me.”

ANSWER: Selena **Gomez**

<TRASH, POP CULT>

1. **In this election year, Joe Lieberman was the running mate for the losing ticket. This election featured the Reform Party’s Pat Buchanan appearing in a controversial position on one state’s butterfly ballots. After just 537 votes decided one state in this election year, a (\*)** lawsuit reached the Supreme Court, whose 5-to-4 ruling ended a recount in Florida. For ten points, name this election year in which Al Gore lost to George W. Bush.

ANSWER: US Presidential election of **2000**

<HIST, AMER>

1. **The book of Matthew presents this text as a solution to long, pagan-style prayers. Catholicism omits this text’s final doxology, and recites this text between the decades of the rosary. Christians disagree about the use of the words (\*)** “debts,” “sins,” or “trespasses” in this prayer’s request for forgiveness “as we forgive others.” For ten points, name this common Christian prayer that addresses “Our Father, who art in heaven.”

ANSWER: The **Lord’s Prayer** (accept **Pater Noster**; accept **Our Father** before it is read)

<RMPSS, REL>

1. **In cupric sulfate, this number is both the oxidation state of the metal and the charge of the anion. The elemental forms of halogens naturally contain this many atoms. Alkaline earth metals always form cations with this charge. A single line in a (\*)** Lewis structure represents this many electrons. For ten points, give this number of protons in a helium nucleus and number of hydrogen atoms found in a water molecule.

ANSWER: **2**

<SCI, OTHER>

1. **This character is revealed to be the Viscount of Greystoke after following his love interest to Wisconsin. The daughter of Archimedes Porter meets this man when she is marooned on the west coast of (\*)** Africa. Kerchak, a leader of a tribe of animals, adopts this “feral child” after killing his father. For ten points, name this love interest of Jane, the subject of an Edgar Rice Burroughs book in which he is raised by apes.

ANSWER: **Tarzan** (accept John **Clayton** III)

<LIT, AMER>

1. **This artist added drawers to a replica of the *Venus de Milo*, which he painted several times in *The Hallucinogenic Toreador*. This artist painted a work in which three swans on a pond are reflected as (\*)** elephants. A desolate landscape by this man includes a dead tree, a box-like platform, and a strangely distorted face, on which rest soft clocks. For ten points, name this Spanish surrealist artist of *The Persistence of Memory*.

ANSWER: Salvador Domingo Felipe Jacinto **Dal´ı** y Dome`nech

<FA, VISUAL>

1. **The expression *n* over log *n* estimates how many of these numbers are less than *n*. Euclid argued that, because you can always create a new one of these numbers by multiplying all known examples together and adding one, there must be (\*)** infinitely many of these numbers. The sieve of Eratosthenes generates a list of, for ten points, what numbers that have no proper divisors, like 2, 3, 5, and 7, and are contrasted with composites?

ANSWER: **prime** numbers

<SCI, OTHER>

1. **This man chaired a militant group formed from a banned political party after 69 people were killed in the Sharpeville massacre. This leader of the Spear of the Nation wrote a memoir, *Long Walk to Freedom*, that describes his 27 years of (\*)** imprisonment on Robben Island near Cape Town. The African National Congress was once led by, for ten points, what opponent of apartheid and first black president of South Africa?

ANSWER: Nelson Rolihlahla **Mandela**

<HIST, WORLD>

1. **This poet wrote about a “Blue - uncertain - stumbling buzz / Between the light - and me” in the moments before death. This woman wrote that, “the Horses’ Heads Were towards Eternity” in a poem that makes frequent use of (\*)** dashes and describes a character who “kindly stopped for me.” For ten points, name this “Belle of Amherst” who wrote the poems “I heard a Fly buzz when I died” and “Because I could not stop for Death.”

ANSWER: Emily Elizabeth **Dickinson**

<LIT, AMER>

1. **Philip II expanded this city’s Holy Innocents’ cemetery, whose overflowing mass graves were later replaced by a series of catacombs. Jim Morrison, Oscar Wilde, and Frederic Chopin are buried in this city’s (\*)** Pe`re Lachaise [pair la-shez] Cemetery. The oldest eternal flame in Europe is located in this city beneath a structure commissioned by Napoleon Bonaparte. The Arc de Triomphe is located in, for ten points, what capital of France?

ANSWER: **Paris**

<HIST, EURO>

1. **A member of this family said “the dream shall never die” at a 1980 convention where Jimmy Carter defeated him for the Presidential nomination. Another member of this family won the California primary in 1968 before being assassinated by (\*)** Sirhan Sirhan, and served as Attorney General under his brother, who was shot by Lee Harvey Oswald in 1963 . For ten points, name this American political family with members like Ted, Robert, and John Fitzgerald.

ANSWER: **Kennedy** family (accept Edward “Ted” **Kennedy**; accept Robert F. **Kennedy** after “California” is read; accept John F. **Kennedy** after “his brother” is said)

<HIST, AMER>

1. **A character created by this author is upset when the horse Frou-Frou is injured during a race. In a novel by this man, Helene Kuragina marries Pierre Bezhukov, who believes that he must kill Napoleon. The title character of one of this man’s novels has an affair with Count (\*)** Vronsky and commits suicide by throwing herself in front of a train. For ten points, name this Russian author of *Anna Karenina* and *War and Peace*.

ANSWER: Leo Nikolayevich **Tolstoy**

<LIT, EURO>

1. **This feat was done 195 times in 2017 by both Chris Davis and Khris Davis. Despite Cameron Maybin doing this, the Angels won a game after a Yasmani Grandal throwing error. Doing this 4 times earns a golden sombrero. This feat can happen 4 times in an (\*)** inning because if it finishes with a wild pitch, the batter can try to reach first base. A “K” symbolizes, for ten points, what baseball stat that can be earned by swinging and missing 3 times?

ANSWER: **strikeout** (accept **K** before it is read; do not prompt on “out”)

<TRASH, SPORTS>

1. **China’s Wukong space telescope is currently searching for proof of this phenomenon. One alternative for explaining its effects is modified Newtonian dynamics. WIMPs are hypothetical particles that make up this substance, first proposed by Fritz Zwicky to solve the (\*)** missing mass problem in galaxy clusters. About 27% of the mass-energy of the universe is made of, for ten points, what exotic type of matter that does not interact with light?

ANSWER: **dark matter**

<SCI, PHYS>

1. **In this painting, a red cross was a late addition to the coat of a man working at an easel, who looks through the fourth wall at a king and queen who are reflected in a mirror. A mastiff is nudged by one of the two (\*)** dwarves on the right of this painting, in which two servants in wide skirts attend a young, white-clothed princess. The daughter of Philip IV of Spain is depicted in, for ten points, what Diego Vela´zquez painting of the Infanta Margarita?

ANSWER: Las **Meninas** (accept The **Maids of Honor**; accept The **Ladies-in-Waiting**)

<FA, VISUAL>

1. **This creature was fed cake soaked in wine by the Sibyl of Cumae to help Aeneas pass it, and this creature so terrified King Eurystheus that he hid in a jar. This brother of Orthrus was unable to pierce the Nemean Lion skin worn by (\*)** Heracles during his twelfth labor, during which this creature was captured from Hades. For ten points, name this three-headed guard dog of the Greek underworld.

ANSWER: **Cerberus**

<RMPSS, MYTH>

1. **The antibiotic tetracycline inhibits the function of this structure in bacteria. The nucleolus houses a type of RNA named for this organelle, which makes use of E, P, and A sites during its role in translation of mRNA. Two (\*)** subunits form these organelles, which can float in the cytoplasm or be found studded on the rough endoplasmic reticulum. For ten points, name these tiny cell organelles that synthesize proteins.

ANSWER: **ribosome**s

<SCI, BIO>

1. **In this novel, William Collins marries Charlotte Lucas after being rejected by the protagonist. This novel’s protagonist is described as “tolerable; but not handsome enough to tempt” a guest at a ball. A character in this novel protects (\*)** Lydia’s reputation by bribing George Wickham into marrying her, and his friend Mr Bingley gets engaged to Jane. For ten points, name this Jane Austen novel in which Elizabeth Bennet ultimately agrees to marry Mr Darcy.

ANSWER: **Pride and Prejudice**

<LIT, BRIT>

1. **This man wrote that “no one ought to harm another in his life, health, liberty, or possessions” in one work, though he also attacked atheists as untrustworthy in his *Letter Concerning Toleration*. This man’s concept of *tabula rasa*, that the mind begins as a (\*)** “blank slate,” was outlined in his *Essay Concerning Human Understanding*. For ten points, name this English philosopher whose social contract theories inspired the Declaration of Independence.

ANSWER: John **Locke**

<RMPSS, PHIL>

1. **In 2002, it was proven that this number is the only positive cubic number that is one less than a square number. This number, whose divisibility check looks at the last 3 digits, is the only cubic number greater than 1 that appears in the (\*)** Fibonacci sequence. A cube has this many vertices between its 12 edges and 6 faces. For ten points, give this number that is equal to two cubed and serves as the base of the octal number system.

ANSWER: **eight**

<SCI, OTHER>

1. **This desert’s Tibesti Mountains are home to the Toubou people. In the east of this desert, the salty Lake Turkana is threatened by a dam on the Omo River. The large-eared fennec fox lives in this desert, where two Grand Ergs lie in the rain shadow of the (\*)** Atlas Mountains to its north. This desert is north of a transition zone that passes from Sudan to Mali called the Sahel. For ten points, name this African desert, the largest in the world.

ANSWER: **Sahara** Desert

<GEO, GEO>

1. **Because enthalpy is constant in a throttling process, both heat and this quantity will equal zero. In a uniform electric field, this quantity equals the product of charge and voltage. This quantity can only be calculated in the direction of an object’s (\*)** displacement, and it is measured in the same units as energy. Carrying a weight up a flight of stairs is an example of, for ten points, what quantity often expressed as force times distance?

ANSWER: **work**

<SCI, PHYS>

1. **Dr Montague searches for these creatures in a Shirley Jackson novel. A blood-covered character of this type takes Macbeth’s seat at a feast. One of these creatures drags cash-boxes and ledgers by chains, and identifies himself as Jacob (\*)** Marley when he tells Ebenezer Scrooge he will be followed by three of these creatures representing Christmas Past, Present, and Yet-to-Come. For ten points, name these disembodied spirits of the dead.

ANSWER: **ghost**s (accept **spirit**s; accept **phantom**s; accept **poltergeist**s before “Macbeth” is read; prompt on “dead people” until it is read)

<LIT, OTHER>

1. **This party sponsored John C. Fremont in its first presidential election. Thaddeus Stevens led a Radical faction of this political party that attempted to impeach Andrew Johnson. After the Civil War, this party supported (\*)** Reconstruction, in contrast to its Southern-based rivals. For ten points, name this political party that elected Abraham Lincoln President over John Breckenridge and Stephen Douglas, a pair of Democrats.

ANSWER: **Republican** Party (accept **Grand Old Party**; accept **GOP**)

<HIST, AMER>

1. **A religion founded in this country practices Harae [hah-rah-ay], which involves washing away sin with water. Monks in this country created rock gardens, meant to channel the essence of nature, to aid them in their (\*)** meditations. Temples for this country’s native religion are separated from the profane world by red gates called torii [toh-ree]. Zen Buddhism and Shinto are worshiped jointly in, for ten points, what country whose sacred sites include Mt Fuji?

ANSWER: **Japan** (accept **Nippon**-koku; accept **Nihon**-koku)

<RMPSS, REL>

1. **A more accurate version of this statement includes *a* and *b* terms to account for particle interactions and excluded volume; that version is known as the Van der Waals equation. When certain parameters are held constant, (\*)** Charles’s, Gay-Lussac’s, and Boyle’s Laws are equivalent to this law. For ten points, name this equation of state that can be expressed as “P V equals n R T” and describes the behavior of a theoretical substance.

ANSWER: **Ideal Gas** Law

<SCI, CHEM>

1. **Dvorˇa´k’s last concerto was composed for this instrument and premiered by Leo Stern. This instrument plays arpeggiated chords in the first of J.S. Bach’s six suites for it, while Edward Elgar’s concerto for this instrument in E Minor was popularized by Jacqueline du Pre´. Pablo (\*)** Casals also played, for ten points, what string instrument that is slightly smaller than the double bass and is played by Yo-Yo Ma in string quartets with violins and viola?

ANSWER: **cello** (accept **violincello**; do not accept or prompt on violin)

<FA, AUDIO>

1. **A 9th century holder of this position named Formosus had his corpse put on trial. A holder of this position allied with Philip II and Charles V to fight the Ottomans at Lepanto. Julius II was labeled the “warrior” one of these people after he formed the (\*)** Holy League. The Council of Clermont was called by another of these men, Urban II, who launched the First Crusade to capture Jerusalem. For ten points, name this head of the Catholic Church.

ANSWER: **Pope** (accept **Bishop of Rome**; accept Roman **Pontiff**; accept **Pontifex** Maximus)

<HIST, EURO>

1. **The narrator of this novel stays at the Spouter Inn and hears a sermon by Father Mapple before beginning a journey on a ship co-owned by Peleg. A character in this novel nails a doubloon to his ship’s mast to motivate his crew, which includes the harpooner (\*)** Queequeg and the first mate, Starbuck. This novel’s narrator joins the crew of the *Pequod* after asking the reader to “Call me Ishmael.” For ten points, name this Herman Melville novel in which Captain Ahab pursues the title white whale.

ANSWER: **Moby-Dick**; or, The Whale

<LIT, AMER>

1. **The Gospel of James lists this figure’s parents as Joachim and Anne, who presented this *Theotokos* at the Temple in Jerusalem. When Elizabeth saw this figure, her baby jumped in her womb, foretelling (\*)** John the Baptist’s relation to this immaculately conceived woman’s son. Gabriel said “be not afraid” to this woman, who traveled to Bethlehem with her husband, Joseph. For ten points, name this biblical mother of Jesus.

ANSWER: **Mary** (accept **Mother Mary**; accept **Blessed Virgin** Mary)

<RMPSS, REL>

1. **Employees of this organization included secretary Helen Gandy, associate director Clyde Tolson, and**

**W. Mark Felt, who leaked information during the Watergate scandal as Deep Throat. The first head of this organization had a personal feud with John F. Kennedy that escalated to this agency (\*)** wiretapping Kennedy’s house. For ten points, name this governmental agency, once led by J. Edgar Hoover, that is the primary law enforcement agency of the US.

ANSWER: **Federal Bureau of Investigation** (accept **FBI**)

<HIST, AMER>

1. **Two of these devices with unequal radius are connected in the differential type of this device. Constant acceleration can be achieved using one of these in an Atwood machine. Counting sections of rope will find the mechanical (\*)** advantage of a compound system of these devices known as a block and tackle. Fixed and movable are two types of, for ten points, what simple machine, a wheel that can change the direction of a rope or cable?

ANSWER: **pulley**

<SCI, PHYS>

1. **In a novel from this country, David Lurie’s affair with Melanie Isaacs destroys his career. In addition to the author of *Disgrace*, this country is home to an author who wrote about the murder of Arthur Jarvis. Stephen (\*)** Kumalo fails to prevent the execution of his son Absalom in *Cry, the Beloved Country*, a novel set during Apartheid in this country. For ten points, name this home country of JM Coetzee and Alan Paton.

ANSWER: Republic of **South Africa**

<LIT, OTHER>

1. **This sculpture, once nicknamed “The Poet,” was designed to sit below *The Three Shades* and above two representations of Paolo and Francesca da Rimini. This bronze sculpture is part of a large sculpture group that includes *The* (\*)** *Kiss*, and represents Dante resting on a rock and contemplating sinners in Hell. For ten points, name this sculpture by Rodin [roh-DAN] of a pensive man who sits hunched over, resting his head on his hand.

ANSWER: The **Thinker** (accept Le **Penseur**)

<FA, VISUAL>

1. **The protagonist of this play is envious of Charley because his son Bernard is arguing a case in front of the Supreme Court. A character in this play says that being “liked” but not “well liked” can hinder success. Linda insists that (\*)** “attention must be paid” to this play’s title man, who is pitied by his sons Happy and Biff for his many suicide attempts. For ten points, name this Arthur Miller play about the demise of Willy Loman.

ANSWER: **Death of a Salesman**

<LIT, AMER>

1. **An ebulliometer determines the alcohol content of wine by accurately measuring this quantity. Azeotropic mixtures have a constant value for it, making separation by distillation impossible. The energy needed to reach this value is called the (\*)** heat of vaporization. Vapor pressure equals atmospheric pressure at, for ten points, what temperature at which a liquid changes into a gas, equal to 100 degrees for water?

ANSWER: **boiling point** (accept **boiling temperature**)

<SCI, CHEM>

1. **A graph is Eulerian [oy-lair-ee-un] if the degree of each of its vertices has this property. This adjective also describes functions that satisfy *f* of *x* equals *f* of negative *x*; examples include the cosine and absolute value functions, which are symmetric over the (\*)** *y*-axis. All known perfect numbers have this property, as does exactly one prime number. For ten points, name this property held by half of the integers, including 2, 4, 6, and 8 .

ANSWER: **even** (accept **even** degree, **even** function, **even** number, etc.)

<SCI, OTHER>

1. **Rulers of this city included Nabopolassar, who allied with the Medes to fight the Assyrians in the 7th century BCE. Although archaeologists haven’t found evidence of it, a terraced building in this city was legendarily built on the orders of (\*)** Nebuchadnezzar II, whose wife was homesick for greenery. “An eye for an eye” inspired many of Hammurabi’s laws for, for ten points, what ancient Mesopotamian city that was home to the Hanging Gardens?

ANSWER: **Babylon**

<HIST, OTHER>

1. **This woman was falsely accused of defrauding Parisian jewelers in the Affair of the Diamond Necklace. Disguised as a governess, this woman attempted to flee her country in the Flight to Varennes, which led a revolutionary council to charge her with treason. This woman walked to the (\*)** guillotine months after the execution of her husband, Louis XVI [16th]. For ten points, name this French queen who did not actually say “Let them eat cake.”

ANSWER: **Marie Antoinette** (accept **Maria Antonia** Josepha Johanna; prompt on partial answer)

<HIST, EURO>

1. **In this novel, a group of immortals called struldbrugs are identified by a color-changing spot above their left eyebrow. This novel’s title character scorns human “Yahoos” in favor of horse-people called (\*)** Houyhnhnms [HWIN-hums], and observes a war between Big Endians and Little Endians over the right way to crack an egg. The title man visits the giants of Brobdingnag and the tiny people of Lilliput in, for ten points, what satirical Jonathan Swift novel?

ANSWER: **Gulliver’s Travels**

<LIT, BRIT>

1. **The rare Bombay phenotype for this trait is produced by H antigen deficiency. Mother-child incompatibility for this trait can result in erythroblastosis [air-ith-row-blast-osis]. Cross-matching for this trait helps prevent transfusion reactions. When the Rh factor is considered, there exist (\*)** eight of these designations. For ten points, name this hematological trait whose “universal donor” example is O-negative and that can also be classified as A, B, or AB.

ANSWER: **blood type** (accept **blood group**)

<SCI, BIO>

1. **In one myth, O´ ttar disguised himself as this deity’s boar Hildisv´ıni, and in another story, Loki traveled to Jo¨tunheim with this deity’s feathered cape. Njord was the father of this Vanir, who was the wife of Odr and accepted half of the warriors slain in battle at (\*)** Folkvangr. This goddess’s chariot was pulled by two cats, and she slept with four dwarves to get the necklace Brisingamen. The twin sister of Frey was, for ten points, what Norse goddess of love and beauty?

ANSWER: **Freyja** (do not accept Frey, Freyr, Frigg, or Frigga)

<RMPSS, MYTH>

1. **Henry Clinton predicted that a few more battles like this one would “put an end to British dominion in America,” since over 100 officers were killed or wounded here. In this battle, William Howe ordered cannons on Copp’s Hill to fire on the Americans. The legendary quote (\*)** “don’t fire until you see the whites of their eyes” was given during, for ten points, what Revolutionary War battle fought outside Boston, mostly on Breed’s Hill, near the beginning of the war?

ANSWER: Battle of **Bunker Hill** (accept Battle of **Breed’s Hill** before it is read)

<HIST, AMER>

1. **A work in C minor by this composer ends with 29 bars of loud C major chords. An earlier work by this composer includes a second movement funeral march and had its dedication ripped apart when Napoleon named himself Emperor; that piece, (\*)** *Eroica*, was this man’s third symphony. For ten points, name this composer whose fifth symphony opens with a famous “short-short-short-long” motif and was written before he became completely deaf.

ANSWER: Ludwig van **Beethoven**

<FA, AUDIO>

1. **The existence of this area, which notably did not include Cathaysia, explains the widespread distribution of *Lystrosaurus* fossils. The Appalachian Mountains arose from the early stage of this landmass’s formation, when Laurasia and (\*)** Gondwana collided. This area was first proposed by Alfred Wegener as a result of continental drift, surrounded by the global ocean Panthalassa. For ten points, name this most recent supercontinent that broke up 200 million years ago.

ANSWER: **Pangaea** (accept **Gondwana**land before “early” is read)

<SCI, OTHER>

1. **This novel’s protagonist steals a Bible from a woman who lights herself ablaze. In this novel, the pill- popping Mildred’s request to buy a fourth wall-sized television discourages her husband, who is encouraged by (\*)** Clarisse McClellan until she is hit by a car. Professor Faber helps a fireman escape from the Mechanical Hound in, for ten points, what Ray Bradbury novel about the book-burning Guy Montag?

ANSWER: **Fahrenheit 451**

<LIT, AMER>

1. **The syrinx organ is part of this body system in birds. In insects, the openings to this system are called spiracles. A dysfunction of this system in humans is sleep apnea; another disease, emphysema, damages the (\*)** alveoli that are crucial to this system. Tuberculosis and pneumonia are infections of this body system, that is primarily formed by the gills in fish. For ten points, name this body system that includes the trachea and lungs.

ANSWER: **respiratory** system

<SCI, BIO>

1. **For reporting on this goddess, Ascalaphus was turned into an owl. Pirithous was punished for eternity for trying to kidnap this goddess, who was celebrated with her mother in the Eleusinian Mysteries. This goddess lived with her mother in the (\*)** summer, but was forced to spend part of each year with her husband after consuming pomegranate seeds. For ten points, name this “Queen of the Underworld,” the daughter of Demeter and wife of Hades.

ANSWER: **Persephone** (accept **Kore**)

<RMPSS, MYTH>

1. **This man wanders through the wilderness pursued by Creon in a play about this man *at Colonus*. This man’s disgrace sparks a battle between his sons Eteocles and Polynices while his daughters Ismene and (\*)** Antigone mourn. After the death of Jocasta, this man blinds himself with pins from her dress. For ten points, name this mythical Greek king who, in plays by Sophocles, fulfills a prophecy that he would kill his father and marry his mother.

ANSWER: **Oedipus** Rex

<LIT, OTHER>

1. **This empire was home to the Schmalkaldic League, which was founded to protect Protestants. Francis II dissolved this empire after Napoleon founded the Confederation of the Rhine. While leading this empire, Maximilian I used a banner depicting a double-headed (\*)** black eagle on a yellow background. The leader of this empire was appointed by Prince-Electors. Charles V was a ruler of, for ten points, what Germanic empire whose emperors were crowned by the Pope?

ANSWER: **Holy Roman** Empire (do not accept Rome)

<HIST, EURO>

1. **A painting of this scene by Paolo Veronese was renamed to refer to the *House of Levi* after he was accused of indecorum. Tintoretto created a diagonal depiction of this scene, and in another version of this scene painted on dry plaster, knocked-over (\*)** salt may foreshadow Judas’s betrayal of the central figure. Leonardo da Vinci created a version of, for ten points, what scene depicting the final meal of Jesus and his disciples?

ANSWER: The **Last Supper** (accept L’**Ultima Cena**)

<FA, VISUAL>

1. **This adjective names a type of independence for vectors in a basis. Systems of equations with this property can be solved by Cramer’s rule, Gaussian elimination, substitution, graphing, or numerous other methods. This adjective describes polynomials of degree (\*)** 1, because they have constant slope. For ten points, give this mathematical adjective for equations in *y* equals *mx* [”m” “x”] form that, when graphed, move infinitely far in a straight direction.

ANSWER: **linear** (accept word forms related to a **line**; accept **linear** independence; accept (systems of) **linear**

equations; accept **linear** polynomials)

<SCI, OTHER>

1. **In 1990, this city’s Isabella Stewart Gardner museum was robbed of over $500 million worth of art. This city’s downtown area is home to a Freedom Trail, where tourists can visit Dorchester Heights, Faneuil [fan-yull] Hall, and the Old North Church. (\*)** Colleges in and around this city include Emerson College downtown and, across the Charles River in Cambridge, MIT, and Harvard. Logan International Airport serves, for ten points, what capital city of Massachusetts?

ANSWER: **Boston**

<HIST, AMER>

1. **This character claims David and Goliath were the first two disciples when asked by his love interest’s father, the town judge. After taking the blame for destroying an anatomy book, this character rekindles his relationship with (\*)** Becky Thatcher. This character lives with his Aunt Polly in St. Petersburg, which allows him to befriend Huckleberry Finn. Mark Twain created, for ten points, what boy who tricks his friends into whitewashing a fence?

ANSWER: **Tom Sawyer** (accept either underlined name)

<LIT, AMER>

1. **To ensure Abraham Lincoln’s re-election, this state was admitted to the Union a week before the election. Bugsy Siegel’s business dealings in this state were discussed at a 1946 Mafia conference in Havana; those dealings included the Flamingo (\*)** Hotel. In 1859, miners in the Virginia Range in what is now this state discovered the Comstock Lode. For ten points, name this western state where, annually, millions of tourists visit Las Vegas.

ANSWER: **Nevada**

<HIST, AMER>

1. **People performing a nasheed, this type of action, are limited to using objects like the daf during it. In a synagogue, the hazzan leads this type of prayer, which was briefly banned after the fall of the Temple. In Exodus after the crossing of the Red Sea, (\*)** Miriam leads the Israelite women in this action with timbrels. Cantors lead, for ten points, what type of religious performances, examples of which include Gregorian chant, hymns, and spirituals?

ANSWER: religious **music** (accept descriptions of **music**al prayers; accept Islamic **music** before “synagogue” is read; prompt on “prayer” before it is read)

<RMPSS, REL>

1. **This leader introduced the Four Pests campaign, which was reformed after the mass killing of sparrows ruined rice production. Backyard steel mills were encouraged by this man’s Great Leap Forward, which caused a famine and millions of deaths. This man, with (\*)** Zhou Enlai, led forces on the Long March after they were encircled by Nationalist forces. *The Little Red Book* is a collection of sayings by, for ten points, what former Chairman of China?

ANSWER: **Mao** Zedong (accept **Mao** Tse-Tung; accept Chairman **Mao**)

<HIST, WORLD>

1. **The region experiences Brewer-Dobson circulation. The sudden warming of this region occurs when the polar vortex reverses. The 1991 eruption of Mt. Pinatubo formed a global sulfur dioxide cloud in this layer, whose temperature actually increases with (\*)** greater altitude. Most commercial aircraft reach cruising speed within, for ten points, which layer of the atmosphere that contains the ozone layer and lies above the troposphere?

ANSWER: **stratosphere** (accept **ozone layer** before “warming” is read; prompt on “atmosphere” before it is read)

<SCI, OTHER>

1. **In a novel by this author, Philippe confesses to a priest that his only crime was being the twin of Louis**

**XIV. In another novel by this author, Baron Danglars, Fernand Mondego, and Merce´de`s are among the targets of a man who escapes the (\*)** Chaˆteau d’If [sha-toh deef] and adopts a fictitious noble title. *The Man in the Iron Mask* is by, for ten points, what French author who wrote about Edmund Dante`s in *The Count of Monte Cristo*?

ANSWER: Alexandre **Dumas**, pere (accept **Dumas** Davy de la Pailleterie)

<LIT, EURO>

1. **The use of ruthenium in the Grubbs’ type of this substance makes it resistant to poisoning, while titanium is needed to polymerize alkenes in the Ziegler-Natta type. The production of sulfuric acid uses vanadium as one of these substances to (\*)** increase the rate of the oxidation step. Enzymes are biological examples of, for ten points, what chemicals that lower activation energy, thereby speeding up a reaction, without being consumed?

ANSWER: **catalyst**s

<SCI, BIO>

1. **A tambourine in this work accompanies woodwinds in the folk song “U Vurot,” or “At the Gate.” Cellos play the hymn “God Save Thy People” at this work’s beginning. Near the end of this piece, the French national anthem “La (\*)** Marseillase” [mar-sigh-ezz] fades out as “God Save the Tsar” begins, punctuated by cannon fire and church bells. For ten points, name this piece that celebrates the defeat of Napoleon by Russian troops, a Pyotr Tchaikovsky overture.

ANSWER: the **1812** Overture (accept The **Year 1812**, Festival Overture in E Flat major, Op. 49)

<FA, AUDIO>

1. **This author asks “Doth God exact day-labour, light denied?” in a poem that ends “They also serve who only stand and wait.” In another work by this author of “When I Consider How my Light is Spent,” a character proclaims “Better to (\*)** reign in Hell, than serve in Heaven” after failing in his rebellion against God. Adam and Eve are banished from Eden in a work by, for ten points, what English author who was blind when he wrote *Paradise Lost*?

ANSWER: John **Milton**

<LIT, BRIT>

1. **The change in this value due to Compton scattering is proportional to one minus the cosine of the scattering angle. Massive particles have a de Broglie [duh BROY] variety of this value equal to Planck’s constant over momentum. For the (\*)** electromagnetic spectrum, the product of this and frequency is equal to the speed of light. For ten points, name this quantity, symbolized lambda, that can be computed as the distance between two peaks of a wave.

ANSWER: **wavelength**

<SCI, PHYS>

1. **James Wilkinson exposed this man’s plan to help Mexico force Spain out of the American southwest. After 35 deadlocked ballots, this man became Vice President after Federalists switched their support to Thomas Jefferson. This man was nearly indicted in New Jersey for (\*)** slaying a political rival in a duel at Weehawken. For ten points, name this American statesman who ruined his political career by killing Alexander Hamilton.

ANSWER: Aaron **Burr** Jr.

<HIST, AMER>

1. **Isaac Brock died while defending this territory at the Battle of Queenston Heights. Article 11 of the Articles of Confederation allowed this territory to bypass normal procedures if it wished to join the US. British troops burned Washington in (\*)** retaliation for an attack on this territory that was meant to limit supplies to the Niagara peninsula. For ten points, name this former territory of British North America, land that became America’s northern neighbor.

ANSWER: **Canada** (accept Upper **Canada**; accept **Ontario**; prompt on British “North America”)

<HIST, AMER>

1. **One of these objects named Themisto was discovered in 1975, but then lost for the next 25 years. The innermost of these objects form the Amalthea group, while the main group contains the most cratered and most volcanically active bodies in the (\*)** Solar System. One of these bodies, which may have a water ocean beneath its icy crust, is called Europa. Galileo discovered the first four of, for ten points, what satellites that orbit the fifth planet from the Sun?

ANSWER: **moons of Jupiter** (accept **Jovian moons**; accept natural **satellites of Jupiter** or **Jovian** natural **satellites** before “satellites” is read; prompt on partial answers)

<SCI, OTHER>

1. **This material covers everything in a portrait of Adele Bloch-Bauer but her face and arms. This material was used in the backgrounds of works by Duccio to imitate Byzantine mosaics. A woman and man are shrouded in this material in Gustav (\*)** Klimt’s *The Kiss*. Ivory and this material are used in chryselephantine sculptures. For ten points, name this precious metal that can best be hammered into a thin decorative “leaf” when its purity is roughly 22 karats.

ANSWER: **gold** leaf (accept **gold** foil)

<FA, OTHER>

1. **This author wrote about Reverend Hooper wearing a mysterious “Black Veil” in a short story, and created a character who dies after giving an Election Day sermon. In a novel by this author, Roger (\*)** Chillingworth changes his name while pursuing his wife, who has been marked with the title shameful symbol. Hester Prynne was created by, for ten points, what author of *Twice-Told Tales* and *The Scarlet Letter*?

ANSWER: Nathaniel **Hawthorne**

<LIT, AMER>

1. **In this city, hundreds of stone lions line a bridge named for Marco Polo, who praised it in his *Travels*. The Summer Palace sits on this city’s Kunming Lake, a three-millennia-old, man-made reservoir created for the Yuan dynasty. A photo taken in this city shows a (\*)** man standing in front of a line of tanks in its Tiananmen Square. The Forbidden City, the former home of the Emperor, is located in, for ten points, what capital of China?

ANSWER: **Beijing** (accept **Peking**)

<HIST, WORLD>

1. **Clementine is saved from these creatures by Lee Everett in a Telltale game. In another game, a “bungee” version of one of these creatures abducts Crazy Dave and attempts to attack the player’s home, only to be stopped by (\*)** peashooters; that game is *Plants vs.* these creatures. A special mode in many *Call of Duty* games pits the player against, for ten points, what reanimated corpses who serve as the main threat of *The Walking Dead*?

ANSWER: **zombie**s (accept The **Walking Dead**; accept **Walkers**; prompt on “undead”; prompt on “dead”)

<TRASH, POP CULT>

1. **The protagonist of this novel steals two silver candlesticks from the hospitable Bishop Myriel. Members of the student organization “Friends of the ABC” in this novel include the leader Enjolras and a child later shot in a riot, named (\*)** Gavroche. The lawyer Marius eventually marries Cosette, the adopted daughter of this novel’s protagonist, a man constantly pursued by the Inspector Javert. For ten points, name this Victor Hugo novel about the convict Jean Valjean.

ANSWER: Les **Miserables** (accept The **Dispossessed**; or The **Miserable Ones**; or The **Poor Ones**; or The

**Wretched Ones**; or The **Pitiable Ones**; prompt on “Les Mis”)

<LIT, EURO>

1. **An enzyme’s turnover number can be calculated as V max over this quantity for the enzyme. Colligative properties are only dependent on this quantity of the solute, and not its identity. This quantity for an acid can be determined via (\*)** titration, and pH is equal to the negative logarithm of this quantity for hydrogen ions in a given solution. For ten points, name this quantity, expressed in units of molarity or parts per million, that indicates how strong a chemical is.

ANSWER: **concentration**

<SCI, CHEM>

1. **In this empire, boys were abducted into the *devshirme* system. After this empire was defeated in one war, the Treaty of Se`vres created borders that were rejected by Mustafa Kemal Ataturk. Mehmed VI was the last Sultan of this country, which joined in the (\*)** Central Powers with Germany, Austria-Hungary, Bulgaria. For ten points, name this “Sick Man of Europe,” an empire that dissolved after World War I, leading to the creation of Turkey.

ANSWER: **Ottoman** Empire (do not accept or prompt on Turkey)

<HIST, EURO>

1. **This conceptual group was supported by Athanasius’s description of homoousios, or a “single essence,” and was opposed by Arianism, which said that Jesus had instead been created by God. Belief in this group is declared in the (\*)** Nicene Creed, which says that there is a shared holiness between the Father, the Son, and the Holy Spirit. For ten points, name this group of three aspects of the Christian God.

ANSWER: Holy **Trinity** (prompt on descriptions that include “Father, Son, and Holy Spirit” or “Holy Ghost;” prompton descriptions like the “unity of God”)

<RMPSS, REL>

1. **This function is multiplied by *i* in DeMoivre’s formula, while its compliment function gives the real component instead. On the unit circle, this function relates the *y*-coordinate of a point; as such, this function of zero equals zero. Cosecant is the (\*)** reciprocal of this function which, in a right triangle, relates the side opposite an angle to the hypotenuse. For ten points, name this trigonometric function, the “SOH” in the “SOH-CAH-TOA” mnemonic.

ANSWER: **sine** function

<SCI, OTHER>

1. **A character in this work is traumatized by the drowning of her son Grisha. Another character in this play is nicknamed the “eternal student” and is loved by Anya. Lopakhin purchases the title (\*)** estate from Madame Ranevskaya in this play, and the servant Firs is left to die in the title location. For ten points, name this Anton Chekov play that ends with the title fruit-producing trees being chopped down.

ANSWER: The **Cherry Orchard** (accept **Vishnevyi sad**)

<LIT, EURO>

1. **This president signed the Wagner Act, guaranteeing workers the right to collective bargaining, and created an organization symbolized by a blue eagle that was eventually ruled unconstitutional. Justice Owen Roberts participated in the (\*)** “switch in time that saved nine,” a move that avoided this man’s court-packing scheme. The National Recovery Administration was created by, for ten points, what President whose New Deal agencies helped end the Great Depression?

ANSWER: **F**ranklin Delano **Roosevelt** (accept **FDR**; prompt on Roosevelt)

<HIST, AMER>

1. **The divergence of one of these entities equals zero according to Gauss’s law. Nikola Tesla used the force of a rotating one of these to construct an AC motor. The strength of one of these regions can be described by its flux density. Moving (\*)** charged particles generate these fields, an external one of which is key to a type of resonance imaging used in medicine. A sprinkling of iron filings can be used to show the lines of, for ten points, what kind of attractive field?

ANSWER: **magnetic field**s (accept **magnet**ic alone after “field” is read)

<SCI, PHYS>

1. **This philosopher used 20 yards of linen and 2 ounces of gold in a comparison between the commodity- form and money-form of value; that work outlines this man’s theory of surplus value as a driving force behind capitalism. An 1848 work primarily written by this man calls for the (\*)** “workers of the world” to “unite!” *Das Kapital* was written by, for ten points, what German philosopher who worked with Friedrich Engels on *The Communist Manifesto*?

ANSWER: Karl **Marx**

<RMPSS, PHIL>

1. **One of these creatures, the son of Iapetus, fetched the apples of the Hesperides and tried to trick Heracles into taking his place. Another of these creatures had his liver eaten by birds every day as punishment for giving (\*)** fire to humans. These old gods, including Atlas and Prometheus, were overthrown and replaced in a namesake war against Zeus. For ten points, name this group of gods who preceded the Olympians.

ANSWER: **Titan**s (prompt on Greek “gods”)

<RMPSS, MYTH>

1. **Benny Goodman paid this composer two thousand dollars for a two-year exclusivity on his Clarinet Concerto. This man included a reading from the Gettysburg Address in the orchestral work *A Lincoln Portrait*. This composer of (\*)** *Fanfare for the Common Man* used the Shaker hymn “Simple Gifts” in a work that was choreographed by Martha Graham. For ten points, name this American composer of music for ballets like *Appalachian Spring*.

ANSWER: Aaron **Copland**

<FA, AUDIO>

1. **In 1840, British colonists under William Hobson forced natives of what is now this country to sign away much of their land. In the 19th century, Hongi Hika used new technology to launch attacks at Lake Rotorua and the Bay of Plenty, starting a decades-long period called the (\*)** Musket Wars. The Treaty of Waitangi was signed by the indigenous Maori people in, for ten points, what Oceanic country east of Australia whose capital is Wellington?

ANSWER: **New Zealand** (accept **Aotearoa**)

<HIST, WORLD>

1. **Archaea turn acetate into methane by this biochemical process, which also regenerates NAD**+ **[”N” “A” “D” plus] for use in glycolysis. This often effervescent process creates a molecule with an ethyl group out of sugars like dextrose and maltose. (\*)** Foods like sauerkraut and sourdough bread are created using this process, which is driven by microorganisms like yeast. For ten points, name this anaerobic process that forms the alcohol in beer and wine.

ANSWER: **fermentation** (accept word forms; prompt on (anaerobic) respiration)

<SCI, BIO>

1. **In this novel, “with sheets” is added to one of the Seven Commandments, which are written on a wall after Jones and his men are defeated at the Battle of the Cowshed. In this novel, Old Major teaches the song “Beasts of England,” Boxer repeats (\*)** “Napoleon is always right,” and Snowball teaches the motto “Four legs good! Two legs bad!” to a group of sheep. A Marxist revolution is led by pigs in, for ten points, what George Orwell novel?

ANSWER: **Animal Farm**

<LIT, BRIT>

1. **Davis’s cyclical theory of this process ends with the peneplain. When the Petermann Range of Australia underwent this process, only Ayers Rock remained. The namesake features of Arches National Park resulted from one form of this process, while a different type (\*)** carves gullies into hillsides. The weathering of rocks begins, for ten points, what process by which wind and water remove surface material, leaving features like the Grand Canyon behind?

ANSWER: **erosion** (accept any additional information)

<SCI, OTHER>

1. **This concept is rendered impossible by Laplace’s demon, a thought experiment involving total knowledge of the universe. Schopenhauer argued that this concept was an illusion, in part because the body’s reactions to stimuli are automatic. An opposite of this concept, (\*)** determinism, usually holds that there is a single, unavoidable course of events. For ten points, name this philosophical concept that holds people can make choices about their future actions.

ANSWER: **free will** (accept **freedom**; accept word forms, such as **freedom of the will**; accept **choice** before “choices” is read)

<RMPSS, PHIL>

1. **This man wrote a novel in which a practitioner of Bokononism, Papa Monzano, commits suicide with ice- nine. This author of *Cat’s Cradle* created a narrator who comments “so it goes” when anyone dies. A man is kidnapped by (\*)** plunger-shaped aliens, the Tralfamadorians, in a novel by this author that depicts the firebombing of Dresden. For ten points, name this American author who wrote about Billy Pilgrim in *Slaughterhouse-Five*.

ANSWER: Kurt **Vonnegut** Jr.

<LIT, AMER>

1. **During this battle, Vasily Zaytsef killed over 200 people; he was honored by being buried on Mamayev Hill. The high amount of suburban fighting in this battle led one side to call it a “Rat War.” For two months of this battle, soldiers defended Pavlov’s House against (\*)** Friedrich Paulus’s Sixth Army, who eventually surrendered to Georgy Zhukov. For ten points, name this lengthy World War II siege of a Russian city named for the Soviet premier.

ANSWER: Battle of **Stalingrad** (accept Siege of **Stalingrad**)

<HIST, EURO>

1. **The Tsiolkovsky equation for these devices relates change in velocity to initial and final mass. Robert Goddard realized the third law of motion would allow these devices to operate in a (\*)** vacuum. Wernher von Braun studied these devices, whose efficiency depends on the number of stages and shape of the exhaust nozzle. Solid or liquid propellants power, for ten points, what projectiles that include the German V-2 and NASA’s Saturn V [five]?

ANSWER: **rocket**s

<SCI, PHYS>

1. **In this novel, David Gamut attempts to teach some beavers to sing and, while traveling from Fort Edward to Fort William Henry, Cora and Alice Munro are kidnapped by Magua. This novel follows *The* (\*)** *Deerslayer* in *The Leatherstocking Tales* series, which features Natty Bumppo. For ten points, name this novel by James Fenimore Cooper whose title character Uncas dies, ending a Native American tribe.

ANSWER: The **Last of the Mohicans**

<LIT, AMER>

1. **This religious objective is described as a magic city containing a great treasure by the Lotus Sutra. In Jainism, the arihat achieves this goal as they die, releasing four concepts that bind them to Earth. The (\*)** Eightfold Path is a guide for realizing this state which frees a person from dukkha and samsara. For ten points, name this goal of Theravada Buddhism, a state of enlightenment which ends the karmic cycle of reincarnation.

ANSWER: **Nirvana** (accept **enlightenment** before it is read)

<RMPSS, REL>

1. **This is the number of Franz Schubert’s “Great C Major” symphony. A Friedrich Schiller poem is set to music in the final movement of a piece of this number that was one of the first choral (\*)** symphonies; that poem is “Ode to Joy.” In four-four time, two whole notes and a quarter note tied together will last this many beats. For ten points, give this number of Beethoven’s final symphony and the number of performers in a nonet.

ANSWER: **9** (accept Schubert’s **Ninth** Symphony; accept Beethoven’s **Ninth** Symphony)

<FA, AUDIO>

1. **John Crerar founded a library in this city, whose urban planning was done by Daniel Burnham. August Spies was executed in this city for his supposed role in the Haymarket Square bombing. In this city, H.H. Holmes operated a “murder castle” at a hotel built for the 1893 (\*)** Columbian Exposition; that event also featured the first Ferris Wheel. In 1871, Mrs O’Leary’s cow legendarily started a “Great” fire in, for ten points, what largest city of Illinois?

ANSWER: **Chicago**

<HIST, AMER>

1. **An example of this phenomenon involving flagellate protists allows termites to digest wood. Mycorrhizae are an example of this association in plants. The exchange of water and nutrients between fungi and algae in lichens represents this (\*)** relationship, as does the two-way protection of anemones and clownfish. A flower and the bee that pollinates it show, for ten points, what kind of symbiotic relationship in which both species benefit?

ANSWER: **mutualism** (accept **symbiosis** or **symbiotic** before “symbiotic” is read; accept word forms)

<SCI, BIO>

1. **In this poem, a character’s violent nature is revealed after he “gave commands” and “all smiles stopped together.” The speaker of this poem laments that its subject did not appreciate his “nine-hundred years old name.” This poem’s title (\*)** noblewoman is described as having a “heart too soon made glad,” which enrages her husband. For ten points, name this poem about the recently deceased bride of the Duke of Ferrara, written by Robert Browning.

ANSWER: **My Last Duchess**

<LIT, BRIT>

1. **This team’s second Super Bowl victory was a 33-14 rout of the Oakland Raiders, a game that was preceded by a 4-point win over the Dallas Cowboys in the “Ice Bowl.” Bart Starr posted a losing record as this team’s head coach after quarterbacking it to wins in Super Bowls (\*)** I and II, while they were coached by a man now honored as the namesake of the Super Bowl trophy. Vince Lombardi coached, for ten points, what NFL team founded by Curly Lambeau in Wisconsin?

ANSWER: **Green Bay Packers** (accept either or both names)

<TRASH, SPORTS>

1. **During this event, over five thousand people were killed in a church in Ntarama [tah-rah-mah]. This event began almost immediately after Juvenal Habyarimana’s plane was shot down over Kigali in spite of a ceasefire in its country’s civil war. Members of the majority Hutu ethnic group imported (\*)** machetes to carry out this crime, in which hundreds of thousands of Tutsi people were killed. For ten points, name this 1994 genocide in a central African nation.

ANSWER: **Rwanda**n **genocide** (accept **genocide of the Tutsi** people before “Tutsi” is said; accept **Rwanda**n alone after “genocide” is said; prompt on Rwandan Civil War until “Juvenal” is read)

<HIST, WORLD>

1. **This quantity is measured by a coefficient, named for Karl Pearson, whose formula divides the covariance by the product of standard deviations. That coefficient can range from negative 1 to 1; when the coefficient is zero, this concept does not exist and the variables may be (\*)** independent. For ten points, give this statistical term for a relationship between two variables that is often mistakenly used to show a cause-and-effect relationship.

ANSWER: **correlation** (accept Pearson **correlation** coefficient; prompt on “r”)

<SCI, OTHER>

1. **In this painting, a short-handled broom hangs near a convex mirror that displays the stations of the cross, above which is the artist’s signature on a wall. An orange sits on a windowsill in the left side of this painting, and a pair of wooden (\*)** shoes and a small dog are at the feet of a dark-clothed man and a woman in a long, green dress. For ten points, name this painting of an Italian merchant and his new bride, created by Jan Van Eyck.

ANSWER: The **Arnolfini Wedding** (accept The **Arnolfini Portrait**; accept Giovanni **Arnolfini and his Bride**; accept any description including the name **Arnolfini** and marriage)

<FA, VISUAL>

1. **This figure tied stones to his feet to recover a plant at the bottom of the sea which, according to Utnapishtim, would make him young again. Humbaba, the guardian of the Cedar Forest, was defeated by this hero and his friend (\*)** Enkidu. After this hero rejected her advances, Ishtar sent the Bull of Heaven to kill this King of Uruk. For ten points, name this Babylonian demigod, the subject of a namesake epic.

ANSWER: **Gilgamesh** (accept **Bilgamesh**)

<LIT, OTHER>

1. **In this city, Danforth and Bloor Streets are connected by the Prince Edward Viaduct. This city’s City Hall overlooks Nathan Phillips Square, its country’s largest city square. In 2009, this city’s CN Tower lost its title as tallest tower in the world. This city, often nicknamed “the (\*)** Six,” lies on the northwest shore of a Great Lake named for its Canadian province. For ten points, name this most populous city in Ontario and all of Canada.

ANSWER: **Toronto**

<GEO, GEO>

1. **The spin form of this phenomenon causes proton NMR spectra to show spacings between peak lines. Molecules with a specific kind of this relationship are labeled R- or S-. The position of groups with respect to a double bond can be labeled *cis* or (\*)** *trans* in the stereo type of this property. N-butane and isobutane are examples of, for ten points, what property of compounds with the same molecular formula but different structures?

ANSWER: **isomer**s (accept word forms such as **isomerism**)

<SCI, CHEM>

1. **In this work, the daughter of a pope lost “one buttock” to Russian soldiers. This work ends with the protagonist insisting that “we must cultivate our garden,” a rejection of Leibniz’s philosophy, and begins with the protagonist’s expulsion from Westphalia for kissing the hand of (\*)** Cune´gonde. For ten points, name this French satire in which the optimist philosopher Pangloss insists we live in the “best of all possible worlds,” written by Voltaire.

ANSWER: **Candide**, ou l’Optimisme (accept **Candide**, or the Optimist; accept **Candide**, or Optimism)

<LIT, EURO>

1. **This general’s troops drove off invading forces during the Seven Days Battles, which ended the Peninsular campaign. For failing to pursue this man, George McClellan lost command of the Army of the Potomac in favor of Ambrose Burnside. Despite Jefferson (\*)** Davis’s opposition, this man was named General- in-chief of the Confederate Army in early 1865 . For ten points, name this Virginian general who surrendered at Appomattox Courthouse to Ulysses S. Grant, ending the Civil War.

ANSWER: Robert Edward **Lee**

<HIST, AMER>

1. **This man relieved Douglas MacArthur for publicly commenting on Presidential policy. During this president’s first term, his Secretary of State, George Marshall, created a plan to rebuild Europe. The US armed forces were racially integrated by this President, who attended the (\*)** Potsdam Conference months after the death of his predecessor. For ten points, name this US President who authorized the use of nuclear weapons at the end of World War II after the death of Franklin Roosevelt.

ANSWER: Harry S. **Truman**

<HIST, AMER>

1. **Two of these objects are produced by the Traveller to prove his adventures to dinner guests in the H.G. Wells novel *The Time Machine*. The reader is called a “hypocrite” in a Baudelaire collection titled for “these objects” of (\*)** evil. In a sonnet, Elizabeth Browning wrote that her beloved plucked many of these plants from the garden to bring to her. For ten points, name this colorful part of a plant that names John Steinbeck’s *The Chrysanthemums*.

ANSWER: **flower**s

<LIT, OTHER>

1. **An analog of this statement, the Poiseuille [pwah-SYE-uh] equation, models the flow of blood through the circulatory system. A phasor diagram can help apply this statement to cases where impedance is present. This statement predicts a linear relationship between (\*)** *I* and *V*, while the reciprocal of each resistor’s value must be summed to apply this law to parallel circuits. For ten points, name this law stating voltage equals current times resistance.

ANSWER: **Ohm**’s law

<SCI, PHYS>

1. **This musician was inspired by the works of Joaquin Rodrigo and Manuel de Falla for his *Sketches of Spain*. “Boplicity” and “Darn that Dream” appear on an album by this musician, who led a sextet that included Bill Evans and John (\*)** Coltrane and recorded modal jazz songs like “Freddie Freeloader” and “So What.” For ten points, name this jazz trumpeter of the albums *The Birth of the Cool* and *Kind of Blue*.

ANSWER: Miles (Dewey) **Davis** III

<FA, AUDIO>

1. **This empire built the Qhapaq Nan road system, on which runners would pass messages via quipu [kee-poo], a series of knotted strings. The Kingdom of Cusco was a predecessor state to this empire. A civil war between Huascar and his half-brother, (\*)** Atahualpa, weakened this empire, allowing Spanish conquistadors to conquer it. Machu Picchu was part of, for ten points, what empire that was conquered by Francisco Pizarro in modern Peru?

ANSWER: **Inca**n Empire

<HIST, WORLD>

1. **A poem by this author takes place “by the shores of Gitchee Goomie” and describes the title character’s marriage to Minnehaha. This author created a character whose “cry of alarm” reached “every Middlesex village and farm.” In a poem by this author, a man is told to hang (\*)** lanterns, “one if by land, and two if by sea,” to warn of British troops. For ten points, name this poet of “The Song of Hiawatha” and “Paul Revere’s Ride.”

ANSWER: Henry Wadsworth **Longfellow**

<LIT, AMER>

1. **In three dimensions, this concept is maximized in the isoperimetric problem of minimum surface area. When differentiated with respect to the radius, this quantity’s formula becomes 4 pi r squared, which not-coincidentally gives the (\*)** surface area of the object. For ten points, name this mathematical quantity, calculated by the formula four-thirds times pi times the radius cubed, that can be imagined as the amount of air in a perfectly round balloon.

ANSWER: **volume of a sphere** (accept **volume of a** 3-**ball**; prompt on “volume”; prompt on “size of a sphere” or similar descriptions)

<SCI, OTHER>

1. **This concept is defined in Spinoza’s *Ethics* as a “hindrance [...] in the attainment” of useful things. Hannah Arendt wrote a book about the banality of this concept, studying Adolf Eichmann’s trial for war crimes. Gottfried Leibniz coined the term “theodicy” for the attempt to explain this concept in a (\*)** world ruled by an all-powerful God. For ten points, name this philosophical concept, often defined as the absence of good.

ANSWER: **evil**

<RMPSS, PHIL>

1. **This event will begin after a fire in Yemen lures citizens into the land of Mahshar. The rise of Gog and Magog may precede this event. The Great Tribulation will signal this event, which will begin with the breaking of seven seals or the coming of the (\*)** Messiah. Believers may be raptured in, for ten points, what cataclysmic future event that, according to the Book of Revelation, is heralded by the arrival of four horsemen?

ANSWER: **End** of the World (accept **end** times; accept **Yawm al-Qiyamah** or **Yawm ad-Din**; accept **apocalypse**)

<RMPSS, REL>

1. **By 1852, this state’s New Helvetia settlement was abandoned by all its workers after an event that inspired this state’s motto, “Eureka.” Samuel Brannan created a short-lived real estate and business empire in this state shortly after James Marshall made a (\*)** discovery in the American River at Sutter’s Mill. For ten points, name this western US state where a gold rush drew hundreds of thousands of “forty-niners” to cities like San Francisco.

ANSWER: **California** (accept elaborations relating to the **California** Gold Rush)

<HIST, AMER>

1. **The enzyme dismutase removes this type of radical oxide from cells. Liquid helium will empty itself from a cup when it is this kind of fluid. Because it registers below zero on the pH scale, fluoro-antimonic acid is this type of acid. A solution that contains (\*)** more dissolved particles than should be possible at a given temperature has this kind of saturation. For ten points, give this prefix that also describes the script used to write charges above a chemical symbol.

ANSWER: **super** (accept **superoxide**, **superfluid**, **superacid**, **supersaturated**, and **superscript** after their terms are said)

<SCI, BIO>

1. **Off the southwest coast of this island, the Great Skelling island is home to an abandoned monastery. Port cities on this island include Kinsale and Galway, while Drogheda lies on the River Boyne five miles inland from a sea named for this island. (\*)** Hibernia was the Latin name for this island, where a political division created a Northern country with capital Belfast. For ten points, name this “Emerald Isle” that is home to Dublin, east of Great Britain.

ANSWER: **Ireland** (accept Northern Ireland *only after* “Northern” is read)

<GEO, GEO>

1. **In a play by Tirso de Molina, this character is killed by a ghostly “Stone Guest.” John Tanner is cast as this character “in Hell” in Act III of George Bernard Shaw’s play *Man and Superman*. In an epic satire written in ottava rima, this character flirts with Catherine the Great after fleeing (\*)** Spain for being discovered in Donna Julia’s bed. For ten points, name this legendary Spanish womanizer, the subject of a satire by Lord Byron.

ANSWER: **Don Juan** [JOO-on]

<LIT, BRIT>

1. **This species was infected with T2 phage DNA in the Hershey-Chase experiment. The *lac* [lack] and *trp* [trip] operons were first discovered in this species, which generates vitamin K for its hosts. Undercooked beef may be (\*)** contaminated with this prokaryote that can divide every 20 minutes in a Petri dish. For ten points, name this Gram-negative, rod-shaped species that is normally found in the human large intestine, the most important bacterial model organism.

ANSWER: **E**scherichia **coli**

<SCI, BIO>

1. **This god and Zephyrus both fell in love with a youth who died in a discus-throwing accident. This accidental murderer of Hyacinth served as a shepherd for King Admetus after he intentionally murdered the Cyclopes as revenge for the death of his son (\*)** Asclepius. This god pursued the nymph Daphne, and received his lyre from Hermes. For ten points, name this Greek god of light and music, the twin brother of Artemis.

ANSWER: **Apollo** (accept **Apollon**; or Phoebus **Apollo**)

<RMPSS, MYTH>

1. **This man created a 202-foot-tall memorial near Pudding Lane to commemorate a disaster that led this man to rebuild fifty-one churches. This man designed the Sheldonian Theater and the Royal Observatory in (\*)** Greenwich, and this architect created a whispering gallery in the dome of a building designed to emulate a Greek cross, which sits on Ludgate Hill. For ten points, name this English architect who, after the Great fire of 1666, designed St Paul’s Cathedral in London.

ANSWER: Sir Christopher **Wren**

<FA, OTHER>

1. **The 11th ruler of this name cried “the city is fallen and I am still alive” before leading a suicidal charge during the fall of his capital. Another ruler of this name fought Maxentius after seeing a cross in the sky, winning the Battle of Milvian Bridge. The first ruler of this name issued the Edict of (\*)** Milan, recognizing Christianity. For ten points, give this name of a “Great” Roman Emperor who moved to Byzantium and renamed the city after himself.

ANSWER: **Constantine** (accept **Constantine** XI Palaiologos; accept **Constantine** I or **Constantine** the Great; prompt on “Constantinople” after “renamed the city” is read)

<HIST, OTHER>

1. **This constellation includes the star most likely to produce the next daytime visible supernova. With Gemini and Auriga, this constellation lies entirely within the Winter Circle. This constellation, which is notably never seen in the sky at the same time as Scorpius, includes a (\*)** shield west of its third-brightest star, Bellatrix. The supergiants Rigel and Betelgeuse are found in, for ten points, what constellation whose three central stars make up the hunter’s belt?

ANSWER: **Orion** (accept **Orion**’s Belt after “belt” is read)

<SCI, OTHER>

1. **This creature is told “Still, thou art blest, compared wi’ me!” because it cannot lament the past or fear the future. The speaker of a 1785 poem calls this “fellow-mortal” creature a “wee, sleeket, cowran, tim’rous beastie,” and uses the phrase (\*)** “gang aft agley,” which is often translated from Scottish as “often goes awry.” For ten points, name this rodent subject of a Robert Burns poem that remarks on “the best laid plans o’” these creatures “an’ men.”

ANSWER: **mouse** (accept **mice**; accept **To a Mouse**)

<LIT, BRIT>

Bonuses:

1. During this war, the submarine *H.L. Hunley* sank twice during testing and once more in a real attack. For ten points each, Name this war in which the *Monitor* and *Merrimack*, two ironclads, clashed at Hampton Roads.

ANSWER: American **Civil** War

In an attempt to end the Civil War, Winfield Scott developed this plan to economically “strangle” the South. This plan, commonly depicted in newspapers as a snake, was a massive blockade of every Southern port.

ANSWER: **Anaconda** Plan

A key aspect of the Anaconda Plan was to take complete control of the Mississippi River by seizing this city. David Farragut captured this city without a fight; as a result, historic buildings in its French Quarter survived the war.

ANSWER: **New Orleans**

<HIST, AMER>

1. Identify these common subjects of ancient Greek and Roman sculptures, for ten points each.

An armless sculpture of this figure “of Milos” and a Praxiteles [prak-SIH-tah-leez] statue of this figure “of Knidos” [NYE-dohs] both depict this Greco-Roman love goddess.

ANSWER: **Aphrodite** (accept **Venus**)

Praxiteles is also thought to be the creator of a marble sculpture of this Greek god *and the Infant Dionysus*. In other classical sculptures, this god wears a round-topped, winged cap.

ANSWER: **Hermes** (accept **Mercury**)

Gods were not the only common subject of classical sculpture; a highly-regarded sculpture by the Greek artist Myron shows a nude athlete bending at an odd angle to perform this title action.

ANSWER: throwing a **discus** (accept **discus thrower** or **discobolus**)

<FA, VISUAL>

1. For ten points each, give the following about the year 1905 in physics.

In 1905, the special form of this theory was published, dealing with time dilation and arguing that the speed of light is constant for all observers. Ten years later, the general form of this theory, which concerns the curvature of spacetime around mass, was announced.

ANSWER: **relativity** (accept special **relativity**; accept general **relativity**)

Both the special and general theories of relativity were developed by this physicist, whose multiple breakthroughs in 1905 led to that year being called his Annus Mirabilis.

ANSWER: Albert **Einstein**

Albert Einstein’s 1921 Nobel Prize cited his 1905 explanation of the effect in which shining light on metals causes them to emit these subatomic particles.

ANSWER: **electron**s

<SCI, PHYS>

1. Karel Cˇ apec’s [cha-pek’s] play *R.U.R.* describes a rebellion of “Rossum’s Universal” ones of these machines. For ten points each,

Name these autonomous, humanoid machines from science fiction, which are governed by “Three Laws” that dictate that these things cannot injure a human or allow a human to come to harm.

ANSWER: **robot**s (do not accept “android”)

This author’s Three Laws of Robotics appear in his short story collection *I, Robot*. This prolific author also wrote the *Foundation* series.

ANSWER: Isaac **Asimov** (accept Isaak Yudovich **Ozimov**)

This robot from *The Hitchhiker’s Guide to the Galaxy* does not follow Asimov’s Three Laws very well, possibly because of his extreme depression, which causes a bridge on Squornshellous Zeta to destroy itself and take an entire crowd of people with it.

ANSWER: **Marvin** the Paranoid Android (accept **Marvin** the Paranoid Robot)

<LIT, EURO>

1. For ten points each, give the following about the geographic history of Sri Lanka.

Centuries ago, Adam’s Bridge was a land connection linking Sri Lanka to this subcontinent, now the second-most populous country in the world.

ANSWER: **India**n subcontinent (accept Republic of **India**)

When Adam’s Bridge was entirely above water, it served as this type of narrow land connection between two larger landmasses. Panama is a prominent example of this type of landform.

ANSWER: **isthmus**

Now that Adam’s Bridge is mostly submerged, one of these narrow strips of water separates Sri Lanka and India. ANSWER: **strait** (accept Palk **Strait**)

<GEO, GEO>

1. The distinctive pyramidal peak of the Matterhorn resulted from many of these objects moving simultaneously. For ten points each,

Name these heavy, slow-moving masses that can carve sharp ridges called cirques into mountains. Some, but not all, of these masses disappeared at the end of the last ice age.

ANSWER: **glacier**s

Besides the Matterhorn, evidence for the last ice age includes these low, egg-shaped hills found across Iceland, Ireland, and upstate New York.

ANSWER: **drumlin**s

Glaciers can cut these narrow inlets with steep cliffs, common on the coasts of Norway. ANSWER: **fjord**s [fyords]

<SCI, OTHER>

1. The Pali Canon collects the teachings and sayings of this man, who developed the philosophy of the “Middle Way.” For ten points each,

Name this man, who founded a namesake Indian religion and achieved enlightenment under the Bodhi tree. ANSWER: **Gautama Buddha** (accept either name; accept either name of **Siddhartha Gautama**)

The Pali Canon are the core texts of this branch of Buddhism, which is derogatorily called the “lesser vehicle,” and is contrasted with Mahayana, the “greater vehicle.”

ANSWER: **Theravada** Buddhism

Some passages of the Pali Canon are memorized and recited as a form of this spiritual practice, which is often done to promote relaxation. The Buddha achieved enlightenment by doing this under the Bodhi tree.

ANSWER: **meditation** (accept word forms)

<RMPSS, REL>

1. This symbol appears with pi in the exponent of the *e* in Euler’s [oy-ler’s] formula. For ten points each,

Name this letter that symbolizes the basic unit of imaginary numbers, the square root of negative 1 . ANSWER: **i**

The imaginary numbers combine with the real numbers to form this class of numbers, usually written in *a* + *bi* [”a” plus “b” “i”] form.

ANSWER: **complex** numbers

If both *a* and *b* in a complex number are integers, the number belongs to a class named for this German mathematician who proved the fundamental theorem of algebra in 1799 .

ANSWER: Carl Friedrich **Gauss** (accept **Gauss**ian integers)

<SCI, OTHER>

1. Disney is planning to remake seemingly all of their animated films in live-action form. For ten points each,

Disney controversially struggled to find Middle Eastern or Indian actors for this film’s lead roles, and critics are doubting whether Will Smith can live up to Robin Williams’ original 1992 performance as the Genie.

ANSWER: **Aladdin**

Donald Glover and James Earl Jones will play a father and son pair in this remake, slated for 2019 . Beyonce is in talks to join this film, both in the cast as Nala and on the soundtrack.

ANSWER: The **Lion King**

Disney is also planning a sequel to this 2014 film, whose title character is played by Angelina Jolie in her biggest-selling film ever.

ANSWER: **Maleficent**

<TRASH, POP CULT>

1. In the late 17th century, this ruler went on a Grand Embassy of Europe, exploring methods to Westernize his country. For ten points each,

Name this “Great” member of the Romanov dynasty. ANSWER: **Peter** the Great (accept **Peter** I)

Peter ruled as Tsar of this country, which he led into the Great Northern War with Sweden. ANSWER: **Russia**

Among Peter’s methods of Westernizing his people was placing a tax on this fashion choice. The tax was unpopular, as many men felt that this fashion choice was a religious duty.

ANSWER: wearing a **beard** (accept wearing any specific type of **facial hair**; accept going **unshaven** or similar descriptions; do not prompt on “not cutting hair”)

<HIST, EURO>

1. This man is rumored to have stabbed his father with a pair of scissors. For ten points each,

Name this character who hides trinkets in a tree outside his house and who carries Jem home after he is attacked. ANSWER: **Arthur** “**Boo**” Radley (accept either first name; prompt on “Radley”)

Boo Radley appears in this author’s novel *To Kill a Mockingbird*. *Go Set a Watchman* is this author’s only other published novel.

ANSWER: (Nelle) Harper **Lee**

This daughter of Atticus is the narrator of *To Kill a Mockingbird* and the protagonist of *Go Set a Watchman*. This character maintains her tomboy nature despite Aunt Alexandra’s efforts.

ANSWER: **Jean Louise “Scout”** Finch (accept either; prompt on “Finch”)

<LIT, AMER>

1. The oldest of the legendary “Big Five” symphony orchestras in the US is this city’s Philharmonic, which was founded in 1842 . For ten points each,

Name this city. From 1937 to 1954, Arturo Toscanini conducted the NBC Symphony Orchestra, which played radio concerts recorded in this city’s Radio City Studios at 30 Rockefeller Plaza.

ANSWER: **New York** City (accept **NY**C)

After NBC converted the orchestra’s primary recording studio into a TV studio, the orchestra moved their concerts to this famed New York concert venue, named for the steel tycoon and philanthropist who funded it.

ANSWER: **Carnegie Hall**

The NBC Symphony Orchestra disbanded in 1954 when Toscanini retired, but many of its members came together as the “Symphony of the Air,” conducted by this composer of *West Side Story*. This man also led the New York Philharmonic for over a decade.

ANSWER: Leonard **Bernstein**

<FA, OTHER>

1. For ten points each, give the following about common lab techniques.

To correctly identify metals in a flame test, you can heat a sample with one of these devices, named for a German chemist, that uses a valve to adjust the gas-air mixture for a hotter flame.

ANSWER: **Bunsen burner** (prompt on partial answer)

Solutions are often prepared in one of these glass containers with a narrow neck and wide bottom. These containers come in volumetric and Erlenmeyer types.

ANSWER: (volumetric and/or Erlenmeyer) **flask**s

These long, calibrated glass tubes have a stopcock valve at the bottom to dispense liquids one drop at a time. They’re commonly used in acid-base titrations.

ANSWER: **burette**

<SCI, CHEM>

1. The protagonist of this work is described as a “prince of yesterday” and a “fools’ pope.” For ten points each, Name this Victor Hugo novel about Quasimodo, the title deformed bell-ringer of a Paris cathedral.

ANSWER: **Hunchback of Notre Dame** (accept **Notre-Dame de Paris**)

Quasimodo falls deeply in love with this young girl who was switched with him at birth by the Romani. This woman is arrested for witchcraft while performing with her goat, Djali.

ANSWER: La **Esmeralda** (accept **Agne`s**)

Esmeralda is considered a demoness by this Archdeacon of Notre Dame. This character adopts Quasimodo and orders him to kidnap Esmeralda.

ANSWER: Claude **Frollo**

<LIT, EURO>

1. This goddess neglected to ask the mistletoe plant not to harm her son, which ultimately led to his death. For ten points each,

Name this Norse goddess, the wife of Odin, whose blind son Hodr was tricked into killing her other son with a spear of mistletoe.

ANSWER: **Frigg**a (do not accept Freyja)

Frigg made everything in the world except mistletoe promise not to harm this god after he had prophetic dreams of his own death. This son of Frigg was killed by his brother, Hodr.

ANSWER: **Baldr**

Hodr was convinced to throw the mistletoe at Baldr by this Norse trickster god. ANSWER: **Loki**

<RMPSS, MYTH>

1. This company was sued by the US government for illegally competing with Netscape by bundling Internet Explorer with its operating system. For ten points each,

Name this tech company whose founder, Bill Gates, gave controversially evasive testimony in that trial. ANSWER: **Microsoft** Corporation

The Microsoft lawsuit claimed it abused this economic status of being the only seller in its market and destroying competition.

ANSWER: **monopoly** (accept word forms)

The US government’s lawsuit cited this 1890 law against anti-competitive practices. As with other cases involving this law, the suit initially sought the breakup of Microsoft into separate companies.

ANSWER: **Sherman Antitrust** Act (accept “Bill” or “Law” in place of “Act”)

<HIST, AMER>

1. The renin-angiotensin axis controls blood pressure as one of many hormone pathways in this body system. For ten points each,

Name this body system that relies on the circulatory system to transport the hormones secreted by glands like the pituitary, pancreas, and thyroid.

ANSWER: **endocrine** system

Negative feedback loops are key to this property of the endocrine system in which factors like body temperature, glucose level, and blood pressure are maintained at stable values.

ANSWER: **homeostasis**

Homeostatic regulation of this process is controlled by melatonin produced by the pineal gland, setting circadian rhythms. This process goes through REM and non-REM phases over the course of, optimally, eight hours per night.

ANSWER: **sleep** cycle

<SCI, BIO>

1. This man’s poetry features recurring monsters like the Jubjub bird and the “frumious” Bandersnatch. For ten points each,

Name this English author of *Alice’s Adventures in Wonderland*, whose poem “Jabberwocky” includes a warning about the Jubjub bird and the Bandersnatch.

ANSWER: Lewis **Carroll** (accept Charles Lutwidge **Dodgson**)

Alice uses a reflection to read the poem “Jabberwocky” in this sequel to *Alice’s Adventures in Wonderland*. ANSWER: **Through the Looking-Glass** and What Alice Found There

In another Carroll poem, the Jubjub bird and the Bandersnatch terrorize the Butcher and Beaver, who become friends while hunting for this elusive animal. The Baker disappears when this animal turns out to be a Boojum.

ANSWER: the **Snark**

<LIT, BRIT>

1. A splinter faction of this civilization sacked Baghdad in 1258 . For ten points each,

Name these Asian people, known for their mounted archers. These people established the Golden Horde in the 13th century.

ANSWER: **Mongol**s (accept **Ilkhanate**; accept **Mongol** Empire; accept **Mongol**ians)

The Mongol Empire was founded by this man. After the death of this khan, his son Ogedei succeeded him and pressed onward into Europe.

ANSWER: **Genghis** Khan (accept **Temujin**)

The greatest of Genghis’ grandchildren was this leader of the Yuan dynasty. This man, who was visited by Marco Polo, ordered multiple failed invasions of Japan.

ANSWER: **Kublai** Khan

<HIST, WORLD>

1. Phase diagrams predict this state of matter should exist at low temperatures and high pressures. For ten points each,

Name this state of matter that has definite shape and volume. Matter in this state may be amorphous, but often has a crystalline structure.

ANSWER: **solid**

At low pressure, phase diagrams show that solids can transition directly into gases by this phase change. Dry ice becomes carbon dioxide gas by this phase change.

ANSWER: **sublimation** (accept word forms like **subliming**)

The boundary between liquid and gas states on a phase diagram ends at this point. Carbon dioxide above this point can be used to decaffeinate coffee.

ANSWER: **critical** point

<SCI, CHEM>

1. This musical work is accompanied by sonnets written by its composer, who spent much of his life working in a Venetian orphanage and music school. For ten points each,

Name this four-piece collection that opens with “La primavera” and ends with “L’inverno.” ANSWER: The **Four Seasons** (accept Le **Quattro Stagioni**)

*The Four Seasons* was composed by this Italian composer. ANSWER: Antonio **Vivaldi**

*The Four Seasons* are, like hundreds of Vivaldi’s works, concertos written for this instrument. A traditional string quartet features a pair of these instruments.

ANSWER: **violin**

<FA, AUDIO>

1. This publication predicted the death of Titan Leeds in 1732 . Leeds wasn’t dead in 1733, but this publication printed an obituary anyway; when Leeds protested, this publication suspected an imposter. For ten points each,

Name this annual publication, filled with astronomical information, poems, proverbs, and a calendar, that was extremely popular in the American colonies.

ANSWER: **Poor Richard’s Almanac**

Poor Richard’s Almanac was written under the name “Richard Saunders” by this inventor and founding father. ANSWER: Benjamin **Franklin**

In his almanac, Benjamin Franklin claimed that these astronomical events “do not signifie much” and mocked those who believe they do. Nat Turner took one of these events as a signal to begin his revolt.

ANSWER: (solar and/or lunar) **eclipse**s

<HIST, AMER>

1. This president is addressed in poems that say “our fearful trip is done” and describe “the debris and debris of all the slain soldiers” of the Civil War. For ten points each,

Name this American president, whose death was memorialized in the poems “O Captain! My Captain” and “When Lilacs Last in the Dooryard Bloom’d.”

ANSWER: Abraham “Abe” **Lincoln**

“O Captain! My Captain” and “When Lilacs Last in the Dooryard Bloom’d” are by this American author, whose poems, like “Crossing Brooklyn Ferry” and “Song of Myself,” were collected in *Leaves of Grass*.

ANSWER: Walt(er) **Whitman**

This Beat poet called Walt Whitman a “childless, lonely old grubber, poking among the meats in the refrigerator” in his poem “A Supermarket in California,” and wrote “I saw the best minds of my generation destroyed by madness” in “Howl.”

ANSWER: (Irwin) Allen **Ginsberg**

<LIT, AMER>

1. When the mythical Greek King Oeneus snubbed this goddess, she released a vicious boar on his city-state of Calydon. For ten points each,

Name this Greek goddess of the hunt, whose actions led to the Calydonian Boar Hunt. ANSWER: **Artemis**

This hero was one of the many who joined the Calydonian Boar Hunt. In other adventures, this hero slew the Minotaur with Ariadne’s help.

ANSWER: **Theseus**

This legendary huntress and devotee of Artemis landed the first wound on the Calydonian Boar. This woman was later tricked into marrying Hippomenes when he beat her in a foot race.

ANSWER: **Atalanta**

<RMPSS, MYTH>

1. Chthonians and Hot Jupiters are two types of these objects discovered by the Kepler space telescope. For ten points each,

Name this term for large bodies found orbiting a star outside of Earth’s solar system. Named examples of these include Draugr, Arion, and Hypatia.

ANSWER: **exoplanet**s (accept **extrasolar planet**s)

About 20 percent of Sun-sized stars have an orbiting exoplanet within this zone, where temperature and radiation levels are thought to be “just right” for supporting life.

ANSWER: **Goldilocks** zone (accept circumstellar **habitable** zone)

Despite the discovery of many exoplanets in the Goldilocks zone, there is no evidence yet that any contain this resource, critical for life, in a liquid state.

ANSWER: **water** (accept **H**2**O**)

<SCI, OTHER>

1. This man’s brother, Hasdrubal, was killed at the Battle of the Metaurus, after which his head was cut off and thrown into this man’s camp. For ten points each,

Name this Carthaginian general who invaded Italy over the Alps to attack Rome. ANSWER: **Hannibal** Barca

Hannibal’s crossing of the Alps was particularly hard on these animals, most of which died on the journey. Reinforcements brought Hannibal more of these massive war animals, which were scared by Roman trumpets at the Battle of Zama.

ANSWER: **elephant**s

Hannibal fought during the second of these wars between Rome and Carthage. A popular legend holds that, after the third of these wars, the Romans salted the earth to prevent Carthage from rebuilding and threatening Rome again.

ANSWER: **Punic** Wars

<HIST, OTHER>

1. The short stories “Dark They Were, and Golden-Eyed” and “The Locusts” are set on this planet. For ten points each,

Name this red fourth planet from our sun, which is colonized by Earth people in the aforementioned science fiction stories.

ANSWER: **Mars**

“Dark They Were, and Golden-Eyed” and “The Locusts” are from this American science fiction writer’s collection

*The Martian Chronicles*. This man also wrote *Something Wicked This Way Comes* and “A Sound of Thunder.” ANSWER: Ray (Douglas) **Bradbury**

Bradbury also wrote this collection of connected short stories about a summer that Douglas Spaulding spends growing up in Green Town, Illinois.

ANSWER: **Dandelion Wine**

<LIT, AMER>

1. The latitudinal gradient in this quantity means it increases from the poles to the tropics. For ten points each,

Name this quantity, often measured as the number of species in a given area, that is particularly high in “hotspots” like Madagascar and Colombia.

ANSWER: **biodiversity** (accept **species richness**)

One major threat to biodiversity is this type of non-native species that can out-compete native plants and animals. The brown tree snake in Guam and the zebra mussel in America are examples.

ANSWER: **invasive** species (prompt on “introduced” species)

This Japanese climbing vine was introduced to the US in the 19th century and quickly “took over” the American South.

ANSWER: **kudzu** (accept **arrowroot**)

<SCI, BIO>

1. A union for these workers, the NFWA, was led by Dolores Huerta, who popularized the rallying cry “Si, se puede!” [see, say pway-day], or “Yes, we can!” For ten points each,

Name this type of worker. The NFWA was also led by Cesar Chavez, who went on numerous hunger strikes to protest poor conditions.

ANSWER: **agricultural** workers (accept **farmer**s; accept job-specific equivalents, like **harvester**s; accept food- specific equivalents, like grape **farmer**s; do not accept or prompt on answers related to immigration status)

In the 1960s, Chavez and Huerta protested the Bracero Program, an agreement between the US and this southern neighbor, that undermined American workers while exploiting immigrants from this country.

ANSWER: **Mexico** (accept the **United Mexican States**)

In 1992, the US and Mexico, as well as Canada, signed this economic agreement. One of the effects of this agreement was the creation of *maquiladoras*, Mexican factories that import parts to produce finished goods.

ANSWER: **NAFTA** (accept **North American Free Trade Agreement**)

<HIST, AMER>

1. This man’s design for the Hancock Tower included engineering faults that allowed the building’s large panes of reflective glass to release from the building and shatter. For ten points each,

Name this architect, who also used panes of glass in his designs for the Bank of China Tower in Hong Kong and the Rock and Roll Hall of Fame in Cleveland.

ANSWER: I(eoh) M(ing) **Pei**

I.M. Pei’s [”pay”s] pyramidal glass design for the Rock and Roll Hall of Fame is similar to his front entrance design for this Parisian palace-turned-art museum, which holds Leonardo da Vinci’s *Virgin and Child with Saint Anne* and one version of his *Madonna of the Rocks*.

ANSWER: Muse´e du **Louvre** (accept **Louvre** Museum)

In addition to Leonardo’s religious paintings, the Louvre holds this iconic portrait by Leonardo of a woman with an enigmatic smile. The Louvre has allowed researchers to carefully scan this painting, revealing that its subject may once have had visible eyebrows.

ANSWER: **Mona Lisa** (accept La **Gioconda**)

<FA, OTHER>

1. After the 480s BCE, the Dionysia competition expanded its program to include a competition for comedy, though it had already been judging this genre of drama for some time. For ten points each,

Name this genre of Greek drama, in which a character’s fatal flaw leads to his or her downfall. ANSWER: Greek **tragedy** (accept **tragic** plays)

Performances of Greek tragedy almost always included this group of people, who recited lines in unison to represent narration, the common people, or other groups of characters.

ANSWER: **chorus**

This late-period Athenian playwright was known for his distant, uninvolved choruses. This playwright won the Dionysia festival with *Bacchae*, and took third with his play *Medea*.

ANSWER: **Euripides**

<LIT, OTHER>

1. For ten points each, give the following about calculations involving triangles.

This theorem, named for an ancient Greek mathematician and philosopher, sets the square of the hypotenuse of a right triangle equal to the sum of the squares of the two legs. As a formula, it’s usually written *a* squared plus *b* squared equals *c* squared.

ANSWER: **Pythagorean** Theorem (accept “Formula” in place of “Theorem”)

If two angles of a triangle have known sizes, the size of the third angle can be found by subtracting the two known sizes from this value.

ANSWER: **180 degrees** (accept **pi radians** or **200 gradians**; prompt on “180,” “pi,” or “200” alone)

If all three side lengths are known, the triangle’s area can be found using this ancient Greek mathematician’s formula, which incorporates the semiperimeter of the triangle.

ANSWER: **Heron**’s formula (accept **Hero**’s formula)

<SCI, OTHER>

1. Smaller islands off the coast of this island include Gonaˆve [go-nahv] Island near Port-au-Prince and Tortuga off the northern coast. For ten points each,

Name this island whose land is divided between two modern countries. ANSWER: **Hispaniola**

The western half of Hispaniola is owned by this country, whose capital of Port-au-Prince was rocked by a deadly 2010 earthquake.

ANSWER: **Haiti**

Hispaniola’s political division also creates a language barrier; Spanish is the official language of the Dominican Republic on the eastern half of the island, while this is the official language spoken in Haiti.

ANSWER: **French**

<GEO, GEO>

1. In Catholicism, this solemn holiday is a fast day on which no mass is observed. For ten points each,

Name this holiday near the end of the Christian Holy Week. It commemorates the day of Jesus’s crucifixion. ANSWER: **Good Friday** (accept **Holy Friday**; accept **Great Friday**; accept **Black Friday**)

Holy Week, which ends Lent, leads up to this important springtime Christian holiday, which celebrates Jesus’s resurrection.

ANSWER: **Easter** Sunday (accept **Pasha**)

The Thursday before Good Friday, which commemorates the Last Supper, is often given this name, which is thought to come from the Latin for “commandment.”

ANSWER: **Maundy** Thursday (do not accept “Holy Thursday”)

<RMPSS, REL>

1. Although fuel concerns and improving American counterattacking forced a withdrawal, Admiral Yamamoto later lamented the cancellation of the third wave of this attack. For ten points each,

Name this December 7, 1941 surprise attack on the US Pacific fleet. Over 2,400 Americans were killed in this attack in Hawaii.

ANSWER: attack on **Pearl Harbor**

Crucially for the US fleet, their three ships of this type, including the *Enterprise*, were out at sea during the attack. The fact that the Japanese did not know where these American ships were contributed to the decision against a third wave.

ANSWER: aircraft **carrier**s

Over 1,100 men were killed in the sinking of this battleship in Pearl Harbor. A floating memorial over the hull of this ship commemorates those lost during the attack.

ANSWER: USS **Arizona**

<HIST, AMER>

1. A 1784 essay by Immanuel Kant asks “What is [this idea]?”, and answers “man’s emergence from self-imposed immaturity.” For ten points each,

Name this concept. It names an 18th century period in which philosophers like Kant, Jean-Jacques Rousseau, and David Hume argued for separation of church and state, liberty, and increased reliance on scientific examination of the world.

ANSWER: (Age of) **Enlightenment** (accept **Aufkla¨rung**)

During the Enlightenment, Denis Diderot and numerous French thinkers collaborated on one of these works, which collect human knowledge. While these works are often organized alphabetically, they provide much more detailed information than a simple dictionary.

ANSWER: **encyclopedia** (accept **Encyclope´die**)

Discourse during the Enlightenment in France took place in these gatherings, which were often organized by upper- and middle-class women in their homes.

ANSWER: **salon**s

<RMPSS, PHIL>

1. This wife of William Godwin wrote a pamphlet advocating for women’s education during the French Revolution. For ten points each,

Name this 18th century feminist who wrote *A Vindication of the Rights of Woman*. ANSWER: Mary **Wollstonecraft**

Mary Wollstonecraft was the mother of this author, who wrote *The Last Man* and told a story about a creature that kills Elizabeth Lavenza while participating in a contest against Lord Byron, John William Polidori and this woman’s husband, Percy.

ANSWER: Mary Wollstonecraft **Shelley**

During that writing contest, Mary Shelley told a story that would later become this novel, in which the title medical student creates a living monster out of the body parts of the dead.

ANSWER: **Frankenstein**; or, the Modern Prometheus

<LIT, BRIT>

1. This principle is often stated as the inability to exactly measure a particle’s position and momentum at the same time. For ten points each,

Name this quantum physics principle. It was first introduced by Werner Heisenberg in 1927 . ANSWER: Heisenberg’s **uncertainty** principle (accept **indeterminacy** principle)

Heisenberg’s uncertainty principle can be written as an inequality with this scientist’s reduced constant on the right side. This constant is the ratio of a photon’s energy to its frequency.

ANSWER: **Planck**’s constant (prompt on “h”)

Heisenberg’s uncertainty principle is one tenet of this theory of quantum mechanics co-developed with Niels Bohr. This theory uses wave functions to show all possible states of a particle before its observation, and is named for the Danish city where Bohr and Heisenberg developed it.

ANSWER: **Copenhagen** interpretation

<SCI, PHYS>

1. This poet wrote “Life for me ain’t been no crystal stair” in his poem, “Mother to Son.” For ten points each,

Name this African-American poet of “I, Too” and “Theme for English B.” This author asked “What happens to a dream deferred?” in his poem *Harlem*.

ANSWER: (James Mercer) Langston **Hughes**

In another poem, Hughes wrote that the “The Negro Speaks of” these geographical features. While listing examples of these things, the speaker notes he has “bathed in the Euphrates” and “looked up the Nile.”

ANSWER: **river**s

Hughes also wrote about the “Weary” variety of this type of music. This genre was originated by African-Americans in the South and is described as a “drowsy syncopated tune.”

ANSWER: **blues** music

<LIT, AMER>

1. The ruler of this religion’s underworld is often depicted in a black suit and a top hat. For ten points each,

Name this religion, primarily based in Haiti, that developed after West African slaves were forced to convert to Christianity. Contrary to popular belief, members of this religion do not create namesake dolls to stab with pins.

ANSWER: Haitian **Voodoo** (accept **Vaudou**; accept **Vodun**; accept **Vodoun**)

In Voodoo, Catholic saints were syncretized with these spirits, such as Papa Legba, who serve the creator god. These spirits can be summoned by Voodoo priests and can endow people with gifts.

ANSWER: **Loa** (accept **Lwa**)

Loa [loh-ah] serve this creator god, whose name is derived from Haitian creole for “good god.” ANSWER: **Bondye**

<RMPSS, REL>

1. For ten points each, give the following about the end of the Cold War and fall of Communism in Europe.

In 1989, this physical barrier dividing the east and west halves of a German city was opened after 28 years. ANSWER: **Berlin Wall** (accept the **Anti-Fascist Protection Rampart**)

The Berlin Wall fell two years after Ronald Reagan demanded that this Soviet leader “tear down this wall.” Two years after the Berlin Wall fell, the Soviet Union collapsed and this man gave power to Boris Yeltsin.

ANSWER: Mikhail **Gorbachev**

Also in 1989, an anti-Communist revolution overthrew Nicolae Ceausescu [cho-shess-koo] in this Eastern European country. Ceausescu and his wife were executed on Christmas Day, and this country abolished the death penalty shortly thereafter.

ANSWER: **Romania**

<HIST, EURO>

1. A statue of this story’s title character sits on a coastal rock in Copenhagen. For ten points each,

Name this short story in which the youngest daughter of the Sea King bargains with a witch to get legs so that she can fall in love with a human prince.

ANSWER: The **Little Mermaid** (accept Den **lille havfrue**)

“The Little Mermaid” is a fairy tale by this Danish author of “The Ugly Duckling” and “The Emperor’s New Clothes.”

ANSWER: Hans Christian **Andersen**

In this other Andersen tale, a tiny girl escapes from a toad, a beetle, and a mole, and eventually marries a flower-fairy prince, who gives her wings.

ANSWER: **Thumbelina** (accept **Tommelise**)

<LIT, EURO>

1. At its first showings, this painting was nicknamed “an Iowa farmer and his wife,” which irritated the artist’s sister, Nan, who in real life was much younger than the dentist who had posed as her “husband.” For ten points each,

Name this painting of a solemn-looking woman in a print dress and a man holding a pitchfork in front of a farmhouse with an ornate window.

ANSWER: **American Gothic**

This artist created *American Gothic*, the satirical painting *Daughters of Revolution*, and *Parson Weems’ Fable*. ANSWER: Grant DeVolson **Wood**

In *Parson Weems’ Fable*, the title storyteller pulls back a curtain to reveal a man in a red jacket holding a young tree and this child holding an ax.

ANSWER: George **Washington**

<FA, VISUAL>

1. Answer these questions about key properties of seawater, for ten points each.

The ability for organisms to live in seawater is highly dependent on this quantity, which is higher in brackish water than fresh water. The Dead Sea has a value over 30% for this quantity, and ocean water is usually 3 . 5%.

ANSWER: **salinity** (prompt on descriptive answers related to “how much salt is in the water”)

The dissolved salts in the ocean give seawater a higher value for this property of mass per unit volume, making it easier to float in seawater compared to freshwater.

ANSWER: **density**

Both the salinity and density of seawater are greatly affected by this quantity, which rapidly decreases in the thermocline.

ANSWER: **temperature**

<SCI, OTHER>

1. For ten points each, give the following about the American “Triple Crown of Hiking.”

The eastern leg of the Triple Crown is a 2,200 mile long trail along this mountain range between Georgia and Maine. ANSWER: **Appalachian** Mountains (accept **Appalachian** Trail)

The western leg, the Pacific Crest Trail, goes through the Sierra Nevada mountains in California and this mountain range in the Pacific Northwest. Its highest peak is Mount Rainier.

ANSWER: **Cascade** Mountains (accept the **Cascade**s)

Hikers on the Continental Divide Trail can visit Mount Elbert, the highest point of this western mountain range that begins in British Columbia and extends through Wyoming and Colorado.

ANSWER: **Rocky** Mountains (accept the **Rockies**)

<GEO, GEO>

1. Plants in this group have parallel leaf veins and flower parts arranged in multiples of three. For ten points each,

Name this subdivision of the flowering plants whose seeds contain just one embryonic leaf, unlike dicots. ANSWER: **monocot**s (accept **monocotyledon**s)

Monocots all possess the adventitious type of these plant organs that also contain the Casparian strip and many namesake hairs.

ANSWER: **root**s

This fastest growing plant on Earth is a monocot. This woody grass, prevalent in Asia, may increase in height by more than 30 inches per day.

ANSWER: **bamboo** (accept any specific type of **bamboo**)

<SCI, BIO>

1. One section of this amendment is praised in an 1802 reply to the Danbury Baptists for “building a wall of separation between Church and State.” For ten points each,

Name this Constitutional amendment that guarantees freedom of religion, as well as four other fundamental freedoms.

ANSWER: **First** Amendment to the US Constitution

This founding father wrote the letter to the Danbury Baptists. This man cut and pasted select sections of the New Testament, omitting the miracles, into a work he called *The Life and Morals of Jesus of Nazareth*.

ANSWER: Thomas **Jefferson** (accept **Jefferson** Bible)

The Danbury Baptists wrote to Jefferson out of concern that this state, their home, maintained a different official state religion and may rescind rights of the minority. In 1818, this state disestablished its state church and ratified a new Constitution at a convention in Hartford.

ANSWER: **Connecticut**

<HIST, AMER>

1. For ten points each, give the following about military theory.

Sun Tzu, a general during China’s ancient Spring and Autumn Period, wrote this influential treatise on military tactics. Its 13 chapters include entries on using spies and moving armies.

ANSWER: The **Art of War**

In his treatise *On War*, 19th century Prussian general Carl von Clausewitz described this concept, the uncertainty that shrouds war. Applications of this idea may include a lack of intelligence about the enemy forces or, in a more literal sense, about the terrain of a battlefield.

ANSWER: **fog** of war

Von Clausewitz’s understanding of war was developed while he fought with the Russians in the Seventh Coalition against this French emperor. Clausewitz wasn’t able to stop him from winning at Ligny [li-NEE], but the Prussians did help beat this man at Waterloo.

ANSWER: **Napoleon** Bonaparte (accept **Napoleon** I; do not accept “Napoleon III” or “Louis-Napoleon”)

<RMPSS, PHIL>

1. This term, which names groups made of equivalence classes from larger groups, inspired the choice of a capital Q for the symbol of the set of rational numbers. For ten points each, give this term for the result of a division problem. ANSWER: **quotient** (accept **quotient** group)

You can get a quotient out of almost all division problems, but not when dividing by this number. A group cannot have this many elements, because there must be an identity element.

ANSWER: **zero**

A common example of a quotient group is made by classifying all integers by their remainder when divided by a certain number, a process described as this type of arithmetic.

ANSWER: **modular** arithmetic (accept word forms like **modulo** or **modulus**; prompt on clock arithmetic)

<SCI, OTHER>

1. In this novel, Katerina’s testimony convicts the wrong man for a murder committed by Smerdyakov. For ten points each,

Name this novel about the murdered Fyodor Pavlovich and his children Dmitri, Ivan, and Alyosha. ANSWER: The **Brothers Karamazov** (accept **Brat’ya Karamazovy**)

This novel by the author of *The Brothers Karamazov* follows the student Raskolnikov as he kills the pawnbroker Alyona Ivanovna and her sister and is sent to Siberia as a consequence.

ANSWER: **Crime and Punishment** (accept **Prestupleniye i nakazaniye**)

*The Brothers Karamazov* and *Crime and Punishment* are by this Russian author of *The Idiot* and *Notes from the Underground*.

ANSWER: Fyodor Mikhailovich **Dostoevsky**

<LIT, EURO>

1. After this god’s mother, Semele, died at the sight of Zeus in his full glory, this god was reborn from Zeus’s thigh and spread the cultivation of grapes for wine throughout Greece. For ten points each,

Name this Greek god of wine, merrymaking, and divine inspiration. ANSWER: **Dionysus**

This Greek goddess governed the harvest. This goddess made summer when her daughter lived with her, but let the plants die into winter during the parts of the year her daughter lived in Hades.

ANSWER: **Demeter**

This first-born daughter of Cronus and Rhea oversaw the preparation of food from the plants that Demeter made grow. In some stories, this goddess kept the peace by giving up her seat in Olympus to Dionysus.

ANSWER: **Hestia**

<RMPSS, MYTH>

1. An opera based on this legendary story was inspired by an experience fleeing Latvia through stormy seas. For ten points each,

Name this legendary doomed ghost ship that is, in most stories, cursed to sail the oceans forever unless its captain can convince a faithful woman to marry him.

ANSWER: The **Flying Dutchman** (accept Der **Fliegende Hollander**)

*The Flying Dutchman* was written by this composer, whose later dramatic works include the Ring Cycle, a set of four operas based on Norse myth.

ANSWER: Richard **Wagner** [ree-kard VAHG-ner]

Thanks to his political activism, Wagner spent over a decade exiled from his homeland, this modern country. Late in life, he built a festival house in this country’s town of Bayreuth [bye-ROYT] to host his operas.

ANSWER: **Germany**

<FA, OTHER>

1. With a steady hand and some help from this force, nearly 50 drops of water can fit on a penny. For ten points each,

Name this interaction between fluid molecules that allows insects to walk across the surface of a pond. ANSWER: **surface tension**

One drop of detergent in the water will ruin your penny experiment because soap is one of these compounds that reduce surface tension.

ANSWER: **surfactant**s

Water has a much higher surface tension than most liquids because of these intermolecular bonds, named for the first element on the periodic table.

ANSWER: **hydrogen** bonds (accept **H**-bonds)

<SCI, CHEM>

1. When the Olympics leave town, stadiums often become abandoned. When the World’s Fair leaves town, many cities still have tourist landmarks! For ten points each,

This iron structure was built for the 1889 World’s Fair. It remains the world’s most visited monument and the tallest structure in Paris.

ANSWER: **Eiffel Tower**

When Seattle hosted the 1962 World’s Fair, they commissioned this 600 foot tall observation tower, painted in “Astronaut White.”

ANSWER: **Space Needle**

For the 1967 World’s Fair, this city built a Biosphere and a model housing complex called Habitat 67; the latter was designed by Moshe Safdie, a student at this city’s McGill University.

ANSWER: **Montreal**

<GEO, GEO>

1. In an epistolary novel by this author, the demons Screwtape and Wormwood discuss how they can direct a human known as the “Patient” to a life of sin. For ten points each,

Name this author of Christian allegorical novels like *The Screwtape Letters*. ANSWER: C(live) S(taples) **Lewis**

C.S. Lewis included many minor Christian allegories in his novels about this fantasy kingdom, which the Pevensie children visit in *The Lion, the Witch, and the Wardrobe*.

ANSWER: **Narnia** (accept The **Chronicles of Narnia**)

In *The Chronicles of Narnia*, this character represents Jesus; in *The Lion, the Witch, and the Wardrobe*, this lion sacrifices himself for Edmund, and is resurrected by a “Deeper Magic from Before the Dawn of Time.”

ANSWER: **Aslan**

<LIT, BRIT>

1. For ten points each, give the following about conservation laws in physics.

This quantity’s classical form is computed as mass times velocity. The conservation of this quantity can be used to calculate trajectories of objects following a collision.

ANSWER: linear **momentum** (do not accept or prompt “angular momentum”)

By itself, mass is not conserved, but there is a conservation law that pairs mass with this quantity. This quantity was related to mass in Albert Einstein’s famous equation “*E* equals *m c* squared”.

ANSWER: **energy** (do not accept speed of light)

The angular momentum of a system is conserved unless it is acted on by this type of rotational force.

ANSWER: **torque**

<SCI, PHYS>

1. Christa McAuliffe was killed in the failure of this vehicle, which was launched in unusually cold conditions. For ten points each,

Name this Space Shuttle that broke apart during liftoff in 1986 . ANSWER: Space Shuttle **Challenger**

Christa McAuliffe was to become the first person with this job to travel in space. The *Challenger* disaster was witnessed live on television by millions of people because of McAuliffe’s role in the mission.

ANSWER: **teacher** (accept **educator** and other equivalents; prompt on civilian)

The *Challenger* disaster was the second fatal mission for NASA, after a 1967 test killed three astronauts in this program. The 13th mission in this program averted disaster after an explosion en route to the Moon.

ANSWER: **Apollo** program (accept **Apollo** 1 and/or 13)

<HIST, AMER>

1. An early thought experiment in physics involved a spinning bucket, meant to prove the existence of absolute motion. For ten points each,

The bucket argument was devised by this physicist, who also imagined a cannonball traveling fast enough to circle the Earth and pondered the meaning of a falling apple, consequences of his universal law of gravity.

ANSWER: Sir Isaac **Newton**

A later thought experiment, proposed by Erwin Schrodinger, posits that one of these animals trapped in a box can be alive and dead at the same time until the moment it is observed.

ANSWER: (Schrodinger’s) **cat**

The second law of thermodynamics is violated by the subject of this 19th century thought experiment, a tiny being who controls a door that separates fast gas molecules from slow ones.

ANSWER: **Maxwell’s Demon**

<SCI, PHYS>

1. At the end of this novel, every member of the title group denies a promotion to lieutenant. For ten points each,

Identify this novel named for Athos, Porthos, and Aramis, three French soldiers who use the motto “all for one, and one for all.”

ANSWER: The **Three Musketeers** (accept Les **Trois Mousquetaires**)

This protagonist of *The Three Musketeers* is beaten by the Comte de Rochefort upon arriving in Paris. After wounding one of Cardinal Richelieu’s best fighters, this man is appointed to the King’s Guard.

ANSWER: **D’Artagnan** (accept either underlined portion of Charles de **Batz-Castelmore**, Comte **d’Artagnan**)

D’Artagnan [dar-TAN-yan] has a brief affair with this spy whose fleur-de-lis [flur-de-lee] brand marks her as a felon. This woman, despite being imprisoned, convinces John Felton to murder the Duke of Buckingham.

ANSWER: Mi**lady de Winter** (accept either underlined portion)

<LIT, EURO>

1. The harpsichord and pipe organ are generally incapable of changing this aspect of the music gradually during a piece, since pressing the keys harder does nothing. For ten points each,

Give this musical concept, usually noted in sheet music by markings like “mp” or “f” under the staff.

ANSWER: **dynamic**s (accept **dynamic** level; accept **volume**; accept general descriptions of how **loud** and/or **soft**

the music is)

The notation “mp” notes a dynamic level of mezzo piano, while “f” describes this loud dynamic level. ANSWER: **forte**

Gustav Mahler’s Seventh Symphony has the low strings play fortississississimo - that’s five f’s - and includes a variation on this direction, telling the player to “pluck so hard that the strings hit the wood.” This Italian term indicates that a string player should pluck, rather than bow, the strings.

ANSWER: **pizzicato**

<FA, AUDIO>

1. The Latin name of a sword inspired this term. For ten points each,

Name this athletic occupation, usually held by slaves, that fought in arenas for the enjoyment of Roman citizens. ANSWER: **gladiator**s

The grandest examples of gladiatorial combat took place in this Roman arena, the largest amphitheater ever built. ANSWER: the **Colosseum** (accept **Flavian** Amphitheatre)

This Roman emperor ordered the construction of the Colosseum; it was finished a year after this man died and his son, Titus, took power as Emperor.

ANSWER: **Vespasian** (accept Titus Flavius Caesar **Vespasian**us Augustus; do not prompt on Titus, Flavius, Caesar, or Augustus)

<HIST, OTHER>

1. The “Pink” one in Shiraz has extensive stained glass windows, and Al-Aqsa in Jerusalem is the “furthest” one of these buildings, to which Muhammad was transported during the Night Journey. For ten points each,

Name these places of worship in Islam. One of these buildings, Al-Haram, surrounds the Kaaba, toward which Muslims face when praying.

ANSWER: **mosque** (accept **masjid** or **masjed**; accept **Masjed-e Nasir-ol-Molk** or **Nasir ol-Molk Mosque** or **Pink Mosque**; accept **Masjid Al-Aqsa** or **Al-Aqsa Mosque**; accept **Masjid Al-Haram** or **Great Mosque**)

The Blue Mosque in Istanbul has six of these towers. In many mosques, muezzins call out the adhan-the call to prayer-from these tall, thin towers.

ANSWER: **minaret** (accept **minare**)

The adhan precedes each of the five daily prayers that make up this Pillar of Islam. ANSWER: **salat** (accept **salah**)

<RMPSS, REL>

1. These objects are left behind after some supernovas, and were discovered by Jocelyn Bell in 1967 . For ten points each,

Name these stellar remnants, the densest known type of star. They pack a mass greater than the Sun into a ball about 10 miles across, largely because they are almost entirely made up of a certain subatomic particle.

ANSWER: **neutron** star

If a supernova leaves a remnant too large to stabilize as a neutron star, it may collapse into one of these regions of space whose gravitational pull is strong enough to prevent light from escaping.

ANSWER: **black hole**

The collision of two neutron stars probably gives off these phenomena, first observed in 2016 by the LIGO observatory. The 2017 Nobel in Physics was earned for detecting these phenomena.

ANSWER: **gravitational wave**s (accept **gravity wave**s)

<SCI, PHYS>

1. For ten points each, name the following historic American colleges and universities.

This university in Massachusetts, whose leaders have included Increase Mather and Charles Eliot, is the oldest American university.

ANSWER: **Harvard** University (accept **Harvard** College)

This school was founded in 1819 by Thomas Jefferson, an achievement he chose to list on his gravestone instead of his presidency.

ANSWER: University of **Virginia** (accept **UVA**)

Virginia is also home to this second oldest college in the US. Thomas Jefferson attended this school, as did James Monroe and John Tyler.

ANSWER: College of **William and Mary** (in Virginia) (accept **W and M**)

<HIST, AMER>

1. One of these kicks can directly score a goal, a rare feat known as an Olympic goal. For ten points each,

Name this method of restarting play in soccer, named for the position in the field where the kick is made. This play results when, for example, the ball is kicked out of bounds over the goal line by a defender.

ANSWER: **corner** kick

The only Olympic goal in the actual Olympics was scored by this American winger in 2012 . In 2011, her last-minute cross to Abby Wambach saved a World Cup game against Brazil, and in 2015, she joined Carli Lloyd and Lauren Holiday in the starting 11 against Japan in the USWNT’s World Cup final victory.

ANSWER: Megan **Rapinoe**

The first attacker to touch the ball after a corner kick cannot be called for a violation of this often-confusing rule. Usually, violations of this rule take place when the ball is passed to an attacker who is in front of all defenders except the goalie.

ANSWER: **offside**s

<TRASH, SPORTS>

1. If a chemical causes *Salmonella* bacteria to start synthesizing histidine, then the Ames test indicates it is likely one of these substances. For ten points each,

Give this term for agents, like high frequency radiation and aromatic hydrocarbons, than can permanently alter an organism’s DNA.

ANSWER: **mutagen**ic (prompt on “carcinogen”)

Mutagens cause mutations of these regions of DNA, the molecular units of heredity. Alleles [uh-leels] are variants of these entities.

ANSWER: **gene**s

A frameshift mutation in the NOD2 gene results in this inflammatory bowel disease, named for its American discoverer, that is caused by the immune system attacking patches throughout the digestive tract.

ANSWER: **Crohn**’s disease

<SCI, BIO>

1. This author wrote long-titled short stories about “The Celebrated Jumping Frog of Calaveras County” and “The Man That Corrupted Hadleyburg.” For ten points each,

Name this American author of *The Adventures of Huckleberry Finn* and a novel in which a medieval “wizard” builds Gatling guns to defend against attacking knights.

ANSWER: Mark **Twain** (accept Samuel Langhorne **Clemens**)

In this long-titled novel by Mark Twain, a nineteenth-century New Englander is transported back in time to medieval England, where he uses his scientific knowledge to usurp Merlin’s power.

ANSWER: A **Connecticut Yankee in King Arthur’s Court**

The title “Connecticut Yankee” is this man, who becomes known as “The Boss” after he predicts a solar eclipse.

ANSWER: Henry “**Hank**” **Morgan**

<LIT, AMER>

1. For ten points each, give the following about psychologist Anna Freud [froyd].

Anna Freud’s essay “About Losing and Being Lost” analyzes forgetfulness and this emotional process, including how objects like photographs and heirlooms may affect someone going through it. Customs like wearing black clothing are common among people doing this.

ANSWER: **mourning** someone’s death (accept **grieving** someone’s death; accept word forms for either answer like

**mourn** or **grief**; do not accept “dying”)

Anna Freud studied World War II’s effect on this group of people in England by establishing nurseries and orphanages. Jean Piaget [pee-ah-ZHAY] studied the development of these people in a four-stage model.

ANSWER: **children** (accept equivalents, including anything specific from **babies** to **teenagers**)

As a child, Anna Freud provided material for this work by her father, Sigmund. This book analyzes the unconscious mind through stories, such as “Irma’s Injection,” that he describes as attempts at “wish fulfillment.”

ANSWER: The **Interpretation of Dreams** (accept Die **Traudeutung**)

<RMPSS, SOC SCI>

1. Nathuram Godse committed this event out of anger at the victim’s support for Muslim rights during the partition of India. For ten points each,

Name this January 30, 1948 event that ended the life of an Indian nonviolent leader.

ANSWER: **assassination** of **M**ohandas **Gandhi** ( accept **assassination** of **M**ahatma **Gandhi**; accept **killing**, **shooting**, etc. in place of “assassination; prompt on partial answers, like “assassination of Gandhi”)

After he murdered Mahatma Gandhi, Godse was put on trial in the Red Fort of this Indian city. A “New” district of this city is the capital of India.

ANSWER: New **Delhi**

After Gandhi’s death, this Prime Minister of India spoke on the radio, noting that “the light has gone out of our lives, and there is darkness everywhere.”

ANSWER: Jawaharlal **Nehru**

<HIST, WORLD>

1. Name some regions of the afterlife that share a name with the gods who governed them, for ten points each. This is the name of both the god who governed the Greek underworld and that underworld itself.

ANSWER: **Hades**

This world of the Norse afterlife was named for the daughter of Loki, and was home to those who died of age or sickness rather than in battle.

ANSWER: **Hel**heim

In Aztec myth, Xolotl guided the dead to this underworld. Quetzalcoatl used the bones from this underworld to create the fifth version of the world.

ANSWER: **Mictlan**

<RMPSS, MYTH>

1. Zephyr chases Chloris on the right side of this painting, which is held in the Uffizi Gallery. For ten points each,

Name this Italian painting, in which a blindfolded Cupid flies above his mother and aims his bow and arrow and the three Graces dance next to Bacchus in an orange grove filled with flowers.

ANSWER: **Primavera** (accept **Allegory of Spring**)

In this painting by the creator of *Primavera*, Zephyr flies into frame from the left to blow the title Roman love goddess to shore as she emerges from the sea on an enormous seashell.

ANSWER: The **Birth of Venus** (accept **Nascita di Venere**)

*Primavera* and *The Birth of Venus* are by this Renaissance artist from Florence. ANSWER: Sandro **Botticelli** (accept Alessandro di Mariano di Vanni **Filipepi**)

<FA, VISUAL>

1. For ten points each, give the following about proportional relationships in math.

In a directly proportional relationship, a rise in one variable accompanies a rise in another variable. This term describes a relationship in which a rise in one variable causes a fall in the related variable.

ANSWER: **inverse** (accept word forms and elaborations, such as “**inverse**ly proportional” or “**inverse**ly related”)

Directly proportional relationships are often written as *y* = *kx* [”y” equals “k” “x”], with *x* and *y* being the related variables. This term describes direct relationships that combine *more* than two directly related variables, like *y* = *kxz*.

ANSWER: **joint** relationship (accept word forms, like **joint**ly related)

The volume of a cube is proportional to the cube of its side length; as a result, if you triple the side length of a cube, it has this effect on the volume of the cube.

ANSWER: the volume is **27 times** larger than it originally was (accept descriptions thereof; prompt on generic answers of the form “it gets larger/bigger”)

<SCI, OTHER>

1. In this novel, Isabella names her son Linton to spite her husband, who badly mistreats Hareton after inheriting the title home. For ten points each,

Name this novel, in which Heathcliff usurps control of the title estate out of bitterness after Catherine does not marry him.

ANSWER: **Wuthering Heights**

After establishing ownership of Wuthering Heights, Heathcliff uses his son to take over this nearby house, which had belonged to the Linton family.

ANSWER: **Thrushcross** Grange

*Wuthering Heights* is by this English author, who used the pseudonym “Ellis Bell” to distinguish her from her sisters Charlotte and Anne.

ANSWER: **E**mliy **Bronte¨** (prompt on “Bronte¨”)

<LIT, BRIT>

1. This continent is home to the Drakensberg, a 600 mile long formation in the Great Escarpment, and Mount Kenya, which features over a dozen peaks. For ten points each,

Name this continent whose highest peak, Kilimanjaro, stands over Tanzania. ANSWER: **Africa**

A few different African mountains in Morocco have been proposed as the legendary southern “Pillar of Hercules;” the pillars are on either side of this narrow waterway that separates the Mediterranean Sea and Atlantic Ocean.

ANSWER: Strait of **Gibraltar**

On the opposite side of the continent, Table Mountain overlooks this city, the second most populous in South Africa after Johannesburg. South Africa’s Parliament meets in this coastal city.

ANSWER: **Cape Town**

<GEO, GEO>

1. A natural one of these compounds is red cabbage juice, which changes from red to green to yellow as pH [”p” “H”] increases. For ten points each,

Give this term for compounds like methyl red, bromothymol blue, and phenolphthalein that show different colors at different pH levels.

ANSWER: pH **indicator**s (accept acid/base **indicator**s)

This common indicator is extracted from a lichen and often embedded in a namesake paper that turns red in acids and blue in bases.

ANSWER: **litmus** paper

The exact pH at which litmus changes color can be found using this equation, which involves the pK*a* value and the concentration ratio of conjugate base to weak acid.

ANSWER: **Henderson-Hasselbalch** equation

<SCI, CHEM>

1. According to some legends, this man reached Greece as a slave from Ethiopia. For ten points each,

Name this ancient fabulist whose tales, such as “The Ant and the Grasshopper,” are catalogued in the Perry Index. ANSWER: **Aesop**

In this fable by Aesop, a “slow and steady” animal defeats a fast and self-assured animal in a foot race. ANSWER: The **Tortoise and the Hare**

In another of Aesop’s fables, a fox attempts to reach this fruit, but decides he didn’t want it anyway when he discovers it is too far away to get.

ANSWER: **grape**s

<LIT, OTHER>

1. The Bonus Army built one of these settlements in the Anacostia Flats in Washington, D.C., and Central Park was home to a large one of these in Manhattan. For ten points each,

Give this term for shantytowns built in the 1930s. This term “honors” the US President blamed for the economic troubles that led to the widespread homelessness.

ANSWER: **Hooverville**s

Herbert Hoover was in office at the start of this massive economic downturn. A stock market crash on “Black Tuesday” began this period of American history.

ANSWER: **Great Depression**

The Hooverville in this city, built on the shores of Elliott Bay near Pike Place Market, was one of the largest and most stable camps in the nation, even though this city’s police burned it down twice.

ANSWER: **Seattle**

<HIST, AMER>

1. Stories of this ruler’s largesse include a legend that he built a mosque every Friday during one of his travels. For ten points each,

Name this 14th century Mansa of the Mali Empire, best known for a legendary *hajj*. ANSWER: Mansa **Musa** (accept **Musa** Keita I)

During his *hajj*, Mansa Musa spent so lavishly throughout northern Africa and the Arabian Peninsula that he temporarily destroyed the value of this precious metal. Caravans once traded this metal for salt throughout Africa.

ANSWER: **gold**

Mansa Musa’s building projects, including the University of Sankore, transformed this city into a major trading center. By the 19th century, it had fallen into such disarray and became so hard to reach that many people thought it was a mythical city.

ANSWER: **Timbuktu**

<HIST, WORLD>

1. This man promoted the Usonian style of community planning, and set stained glass windows into the roofs of the Unity Temple in Oak Park and the Guggenheim Museum in New York. For ten points each,

Name this American architect, who designed low, flat buildings with natural features in his Prairie School designs. ANSWER: Frank Lloyd **Wright** (accept Frank Lincoln **Wright**)

Wright designed this house for Edgar Kaufmann’s family in Pennsylvania. This house’s patios are cantilevered over a running creek called Bear Run.

ANSWER: **Fallingwater**

Wright was a student of this man, who designed the Guarantee Building and the Wainwright Building in St Louis, and who is quoted as saying “form follows function.”

ANSWER: Louis **Sullivan**

<FA, OTHER>

1. This author’s many book series follow Miss Jane Marple of St Mary Mead, Tommy and Tuppence Beresford, and a round-headed crime-solver with an enormous moustache. For ten points each,

Name this English author of *And Then There Were None*, whose novel *The Mysterious Affair at Styles* introduced the character of Hercule Poirot [ayr-KYOOL pwah-ROH].

ANSWER: Dame Agatha Mary Clarissa **Christie**

In this frequently-adapted novel, Hercule Poirot discovers who killed a man travelling under the name “Samuel Ratchett” on a train traveling from Istanbul to Calais.

ANSWER: **Murder on the Orient Express**

Before solving crimes in England, Poirot was a policeman in Brussels, the capital of this European country. ANSWER: Kingdom of **Belgium**

<LIT, BRIT>

1. Matrix arithmetic comes with a set of rules that are significantly different than numeral arithmetic. For ten points each,

Matrix addition and subtraction only works if the two matrices have identical values for this property. In another context, this term describes the number of coordinates needed to describe a geometric object: two for a square or circle, and three for a cube or sphere.

ANSWER: **dimension**s (accept two-**dimension**al or three-**dimension**al; prompt on descriptions of “the number of rows and columns of the matrix”)

This term describes the impossible addition of two matrices that don’t have the same dimensions, as well as computations like zero to the zero power or 5 divided by 0 .

ANSWER: **undefined**

This type of square matrix has a main diagonal of ones with zeroes everywhere else. Multiplying this type of matrix by another matrix may be undefined, if the dimensions don’t match correctly, or it will leave the other matrix unchanged.

ANSWER: **identity** matrix

<SCI, OTHER>

1. This console’s games included *Earthbound*, the first *F-Zero* game, and *Donkey Kong Country*, and its controller used X and Y buttons in addition to its predecessor’s A and B buttons. For ten points each,

Name this 16-bit game console that was originally released in the US in 1991 . An emulator of 20 of this console’s games was released in 2017 .

ANSWER: **Super Nintendo** Entertainment System (accept **SNES**; accept **SNES** Classic; accept **Super Famicom**; do not accept or prompt on answers that don’t have “Super;” do not accept NES or NES Classic)

The SNES Classic includes a previously unreleased sequel to this SNES shooter game, whose supporting characters include Falco and the barrel roll-loving Slippy Toad.

ANSWER: **Star Fox** (accept **Star Fox** 2)

The SNES Classic also includes the first game in this racing series, in which Luigi and Yoshi can fire shells at each other on Rainbow Road.

ANSWER: **Mario Kart** series (accept **Super Mario Kart**)

<TRASH, POP CULT>

1. The northernmost land action of the Civil War took place in this state, when Confederate soldiers raided the city of St. Albans. For ten points each,

Name this New England state, the home of the Green Mountains and the cities of Burlington and Montpelier. ANSWER: **Vermont**

During the Revolutionary War, the Green Mountain Boys captured this fort on Lake Champlain. This fort’s cannons were then transported to Boston to help siege the city.

ANSWER: Fort **Ticonderoga**

With Benedict Arnold, this leader of the Green Mountain Boys commanded the forces that captured Fort Ticonderoga.

ANSWER: Ethan **Allen**

<HIST, AMER>

1. For a sufficiently thin one of these devices, the reciprocal of focal length equals the reciprocal of object distance plus the reciprocal of image distance. For ten points each,

Name these optical devices that use refraction to focus light rays and produce an image. ANSWER: **lens**es

A magnifying glass contains this type of simple lens, which causes parallel light rays to converge at a single point. Concave lenses cause light rays to diverge away from each other instead.

ANSWER: bi**convex** lens (accept **double convex**; accept **plano-convex**; prompt on “positive lens”)

If an object is placed inside the focal length of a convex lens, this kind of upright image will result. These images cannot be projected onto a screen.

ANSWER: **virtual** image

<SCI, PHYS>

1. Answer the following about Hindu gods connected with Shiva, the god of death and rebirth. For ten points each,

Name this Hindu creator god, who is usually depicted with four faces, each facing a cardinal direction. This god is part of the Trimurti with Shiva and the preserver, Vishnu.

ANSWER: **Brahma** (do not accept Brahman or Brahmin)

This love goddess is Shiva’s consort, and is one of the Tridevi along with Lakshmi and Saraswati. ANSWER: **Parvati**

After the god Ganesha came between Parvati and Shiva, Shiva beheaded him and replaced his head with that of this large animal, with ivory tusks and large ears.

ANSWER: Indian **elephant**

<RMPSS, MYTH>

1. Answer the following about ancient literary monsters, for ten points each.

In this Old English epic poem, the monster Grendel and his mother attack the mead-hall Heorot until they are defeated by the title Geatish [”GATE”-ish] hero.

ANSWER: **Beowulf**

*Beowulf* was translated by this English linguist, who wrote about balrogs, giant creatures of darkness and shadow from Middle Earth’s First Age, in *The Lord of the Rings*.

ANSWER: J.R.R. **Tolkien** (accept John Ronald Reuel **Tolkien**)

This American writer wrote about shape-shifting shoggoths, enormous monsters that serve the Old Ones, in his extensive stories about a pantheon that includes Cthulhu.

ANSWER: H.P. **Lovecraft** (accept Howard Phillips **Lovecraft**)

<LIT, OTHER>

1. Beginning Phase II clinical trials in 2017, SAV001 is the first of these treatments to use a whole “dead” HIV virus. For ten points each,

Name these preventative treatments, first described by Edward Jenner, in which a killed or weakened virus is injected to stimulate a rapid immune response to the infectious virus.

ANSWER: **vaccine** (accept **vaccination**; accept **inoculation**; accept word forms; prompt on immunization)

This Frenchman and his colleague, Emile Roux, first showed that a “dead” virus vaccine could work when they saved Joseph Meister from rabies in 1885 .

ANSWER: Louis **Pasteur**

Much of the difficulty in creating an HIV vaccine is due to this error-prone retrovirus enzyme that makes a DNA copy of an RNA strand.

ANSWER: **reverse transcriptase**

<SCI, BIO>

1. This family produced three popes, a large bank, and a giant power vacuum in Tuscany after it declined. For ten points each,

Name this powerful Italian family that dominated politics in Florence for multiple centuries. ANSWER: de’ **Medici** family

In the 15th and 16th centuries, the wealth of the Medici family supported this period of cultural progress. For example, Cosimo de’ Medici was a patron of artists like Donatello.

ANSWER: Italian **Renaissance**

This member of the Medici family, known as “the Magnificent,” helped keep peace in Italy during the Renaissance and sponsored artists like Michelangelo.

ANSWER: **Lorenzo** the Magnificent (accept **Lorenzo** de’ Medici)

<HIST, EURO>

1. In the *Oresteia* [oh-ress-TYE-ah] trilogy, Agamemnon returns from this war only to be murdered by his wife, Clytemnestra. For ten points each,

Name this legendary war, in which Agamemnon, Odysseus, and the combined forces of Greece besieged an enemy city-state.

ANSWER: **Trojan** War

Agamemnon returns from the Trojan War with Cassandra, a Trojan princess who had been given this gift by Apollo, though she had also been cursed so that no one believed her predictions.

ANSWER: **prophecy** (accept descriptions like **tell**ing the **future**)

The *Oresteia* is by this Greek playwright, who also wrote *Prometheus Bound* and *Seven Against Thebes*. ANSWER: **Aeschylus** [ESS-kih-luss]

<LIT, OTHER>

1. The numerous collaborations between this woman and Elizabeth Cady Stanton included *The Revolution*, a newspaper that advocated for women’s rights, and the six-volume *History of Woman Suffrage*. For ten points each,

Name this suffragette. The American Equal Rights Association was driven by her work, as well as that of Stanton, Lucy Stone and Lucretia Mott.

ANSWER: Susan B. **Anthony**

As suffragettes, Anthony and Stanton argued for the right to perform this action. Anthony illegally did this in 1872, four decades before the 19th Amendment guaranteed this right for women.

ANSWER: right to **vote**

Three years before Anthony and Stanton met, Stanton co-organized this 1848 event, the first women’s rights convention. Lucretia Mott spoke at this event, where the Declaration of Sentiments was produced.

ANSWER: **Seneca Falls** Convention

<HIST, AMER>

1. This region of the Periodic Table contains the elements with the highest oxidation state, melting point, and electrical conductivity. For ten points each,

Name this collection of elements that includes gold, nickel, titanium, and tungsten. It is usually placed in the center of the Periodic Table, spread over groups 3 through 12, above the lanthanides and actinides.

ANSWER: **transition** metals/elements (accept, but *do not otherwise mention*, **d-block** elements)

The transition metals may contain up to ten electrons in this subshell, which follows *s* and *p* and names the central block of the Periodic Table.

ANSWER: **d** (subshell or block)

The two transition metals that favor a full *d*-subshell over a full *s* are copper and this element, which makes rubies red and steel stainless.

ANSWER: **chromium** (accept **Cr**)

<SCI, CHEM>

1. String instruments represent this character, who declares “Boys like me are not afraid of wolves!” and, when one comes out of a forest, catches it in a noose and takes it to the zoo. For ten points each,

Name this young boy, the title character of an orchestral composition for children. ANSWER: **Peter** (accept **Peter** and the Wolf)

*Peter and the Wolf* was composed by this Soviet composer, whose other works include *The Love for Three Oranges*. ANSWER: Sergei **Prokofiev**

In *Peter and the Wolf*, this double reed instrument represents the duck, which is swallowed whole by the wolf.

ANSWER: **oboe**

<FA, AUDIO>

1. The ball-turret gunner was killed in one of these vehicles “six miles from earth / loosed from its dream of life.” For ten points each,

Name these flying vehicles, one of which explodes over the English channel in Salman Rushdie’s *The Satanic Verses*.

ANSWER: air**plane**s

Yossarian attempts to avoid flying his airplane during World War II in this Joseph Heller novel, but is stymied by the title rule, which says that any man able to demonstrate insanity and ask to be sent home is too sane to be sent home.

ANSWER: **Catch-22**

Joe Keller avoids being convicted for selling faulty airplane parts in *All My Sons*, a play by this American playwright. ANSWER: Arthur Asher **Miller**

<LIT, AMER>

1. Hundreds of thousands of tourists flock to this state each August for the Sturgis Motorcycle Rally. For ten points each,

Name this US state, where Sturgis rallygoers can visit the gold rush town of Deadwood in the northern stretch of the Black Hills.

ANSWER: **South Dakota**

The Sturgis rally fills hotel rooms down the road in Rapid City; the rest of the year, tourists stay in Rapid City to visit this national memorial, a Gutzon Borglum rock sculpture of four US Presidents.

ANSWER: **Mount Rushmore** National Memorial

Sturgis and Rapid City both lie on this interstate highway, which is absolutely filled with billboards for Wall Drug. This longest interstate in the country runs between Boston and Seattle; note that, because it runs east-west, it’s designated with an even number.

ANSWER: Interstate **90** (accept I-**90**)

<GEO, GEO>

1. Ancient Egyptian religion required complicated funeral rites, though only wealthy Egyptians could afford full embalming. Answer the following about embalming and entombment, for ten points each.

The wealthiest Egyptians were entombed in these large structures, which were filled with treasures, food, and embalmed servants for the afterlife. Three of these structures near Giza were built by Khufu and his descendants.

ANSWER: **pyramid**s (accept **Great Pyramids** of Giza)

Though the organs of the poor were liquified and drained, wealthy Egyptians’ stomach, intestines, lungs, and liver were stored in these containers, which were decorated with and guarded by the four sons of Horus.

ANSWER: **canopic jar** (accept **canopic box**)

An amulet representing this type of pillar was often wrapped near a mummy’s spine to help the mummy stand upon entering the afterlife. Isis found Osiris’s body in this kind of column, which became one of his emblems.

ANSWER: **djed** column

<RMPSS, REL>

1. GPS relies on 31 of these devices, each containing a precise atomic clock. For ten points each,

Name these orbiting devices that can be used to monitor weather, gather intelligence, and relay communication signals back to Earth.

ANSWER: artificial **satellite**s

Most communications satellites have this type of orbit exactly 22,236 miles above the Earth’s equator. A satellite in this orbit appears to stand still in the sky because its period of revolution matches the Earth’s rotation rate.

ANSWER: **geostationary** equatorial orbit (accept **GEO**; prompt on “geosynchronous” orbit)

The idea of placing communications satellites into geostationary orbit was first suggested by this science fiction author, better known for works like *Rendezvous with Rama* and *2001: A Space Odyssey*.

ANSWER: Arthur C. **Clarke**

<SCI, OTHER>

1. Many books in the Tanakh and biblical Old Testament have a well-established tradition regarding their authorship. For ten points each,

Name this first book of both the Torah and Old Testament, which details the creation of the world and is usually attributed to Moses.

ANSWER: **Genesis** (accept **Bereshit** or **Bereshis**)

King David is credited with writing most of the poems in this book, including a verse that begins “The Lord is my shepherd / I shall not want.”

ANSWER: **Psalms** (accept **Tehilim**)

David’s son Solomon is usually credited with many of the Proverbs, Ecclesiastes, and this book, which describes God as a lover and the Hebrew people as his beloved.

ANSWER: **Song of Songs** (accept **Song of Solomon**; accept **Shir Hashirim**)

<RMPSS, REL>

1. The Gibbs free energy of a chemical reaction is minimized once this condition is reached. For ten points each, Name this state that is achieved when the forward and reverse rates of a reaction are equal.

ANSWER: (dynamic) chemical **equilibrium**

When a reaction is upset, because of changes in temperature or other conditions, this French chemist’s principle states that the equilibrium will shift to counteract the change.

ANSWER: **Le Chatelier**’s [shat-lee-ay’s] principle

Le Chatelier’s principle allows the Haber process to maximize production of this base by combining hydrogen and nitrogen gases at high pressure.

ANSWER: **ammonia** (accept **NH**3)

<SCI, CHEM>

1. The protagonist of this work, Oskar Matzerath, stops growing up at the age of three but has the mind of an adult. For ten points each,

Name this 1959 Gu¨nter Grass novel, set in the Polish city of Danzig. In this book, Oskar swears off playing the title musical instrument after the death of his father, Alfred.

ANSWER: The **Tin Drum** (accept Die **Blechtrommel**)

*The Tin Drum*, as well as the rest of Grass’s *Danzig* trilogy, was written in this language. ANSWER: **German** (accept **Deutsch**)

Alfred is shot and killed by Soviet troops while he chokes on a small pin that Oskar hands to him; the pin is an emblem of this political party, which Alfred must conceal from the interrogating Soviets.

ANSWER: **Nazi** Party

<LIT, EURO>

1. In 2016, a 5 . 0 magnitude earthquake struck this state’s city of Cushing; that was the third 5 . 0 quake for this state in 2016 but just the sixth since 1882 . For ten points each,

Name this central US state, where quakes have rattled buildings in towns like Edmond and Stillwater. ANSWER: **Oklahoma**

The rise in earthquakes in Oklahoma is believed to be related to the rise in this process, used in the oil and natural gas industry, in which pressurized liquid is used to crack underground rock, allowing the gas or oil to be collected.

ANSWER: **hydraulic fracturing** (accept **fracking**; accept word forms like **hydraulic fracture**)

Most of Oklahoma’s earthquakes have taken place along its border with this state, its northern neighbor.

ANSWER: **Kansas**

<GEO, GEO>

1. One mechanism for this process is the proton-proton chain. For ten points each,

Identify this process in which atoms of light elements combine to form atoms of heavier elements, exemplified by hydrogen turning into helium.

ANSWER: nuclear **fusion** (do not prompt on or accept “nuclear fission”)

One common stellar form of fusion is a cycle in which an atom of hydrogen combines with this element to form nitrogen. In the triple-alpha process, three atoms of helium combine to form an atom of this element.

ANSWER: **carbon** (accept **C**)

Fusion of elements lighter than this element’s 56-isotope releases energy, while fusing heavier elements requires energy input. This element is the heaviest produced in standard stellar nucleosynthesis.

ANSWER: **iron** (accept **Fe**)

<SCI, CHEM>

1. For ten points each, give the following about the America First Committee, which organized to oppose American entry into World War II.

The America First Committee was chaired by Robert Wood, a businessman who led this retail company for nearly three decades. This company began operating via mail order catalogs in the late 19th century, and was purchased by Kmart in 2005 .

ANSWER: **Sears**, Roebuck & Company

The AFC was criticized for supporting the anti-Semitic views of its primary spokesman, this American aviator. In 1927, this man became the first solo pilot to cross the Atlantic non-stop.

ANSWER: Charles **Lindbergh**

Critics of the AFC included this author, whose political cartoon “Adolf the Wolf” satirized the AFC’s opinion that “Foreign Children...really didn’t matter.” In 1984, this author’s *Butter Battle Book* ends with warring sides threatening to use the Bitsy Big-Boy Boomeroo.

ANSWER: Dr. **Seuss** (accept Theodor Seuss **Geisel**)

<HIST, AMER>

1. In the early 20th century, a school of composers based in this city developed around Arnold Schoenberg and innovated in atonal music. For ten points each,

Name this Austrian capital city, where Beethoven and Haydn had worked a century earlier. ANSWER: **Vienna**

Schoenberg’s innovation moved away from the use of keys, instead keeping a balance between every note in the chromatic scale; thus, Schoenberg’s technique is often named for this number of tones.

ANSWER: **twelve**-tone (accept **twelve**-note; accept other answers including the number **12**)

In 1913, Viennese listeners rioted at Schoenberg’s “Skandalkonzert” [scandal concert]; a witness testified in court that the smack of a thrown punch was the most “harmonious” sound of the evening. That riot came just two months before a more famous classical music riot, at the Paris premiere of this Stravinsky ballet.

ANSWER: The **Rite of Spring** (accept La **Sacre du Printemps** or **Vesna svyashchennaya**)

<FA, AUDIO>

1. The protagonist of this novel muses about where ducks go in the winter after visiting Central Park. For ten points each,

Name this novel, in which Holden Caulfield wanders around New York City after being expelled from Pencey Prep. ANSWER: The **Catcher in the Rye**

*The Catcher in the Rye* is by this American author who also created Franny and Zooey, members of the Glass family. ANSWER: JD **Salinger** (accept Jerome David **Salinger**)

Holden purchases the record “Little Shirley Beans” for this character. At the end of the novel, Holden watches as this character, his sister, rides a carousel in the rain.

ANSWER: **Phoebe** Caulfield

<LIT, AMER>

1. For ten points each, give the following about colorful symbols throughout history.

During the American Revolution, soldiers in the British army were known as “lobsters” and as this colorful term, based on their uniforms.

ANSWER: **redcoat**s

The Redshirts were loyal supporters of this Italian unifier who led the Expedition of a Thousand and fought in the Uruguayan Civil War.

ANSWER: Giuseppe **Garibaldi**

Red Phrygian caps were used as an anti-nobility symbol during this country’s violent 18th century revolution, which began with the storming of the Bastille.

ANSWER: **France** (accept **French** Revolution)

<HIST, OTHER>

1. This novel’s protagonist is raised by the Reeds, and goes to stay with the St John family after discovering that her husband-to-be was already married. For ten points each,

Name this Charlotte Bronte¨ novel whose title character attends Lowood School and enters into a romantic

relationship with Edward Rochester. ANSWER: **Jane Eyre**

Edward Rochester’s relationship with Jane is complicated by his previous marriage to this woman. At the end of the novel, this “madwoman in the attic” kills herself by jumping off the roof of Thornfield Hall.

ANSWER: **Bertha Mason** (accept either name; accept either name of **Antoinette Cosway**)

Before jumping off of the roof, Bertha Mason destroys Thornfield Hall in this manner. Bertha had started one of these events earlier in the novel but was foiled when Jane doused Rochester with water.

ANSWER: **fire**

<LIT, BRIT>

1. A sclerometer is normally used to find a mineral’s rank on this scale, though the Vickers scale has largely replaced it. For ten points each,

Name this traditional scale of mineral hardness. Diamond ranks a 10 on this scale because it can scratch all common materials.

ANSWER: **Mohs** scale of hardness

At the opposite end of the Mohs scale from diamond is this very soft mineral, used as a coating on rubber gloves and sometimes found in baby powder.

ANSWER: **talc**um (powder)

Hydroxyapatite [hide-rox-ee-ap-ah-tite] ranks halfway between talc and diamond and, in the body, acts as a storage bank for this element.

ANSWER: **calcium** (accept **Ca**)

<SCI, OTHER>

1. This mythical figure was the sister of Stheno and Euryale, and became the mother of Chrysaor and Pegasus after her death. For ten points each,

Name this snake-haired Gorgon woman, whose gaze turned all who saw her into stone. ANSWER: **Medusa**

This Greek hero, the son of Zeus and Danae, slew Medusa and later married Andromeda. ANSWER: **Perseus**

Perseus returned Medusa’s head to Athena, who affixed it to this legendary shield. ANSWER: **Aegis** (accept **Gorgoneion**)

<RMPSS, MYTH>

1. The Strait of Hormuz is the only route for ships to leave this body of water and enter the Indian Ocean. For ten points each,

Name this body of water, in which the island country of Bahrain lies. ANSWER: **Persian Gulf** (prompt on partial answers)

In 1990, this small country was annexed and invaded for its oil reserves, triggering the first Persian Gulf War. ANSWER: State of **Kuwait**

Kuwait was invaded on the orders of this Iraqi dictator. A decade later, US forces invaded Iraq, took Baghdad, and captured this man.

ANSWER: Saddam **Hussein**

<HIST, WORLD>

1. While he lived in the French city of Arles, Vincent van Gogh painted many local scenes, including depictions of his living quarters and a local eaterie. For ten points each,

Name this van Gogh painting of the interior of a restaurant with red walls and a green ceiling. A man in white stands near the center of this painting, next to a pool table in the center of the room.

ANSWER: The **Night Cafe´** (accept Le **Cafe´ de la nuit**)

Van Gogh painted blue walls and yellow furniture in his depictions of this room of the “Yellow House,” where he lived. Two portraits and a landscape hang on the right-hand walls in van Gogh’s three paintings of this room *in Arles*.

ANSWER: **Bedroom** in Arles

After leaving Arles, van Gogh moved to an asylum in the village of Saint Re´my de Province [son ray-MEE duh proh-VONSS], where he created this painting. Behind a cypress tree in this painting, the village lies in a dark valley in the mountains, under a sky illuminated by enormous, swirling balls of light.

ANSWER: The **Starry Night** (accept De **Sterrennacht**)

<FA, VISUAL>

1. To predict the results of a trihybrid cross, one of these diagrams would need 64 individual boxes. For ten points each,

Name this diagram used to determine the genotypes of offspring produced by parents with known alleles. ANSWER: **Punnett square**

If a breeding experiment results in 75% of the offspring showing the dominant phenotype, it is likely both parents have this genotype containing both a dominant and recessive allele.

ANSWER: **heterozygous**

Punnett squares are used to model the rules of inheritance as proposed by this 19th century Austrian friar, whose work on pea plants inspired the development of genetics.

ANSWER: Gregor **Mendel**

<SCI, BIO>

1. For ten points each, give the following about ways to lose an argument.

This term, from the Latin for “deceptive” or “false,” describes a form of reasoning that is either logically unsound or argumentatively questionable.

ANSWER: logical **fallacy** (accept word forms like **fallacies**; accept additional information)

In this type of logical fallacy, the conclusion itself is used as evidence in the argument. While the logic itself isn’t faulty, the argument is flimsy because you must assume what you wish to prove.

ANSWER: **circular** reasoning (accept word forms like **circle** logic; accept **beg**ging **the question** and word forms; do not accept tautology)

An *ad hominem* fallacy is committed when you refuse to critique the substance of the argument itself and, instead, focus your criticisms on this.

ANSWER: the **other person** in the argument (accept descriptions of “your **opponent**;” accept elaborations, such as “your **opponent**’s character” or “your **opponent**’s motive;” prompt on partial answers, like “character” or “motive”)

<RMPSS, PHIL>

1. As a Congressman from Tennessee, this man opposed the Indian Removal Act; that stance cost him re-election in 1831 . For ten points each,

Name this politician who later fought in the Texas War for Independence. This figure became known later as the “King of the Wild Frontier.”

ANSWER: David “Davy” **Crockett**

Davy Crockett died while defending this San Antonio mission during the Texas War for Independence. William Travis and James Bowie also died at this fort.

ANSWER: The **Alamo**

This leader of the Mexican forces during the Battle of the Alamo had all of its surviving defenders executed. This general was later defeated by Sam Houston at the Battle of San Jacinto.

ANSWER: Antonio Lo´pez de **Santa Anna**

<HIST, AMER>

1. After spending almost six months in a secluded, iron-gated abbey, a group of nobles in this story fearfully pursue a man through a series of seven, brightly-colored rooms. For ten points each,

Name this Edgar Allan Poe short story in which Prince Prospero’s costume ball is interrupted by a guest dressed as a diseased corpse.

ANSWER: The **Masque of the Red Death**

In “The Masque of the Red Death,” Prospero pursues the mysterious guest from the easternmost blue room to the red-windowed, westernmost room of the abbey, which is decorated primarily with this color.

ANSWER: **black**

The black room is dominated by an ebony one of these objects, which chimes so loudly and strangely that it stops Prince Prospero’s party once every hour.

ANSWER: **clock**

<LIT, AMER>

1. A Fundamental Theorem notes that this operation and integration are inverses of each other. For ten points each,

Name this important tool from calculus. Numerous shortcut formulas, including the chain rule and product rule, can find this for a function.

ANSWER: **derivative**s (accept word forms like **differentiation**)

The derivative can be used to calculate this quantity for a function at a given point. This quantity can be found between two points by a difference quotient-based formula often described as “rise over run.”

ANSWER: **slope** (accept **gradient**)

This fourth letter of the Greek alphabet indicates a change in a variable, as seen in many formulas related to derivatives and slope.

ANSWER: **delta**

<SCI, OTHER>

1. This novel’s title character tilts at windmills, believing them to be giants. For ten points each,

Name this novel by Miguel de Cervantes about an imaginative man who seeks adventure on the old horse Rocinante, and believes he is a knight.

ANSWER: The Ingenious Gentleman **Don Quijote** of La Mancha (accept El ingenioso hidalgo **don Quijote** de La Mancha)

This man, who rides the donkey Dapple, acts as Don Quijote’s squire and guardian on his imaginary adventures. ANSWER: **Sancho Panza** (accept either underlined name)

Townsman Samson Carrasco tricks Don Quijote into temporarily giving up his questing by defeating him while disguised as this knight.

ANSWER: Knight of the **White Moon**

<LIT, EURO>

1. For ten points each, give the following about perpetual motion machines.

One proposed perpetual motion machine was a ratchet named for this Scottish botanist. The ratchet used this scientist’s namesake random motion of fluid particles to turn a paddle, but Richard Feynman explained why the model failed.

ANSWER: Robert **Brown** (accept **Brownian motion**)

One attempted perpetual motion machine is a bowl named for this type of liquid motion that flows against gravity up a small tube. This type of motion is used by plants for water uptake.

ANSWER: **capillary** action (accept **capillary** motion or **capillarity**)

True perpetual motion machines are impossible because, according to the Second Law of Thermodynamics, this quantity, a measure of disorder, must always increase in a closed system.

ANSWER: **entropy**

<SCI, PHYS>

1. When describing keys, the difference between these two adjectives is the position of half steps in the scales, most importantly the interval to the third note. For ten points each,

Give these two terms. Music written in one style is often described as bright or cheery, while the other is often described as dark or sad.

ANSWER: **major and minor** (accept in either order; prompt if only one answer is given)

A minor third can also be described as this type of third, because it is one note lower than the major third. Notes may be described by this term if lowered by half a step, or by “sharp” if raised half a step.

ANSWER: **flat** (accept **flat**ted third; accept **flat** note)

Many composers have written collections of pieces written for all 24 major and minor keys: one such work, *The Well-Tempered Clavier*, was written by this German composer.

ANSWER: Johann Sebastian **Bach**

<FA, AUDIO>

1. This man’s presidency lasted less than 900 days, the shortest term for any US president who didn’t die in office. For ten points each,

Name this Republican politician, who lost his only Presidential election to Jimmy Carter. ANSWER: Gerald **Ford** (accept Leslie **King**)

A month after taking office, Ford controversially carried out this presidential action, noting that “someone must write the end to” a national tragedy.

ANSWER: **pardoning** Richard **Nixon** (prompt on “pardon” and other partial answers; do not prompt on descriptive answers like “forgiving Nixon” that don’t use the term “pardon”)

Gerald Ford became President because he was Vice President when Nixon resigned; he had become Vice President in accordance with this Constitutional amendment, which clarified presidential succession and was adopted in 1967 .

ANSWER: **25**th Amendment to the US Constitution

<HIST, AMER>

1. For ten points each, give the following about the many faces of Andy Serkis.

Andy Serkis plays the mysterious Supreme Leader Snoke in this franchise, whose next film is subtitled “The Last Jedi” and will focus on Rey’s relationship with Luke Skywalker.

ANSWER: **Star Wars**

Andy Serkis also played this corrupted hobbit whose only goal is to reclaim his “precious.” At the end of the *Lord of the Rings* film trilogy, this character smiles as he falls into the fires of Mt. Doom, having achieved his goal.

ANSWER: **Gollum** (accept **Smeagol**)

In his most recent film, Andy Serkis reprised his role as this leader of the “planet of the apes.” This character was originally the pet of Will Rodman, who likely named him after a Roman leader.

ANSWER: **Caesar** (do not accept Julius Caesar)

<TRASH, POP CULT>

1. Because it is non-polar, toluene has this property in hexane but not in water. For ten points each,

Name this property, the ability of one substance, like silver chloride, to dissolve in another substance, like ammonia. ANSWER: **solubility** (accept word forms like **soluble**; accept **miscibility** and word forms like **miscible**)

Differences in solubility are the basis for this lab technique, which separates mixtures by passing the components through a stationary phase like glass beads or silica gel.

ANSWER: **chromatography**

Many chromatography procedures first call for this technique, in which the mixture is poured through a piece of paper whose tiny pores screen out undissolved particles.

ANSWER: **filtration** (accept word forms like **filtering**)

<SCI, CHEM>

1. This goddess had an affair with Ares, which was revealed when her husband captured them together in a fine net and dragged them to Olympus in shame. For ten points each,

Name this Greek goddess of love and beauty. ANSWER: **Aphrodite**

Aphrodite’s jealous husband was this god, who in some stories fell from Olympus after Hera created him by herself. ANSWER: **Hephaestus**

Aphrodite was also the lover of this extraordinarily beautiful mortal man, and became so distraught at this man’s death during a hunt that she caused anemone flowers to bloom where his blood fell.

ANSWER: **Adonis**

<RMPSS, MYTH>

1. One section of this river separates the neighborhoods of Foggy Bottom and Georgetown from Rosslyn in Arlington County. For ten points each,

Name this river, which flows past Ronald Reagan National Airport south of the Lincoln Memorial. ANSWER: **Potomac** River

The Potomac forms much of the southern border of this district, home of the nation’s capital. ANSWER: **Washington**, D.C. (accept the District of **Columbia**; accept **DC**)

The Potomac ultimately flows into this bay, bounded on the east by the Delmarva Peninsula. Cities on its northern shores include Annapolis and Baltimore.

ANSWER: **Chesapeake** Bay

<GEO, GEO>

1. This English author collected some of his poetry in *Wessex Poems*, named for the fictional region of England where this author’s novels are set. For ten points each,

Name this English author of *Far from the Madding Crowd* and *Jude the Obscure*. ANSWER: Thomas **Hardy**

In this Thomas Hardy novel, the title woman marries Angel Clare, kills Alec years after he rapes her, and mistakenly believes she is a distant relative of a wealthy family.

ANSWER: **Tess of the d’Urbervilles**

In another Hardy novel, Michael Henchard sells his daughter and wife, Susan, and his daughter, Elizabeth-Jane, before rising to this political position as the leader of Casterbridge.

ANSWER: The **Mayor** of Casterbridge

<LIT, BRIT>

1. This dynasty took power after the Red Turban Rebellion. For ten points each,

Name this Chinese dynasty that succeeded the Yuan. Artisans during this dynasty’s reign produced remarkably popular blue-and-white pottery.

ANSWER: **Ming** Dynasty

During the Ming Dynasty, this admiral helped bring the Yongle Emperor to power. This eunuch [yoo-nuk] also led seven treasure voyages, exploring Southeast Asia and Africa.

ANSWER: **Zheng** He (accept Ma **He**; accept **Cheng** Ho)

The Ming navy was less successful in its attempts to deal with these criminals. The most successful of these criminals, Ching Shih, unified her fleet of 3,000 ships with a law code that required the group inspection of plundered booty.

ANSWER: **pirate**s (accept **wokou**)

<HIST, WORLD>

1. For ten points each, give the following about the literature surrounding America’s deadliest war.

Name this novel about Henry Fleming’s experience as a Union soldier in the Civil War. In this work, Henry talks to the Tattered Soldier moments before the latter’s death.

ANSWER: The **Red Badge of Courage**

The aftermath of the Civil War is explored in this Toni Morrison novel which focuses on the haunting of 124 Bluestone Road by Sethe’s murdered child.

ANSWER: **Beloved**

According to legend, Abraham Lincoln called this author the “little woman who started the big war,” because she exposed the horrors of slavery in *Uncle Tom’s Cabin*.

ANSWER: Harriet Beecher **Stowe**

<LIT, AMER>

1. All circles share this relationship with each other, but not all ellipses do. For ten points each,

Name this geometric relationship that is preserved after translation, reflection, and rotation. Unlike another relationship, it is also preserved after scaling one of the shapes to be larger or smaller.

ANSWER: **similar**ity (accept word forms)

This other relationship is stronger than similarity because it requires the shapes to be the same size. While the angle-angle-angle theorem can only prove the similarity of two triangles, this relationship can be proven by the side-angle-side and side-side-side theorems.

ANSWER: **congruence**

Two ellipses will be similar if and only if they have the same value for this quantity, a measure of how non-circular the ellipse is.

ANSWER: **eccentricity**

<SCI, OTHER>

1. Answer the following about revolutionary bronze sculptures, such as Donatello’s *Gattamelata*, for ten points each.

*Gattamelata* commemorates Erasmo da Narni’s military prowess by showing him riding one of these animals. The statue inspired a trend of depicting military leaders riding these animals.

ANSWER: **horse**s

This virtuosic French sculptor’s *The Age of Bronze* was so realistic that he was accused of making the cast for it from a live model. To prove the claim false, this artist cast his statue of *John the Baptist* to be seven feet tall.

ANSWER: (Franc¸ois) Auguste (Rene´) **Rodin**

Constantin Brancusi inspired a lawsuit over the nature of art when he tried to transport a sculpture depicting this animal *in Space* through customs, and was ordered to pay a tax for a “manufactured metal object.”

ANSWER: **Bird** in Space

<FA, VISUAL>

1. In 415 BCE, an expedition of over 100 triremes [tri-reems] sailed to this island to attack the city of Syracuse. For ten points each,

Name this island off the coast of Italy. ANSWER: **Sicily**

The Sicilian Expedition was launched by this ancient Greek city-state which, at the time, was in an unsteady “peace” with its rival Sparta.

ANSWER: **Athens**

Athens and Sparta feuded in this series of 5th century BCE wars. This conflict ended with Athens’ navy getting destroyed at Aegospotami and Sparta installing the Thirty Tyrants to control Athens.

ANSWER: **Peloponnesian** War(s)

<HIST, OTHER>

1. In early Judeo-Christian tradition, female slaves and foreign women were often taken as wives and concubines by wealthy householders. For ten points each,

Name the Judeo-Christian patriarch whose wives, Leah and Rachel, escalated a war of child production by offering this man their handmaids Zilpah and Bilhah, making this man the father of twelve sons, including Judah and Joseph.

ANSWER: **Jacob** (accept **Yakov**; accept **Israel**)

When Abraham’s wife Sarah could not have children, she gave Abraham this Egyptian woman as a concubine, though she became jealous after this woman gave birth to Ishmael.

ANSWER: **Hagar** (accept **Hajar**)

In this tradition of taking many wives, this wise king of Israel and builder of the First Temple in Jerusalem reportedly had 700 wives and 300 concubines.

ANSWER: **Solomon** (accept **Shlomo**; accept **Suleiman**; accept **Jedediah**)

<RMPSS, REL>

1. The now discredited Titius Bode Law predicted that a missing planet should exist where this region was eventually discovered. For ten points each,

Name this region located between the orbits of Mars and Jupiter. It contains relatively little mass but more than one million objects with a diameter of one kilometer or greater.

ANSWER: main **asteroid belt**

The largest object in the asteroid belt is this body, the closest dwarf planet to Earth. It is named after the Roman goddess of agriculture and was discovered in 1801 .

ANSWER: 1 **Ceres**

Companies like Kepler Energy and Planetary Resources are currently searching the belt for promising targets for this industry, since many asteroids are rich in zinc, silver, and lead.

ANSWER: **mining** industry (accept additional information, like astro**mining** or space **mining**)

<SCI, OTHER>

1. Methods for judging the outcome of this process include the Condorcet criterion, which asks who would win if each pair of candidates were to face each other individually. For ten points each,

Name this civic process in which a democratic society chooses its leaders.

ANSWER: **voting** (accept **election**s; accept word forms for either answer, like **vote** or **elect**)

This phrase describes voting systems in which the candidate who receives the most votes wins. This method of determining the winner of a vote is used in most American election systems, and it fails the Condorcet criterion.

ANSWER: **first past the post** (prompt on “FPTP” or “FPP”)

Candidates who earn more than 50% of the votes in an election win a majority, while this term is used instead for the winning candidate if they earn less than 50% of the votes.

ANSWER: **plurality**

<RMPSS, SOC SCI>

1. The stories “Araby” and “The Dead” are included in a short story collection set in this city. For ten points each, Name this Irish capital city.

ANSWER: **Dublin** (accept **Dubliners**)

This author of *Dubliners* also wrote about Stephen Dedalus in *A Portrait of the Artist as a Young Man*. ANSWER: James Augustine Aloysius **Joyce**

This James Joyce novel uses stream-of-consciousness to follow a day in the life of Leopold Bloom. This novel’s title and plot evoke a legendary hero’s long journey home from the Trojan War.

ANSWER: **Ulysses**

<LIT, EURO>

1. For ten points each, give the following about “Buffalo Bill” Cody.

As a teenager, Cody worked as a rider for this service that, despite only operating for 1 . 5 years, transmitted tens of thousands of messages between Missouri and California in the pre-telegraph era.

ANSWER: **Pony Express**

Buffalo Bill Cody worked with this sharpshooting woman to help popularize his show; that history inspired an Irving Berlin musical about this woman “[getting] her gun.”

ANSWER: Annie **Oakley** (prompt on “Annie” and/or “Annie Get Your Gun”)

Another member of *Buffalo Bill’s Wild West* show was this Lakota chief who, with Crazy Horse, defeated General Custer at the Battle of Little Bighorn.

ANSWER: **Sitting Bull** (accept Thathanka **Iyotake**)

<HIST, AMER>

1. There’s no rule in nature that skeletons must be made of bone. Answer these questions about alternative support materials for ten points each.

The class Chondrichthyes [kon-drik-thee-iz], containing sharks and rays, has skeletons made of this flexible tissue also found in the human nose and outer ear.

ANSWER: **cartilage**

Arthropods like insects and crustaceans have exoskeletons made of this tough polysaccharide that also makes up fungus cell walls.

ANSWER: **chitin**

Hardened spines called spicules form the internal supports of this animal phylum, whose anatomy also features the osculum and mesohyl layer.

ANSWER: **Porifera** (accept **sponge**s)

<SCI, BIO>

1. This country’s colonial empire included African possessions in what is now Angola and Mozambique and forts to protect Indian trade in Goa and Mumbai. For ten points each,

Name this European country that sponsored caravel voyages by Vasco da Gama and Pedro Cabral, but not Christopher Columbus, during the Age of Discovery.

ANSWER: **Portugal** (accept the **Portuguese** Empire)

Portugal’s expansion in the Age of Discoveries was driven by this prince, known for his love of exploration. This son of John I captured Ceuta [say-oo-ta] and colonized the Azores.

ANSWER: Prince **Henry the Navigator** (accept **Henry the Seafarer**; prompt on “Henry”)

Portugal’s colonies in the New World included the eastern coast of this modern-day country, gained in the Treaty of Tordesillas [tor-de-see-as]. Today, this South American country’s official language is still Portuguese.

ANSWER: **Brazil**

<HIST, EURO>

1. In a novel by this author, Aomame enters an alternate universe after assassinating a hotel guest. For ten points each,

Name this Japanese author of *Kafka on the Shore*, *The Wind-Up Bird Chronicle*, and *1Q84* . ANSWER: Haruki **Murakami** (accept names in either order)

A section of *1Q84* is titled “Town of” these animals, which often appear in Murakami’s works. One of these pets goes missing at the start of *The Wind-Up Bird Chronicle*, and several of these animals are characters in *Kafka on the Shore*, including a tabby and a Siamese.

ANSWER: **cat**s (accept Town of **Cat**s)

Murakami’s writing is often inspired by pop culture, especially this 1960s band. A 2013 short story is named for their song “Drive My Car,” and in a 1987 novel, Toru Watanabe is emotionally overcome in Hamburg after hearing this band’s song “Norwegian Wood.”

ANSWER: The **Beatles**

<LIT, OTHER>

1. According to a conspiracy theory that this opera is an advertisement for Freemasonry, its character of the Queen of the Night is a symbolic attack on the real Maria Theresa. For ten points each,

Name this 1791 opera in which the Queen sings an aria with a series of famously high notes. The enchanted title object of this opera is given to Tamino, who plays it to protect himself in a series of trials.

ANSWER: The **Magic Flute** (accept Die **Zauberflo¨te**)

*The Magic Flute* was one of the last works composed by this Austrian composer, a former child prodigy. ANSWER: Wolfgang Amadeus **Mozart**

This is the highest note hit during the Queen of the Night’s aria. The major key based on this note has a single flat in its signature.

ANSWER: **F** (accept **F**6; accept **F** Major)

<FA, OTHER>

1. In the 19th and 20th centuries, a divide arose between analytic and continental philosophers. For ten points each,

Broadly speaking, analytic philosophy describes ways of thinking that were traditional to English-speaking countries, like the US and Great Britain, while continental philosophy describes the philosophical traditions of this continent.

ANSWER: **Europe**

One major difference between the two branches was their approach to this field of philosophy that studies the basic nature of existence and reality, named for a work by Aristotle.

ANSWER: **metaphysics**

Bertrand Russell, a prominent analytic philosopher, argued in favor of this spiritual position, whose strong form argues that supernatural deities do not exist.

ANSWER: (strong) **atheism**

<RMPSS, PHIL>

1. The egg-rolling done by geese and the spinning of webs by spiders can be described with this term. For ten points each,

Name this type of behavior that is genetically hardwired from birth and done without any prior experience. ANSWER: **instinct**ive (accept **innate**; accept word forms, like **instinct**ual)

Many non-instinctual behaviors are learned through this process, in which rewards reinforce a behavior while punishments discourage it. During World War II, B. F. Skinner used this type of learning to train pigeons to guide navy missiles.

ANSWER: **operant conditioning** (prompt on conditioning; do not accept “classical conditioning”)

In between purely innate and conditioned responses is this type of animal behavior that can only occur during a critical period of time. Newly hatched goslings recognized Konrad Lorenz as their mother and continuously followed him because of this type of learning.

ANSWER: filial **imprinting**

<RMPSS, SOC SCI>

1. Asking a survey to every person you run into at a shopping mall is an easy way to flunk a statistics project. For ten points each,

Going to the mall is a common example of the “convenience” style of performing this statistical procedure, in which a group of people are randomly - or not so randomly - chosen from the population to take the survey.

ANSWER: **sampling** (accept word forms of **sample**; accept additional information about randomness; accept convenience **sample**)

Asking each person you see at the mall runs the risk of ignoring people who don’t shop at the mall, introducing this type of negative effect to your survey. This problem can also be introduced by writing your survey to indicate what the answer should be.

ANSWER: **bias** (accept any type of **bias**, including selection, sampling, response, etc.)

As another option, you could “ask every American in the country, period;” doing so doesn’t create sample data, but rather one of these sets of information. The US government does one of these every 10 years to count the population of the US.

ANSWER: **census**

<SCI, OTHER>

1. Answer the following about Jesus’s parable of the Pearl of Great Price, for ten points each.

The parable appears in this gospel, the first book of the New Testament. This book is named for its apparent author, and precedes the books of Mark, Luke, and John.

ANSWER: the Book of **Matthew**

The Pearl of Great Price also appears in an apocryphal Gnostic gospel attributed to this “doubting” disciple, who could not believe in the resurrection until he had felt Jesus’s wounds.

ANSWER: Saint **Thomas** the Apostle (accept Doubting **Thomas**)

*The Pearl of Great Price* is the title of a collection of scriptures and teachings important to this church, which was founded by Joseph Smith and is headquartered in Salt Lake City.

ANSWER: The Church of Jesus Christ of **Latter-Day Saint**s (accept **LDS** Church or **Latter-Day Saint** Movement; accept **Mormon** church; accept **mormon**s or **mormonism**)

<RMPSS, REL>

1. In a short story by this man, Nick Adams is sent to warn Ole Anderson about hitmen coming to kill him. For ten points each,

Name this author of “The Killers” who wrote about the romance between Frederic Henry and Catherine Barkley in a work bolstered by his own experiences in World War I, *A Farewell to Arms*.

ANSWER: Ernest Miller **Hemingway**

Hemingway once again used his experience, this time as a reporter, to provide detail for this work set in the Spanish Civil War. In the novel, which takes its name from John Donne, Robert Jordan works with guerrillas to destroy a bridge.

ANSWER: **For Whom The Bell Tolls**

Hemingway’s last work was this calmer short story which focuses on Santiago’s attempt to catch a marlin. This work ends with Santiago dreaming of his youth after losing the marlin to a group of sharks.

ANSWER: The **Old Man and the Sea**

<LIT, AMER>

1. For ten points each, give the following about the 1824 Supreme Court case *Gibbons v. Ogden*.

The case concerned a monopoly on steamboat waterway navigation rights that this state gave to Robert Livingston and Robert Fulton. Fulton’s *North River Steamboat* set speed records on the Hudson River to this state’s capital, Albany.

ANSWER: **New York**

Aaron Ogden, a business partner of Fulton and Livingston, sued Thomas Gibbons for illegally operating a steamboat between New Jersey and New York; that steamboat was captained by this “Commodore,” who later built a steamboat and railroad empire. This man’s philanthropy included founding a namesake university in Tennessee.

ANSWER: Cornelius **Vanderbilt** (accept **Vanderbilt** University)

This Congressman from Massachusetts, a member of the “Great Triumvirate,” represented Gibbons before the Supreme Court and successfully argued that interstate navigation rights were under Congress’ control.

ANSWER: Daniel **Webster**

<HIST, AMER>

1. Anthropologists flocked to this desert area in the 1940s after pilots “discovered” a series of geoglyphs that were previously misunderstood. For ten points each,

Name this South American plain, north of the Atacama Desert, where a series of namesake “lines” in shapes like a spider, monkey, hummingbird, and hands were made from rocks in the desert terrain.

ANSWER: **Nazca** Plain(s) (accept **Nazca** Lines; accept **Nazca** Desert; accept **Sechura** Desert; prompt, but do not otherwise reveal, “Peruvian Desert”)

The Nazca Lines were preserved by the dry conditions along this country’s western Pacific region. Further up its coast are cities like Miraflores and its capital, Lima.

ANSWER: **Peru**

The Nazca plains and Atacama Desert are among the incredibly dry regions west of this South American mountain range, the longest continental range in the world.

ANSWER: **Andes** Mountains

<GEO, GEO>

1. Although local legends disagree with him, a farmer reports that this man was so afraid after ruining Hans Van Ripper’s saddle that he moved to New York to become a judge in a small claims court. For ten points each,

Name this literary character who, according to local legend, haunts the ruins of his New England schoolhouse. This teacher disappears after being frightened by Brom Bones at Katrina Van Tassel’s party.

ANSWER: **Ichabod Crane** (accept either underlined name)

Locally, Ichabod Crane’s mysterious disappearance is blamed on this ghost, also known as the Galloping Hessian of Sleepy Hollow, who rides through the countryside at night searching for a missing body part.

ANSWER: the **Headless Horseman** of Sleepy Hollow

Ichabod Crane and the Headless Horseman appear in “The Legend of Sleepy Hollow,” an entry in this American author’s collection *The Sketchbook of Geoffrey Crayon*.

ANSWER: Washington **Irving**

<LIT, AMER>

1. Hooke’s law includes *k*, the namesake constant for one of these devices. For ten points each,

Name these elastic devices that can store energy in volutes, leaves, or more commonly, compressed metal coils. ANSWER: **spring**s

In Hooke’s law, the opposite of the spring constant times the stretched distance equals this type of force, which tries to return the spring to its relaxed position. Gravity acts as this type of force on a pendulum.

ANSWER: **restoring** force

Under the influence of a restoring force, a mass at the end of an ideal spring displays this kind of periodic motion that can be graphed as a sine curve.

ANSWER: **simple harmonic** motion/oscillation (accept **SHM**;accept **SHO**; prompt on harmonic)

<SCI, PHYS>

1. This man took power of his country’s Ba’ath Party shortly after the death of his father, Hafez. For ten points each,

Name this dictator who has violently cracked down on protests during an ongoing civil war. ANSWER: Bashar al-**Assad**

Assad is the dictator of this Middle Eastern country, where protests began in the capital city, Damascus. ANSWER: **Syria** (accept **Syria**n Arab Republic)

The protests in Syria began as part of this broad set of revolutions in the middle east in 2010 and 2011 . This period began in Tunisia and resulted in government changes in Egypt, Libya, and Yemen.

ANSWER: **Arab Spring**

<HIST, WORLD>

1. Redshifts and standard candles are part of the cosmic ladder used to measure this quantity on a galactic scale. For ten points each,

This quantity for Proxima Centauri from the Sun is about 1 . 3 parsecs, 4 . 2 light-years, or 24 . 7 trillion miles. ANSWER: **distance** (prompt answers like “how far away it is”)

The parsec is based on an angle of one arcsecond for this phenomenon, in which the position of a distant object appears to change when the observer’s line of sight is shifted.

ANSWER: **parallax** (accept **parallax** second)

This is another unit for direct distance measurements. There are 30 of these between the Sun and Neptune, and exactly one between the Sun and Earth.

ANSWER: **astronomical** unit (accept **AU**)

<SCI, OTHER>

1. These creatures included the dryads, the spirits of trees and forests, and the naiads, the spirits of rivers and waterways. For ten points each,

Name these semi-divine creatures from Greek myths, feminine spirits attached to specific natural features. ANSWER: **nymph**s

For her talkativeness, this nymph was cursed to only be able to repeat the words of others, and eventually wasted away to only her repetitive voice.

ANSWER: **Echo**

Echo’s beloved was this beautiful human, who died when he fell in love with his own reflection, and transformed into a namesake waterside flower.

ANSWER: **Narcissus**

<RMPSS, MYTH>

1. In this play, King Claudius marries his sister-in-law, Gertrude, immediately after the death of the title character’s father. For ten points each,

Name this Shakespeare play about a *Prince of Denmark* who suspects Claudius of having murdered his father. ANSWER: The Tragedy of **Hamlet**, Prince of Denmark

In *Hamlet*, Claudius is advised by this bumbling, babbling father of Laertes, who is stabbed through a curtain in Gertrude’s chambers.

ANSWER: **Polonius**

This daughter of Polonius is devastated when Hamlet seems not to love her any longer. This woman goes mad and eventually drowns herself under a willow tree.

ANSWER: **Ophelia**

<LIT, BRIT>

1. This painter’s painstakingly realistic portraits have inspired suggestions that he painted onto images projected by a camera obscura. For ten points each,

Name this Dutch Golden Age painter, whose portraits includes ones of a *Milkmaid*, a *Geographer*, and an

*Astronomer*.

ANSWER: Jan **Vermeer** (accept Johan or Johannes instead of Jan)

Vermeer painted a vast, cloudy sky over a harbour and the blue and red roofs in a *View of* this Dutch city, which was Vermeer’s hometown.

ANSWER: View of **Delft** (accept Gezicht op **Delft**)

This painting by Vermeer shows a close view against a black backdrop, bringing the viewer’s focus to a young woman wearing a blue and yellow turban, with a title jewelry hanging from her ear.

ANSWER: **Girl with a Pearl Earring** (accept **Meisje met de parel**)

<FA, VISUAL>

1. After being convicted for speaking out against this policy, a socialist politician noted “while there is a soul in prison, I am not free.” For ten points each,

Name this governmental policy affecting men of certain ages. It was instituted in 1917 after voluntary enlistment failed to create a one million man force to fight in World War I.

ANSWER: the **draft** (accept answers related to military **conscription**; accept the **Selective Service**)

This aforementioned socialist was imprisoned in 1918 for speaking out against the draft. Despite being in prison, he received 3 . 4 percent of the popular vote in the presidential election of 1920, his fifth time on the ballot.

ANSWER: Eugene V. **Debs**

This President called Debs a traitor for his opposition to the draft during World War I and consistently refused to pardon him. Eventually, this man’s successor, Warren Harding, commuted Debs’ sentence.

ANSWER: Woodrow **Wilson**

<HIST, AMER>

1. For ten points each, give the following about the electron configuration of potassium.

Potassium’s electrons normally occupy the lowest possible energy levels, so the configuration is said to be in this state, as opposed to an excited state.

ANSWER: **ground** state

In the ground state, the 3p subshell of potassium is filled before the 4s due to this energy level principle. Its name comes from the German for “building-up.”

ANSWER: **aufbau** principle

The electron configuration of potassium can be shortened to Ar 4s1 [”a” r” 4 “s” 1] by using the symbol for argon, one of these unreactive elements found in Group 18 of the Periodic Table.

ANSWER: **noble gas**es (accept **inert gas**es; prompt on partial answers)

<SCI, CHEM>

1. This man collaborated with William Wordsworth on the poetry collection *Lyrical Ballads*. For ten points each, Name this author of the poems “Christabel” and *The Rime of the Ancient Mariner*.

ANSWER: Samuel Taylor **Coleridge**

In Coleridge’s *Rime of the Ancient Mariner*, the title character tells his story to a man on the way to one of these events, although “the Bridegroom’s doors are open wide” to welcome him.

ANSWER: **wedding** ceremony (accept synonyms like “marriage”)

In the Mariner’s story, his ship is cursed after he shoots one of these birds with a crossbow, after which his crewmates force him to wear this bird around his neck.

ANSWER: **albatross**

<LIT, BRIT>

1. Cholera can be a fatal illness because it reverses the direction of this process across the lining of the small intestine. For ten points each,

Name this type of passive transport by which water diffuses across a semipermeable membrane. The reverse form of this process is used to purify drinking water.

ANSWER: (forward and/or reverse) **osmosis**

The rapid movement of water across the cell membrane is achieved through these channel proteins that are very abundant in nephrons.

ANSWER: **aquaporin**s

Nephrons are the primary unit of this organ, which filters blood. Patients who have damaged or lost one of these bean-shaped organs may undergo dialysis.

ANSWER: **kidney**s

<SCI, BIO>

1. This woman’s ascension rights were restored with the Third Succession Act of 1543, though she and her younger sister remained legally illegitimate. For ten points each,

Name this Catholic queen of England who deposed Lady Jane Grey to become queen after the death of her younger half-brother, Edward VI.

ANSWER: **Mary** I (accept Bloody **Mary**)

Edward, Mary, and their half-sister, Elizabeth, were the only children of this man, who split from the Catholic church and married six women in a desperate attempt to father more heirs.

ANSWER: **Henry VIII** (prompt on “Henry”)

The Third Succession Act was supported by this woman, who served as Queen Regent while Henry fought in France, and survived him by a year.

ANSWER: Catherine **Parr** (prompt on “Catherine”)

<HIST, EURO>

1. This mythical figure’s parents were either King Lot and Morgause or Morgaine and her half-brother. For ten points each,

Name this figure from British legend, who mortally wounded a king at the Battle of Camlann, where this man was killed.

ANSWER: **Mordred** (accept **Medraut**; accept **Modred**)

Mordred betrayed this legendary king, who established the Round Table, went to war with Lancelot over his wife Guinevere, and was transported to Avalon after being mortally wounded at the Battle of Camlann.

ANSWER: King **Arthur** Pendragon

This mystic was unable to protect Arthur at the Battle of Camlann because he had been imprisoned in a cave by the sorceress Nimue, who had been this man’s student.

ANSWER: **Merlin**us Ambrosius (accept **Myrddin** Emrys; prompt on “Emrys” or “Ambrosius”)

<RMPSS, MYTH>

1. The musical concept of a *raga*, a progressive set of notes that provides certain emotions, is used in this country’s two primary schools of classical music, Carnatic and Hindustani. For ten points each,

Name this country whose classical composers have included Ravi Shankar. ANSWER: **India**

Ravi Shankar was known for playing this instrument, which features several pluckable strings and numerous sympathetic strings that provide resonant sound without being played directly.

ANSWER: **sitar**

Ragas in Indian music are often compared with this concept in Western music, in which the feeling of a piece is altered by the starting position of the major scale. Types of this concept include Dorian, Lydian, and Ionian.

ANSWER: **mode**s

<FA, AUDIO>

1. Consider a train traveling along a perfectly circular track at a constant speed. For ten points each,

Dividing the train’s speed by the radius of the track gives this quantity, usually expressed in radians per second. ANSWER: **angular velocity** (do not prompt on “velocity”)

If the train is moving counter-clockwise, then the angular velocity vector points straight up according to this rule, which relies on the curl of the fingers and the direction of the thumb.

ANSWER: **right-hand** rule

Any passengers aboard the train will feel pulled toward the outside of the track because of this fictitious force directed away from the axis of rotation.

ANSWER: **centrifugal** force (do not accept “centripetal” force)

<SCI, PHYS>

1. In this epic poem, Hephaestus forges a magnificent shield decorated with scenes of farming, marriage, trial, and battle. For ten points each,

Name this poem, in which Thetis asks Hephaestus to make the shield so her son can avenge the killing of his friend Patroclus by Hector.

ANSWER: The **Iliad**

The shield is made for this Greek hero, who had been made nearly invincible when his mother, Thetis, dipped him into the river Styx. This warrior does eventually kill Hector, who predicts this man’s eventual death.

ANSWER: **Achilles**

Achilles dies before the Greeks finally defeat Troy with the use of this enormous, wooden structure. This apparent “gift” to Troy contains hidden Greek soldiers, allowing them to attack from inside the city.

ANSWER: Trojan **Horse**

<LIT, OTHER>

1. These inventors developed three-axis control, which is key to maintaining a fixed-wing aircraft, in a patent filed in 1903 . For ten points each,

Name this pair of brothers who built and flew the first successful airplane.

ANSWER: Orville and Wilbur **Wright** (accept the **Wright** Brothers; prompt on Orville and Wilbur alone)

The Wright Brothers successfully tested their airplane on this east coast state’s Outer Banks in the city of Kitty Hawk.

ANSWER: **North Carolina**

The Wright Brothers’ original Flyer is part of this historical organization’s collection, despite a heated feud with this organization in the 1920s and 30s over proper credit for the early history of aviation.

ANSWER: **Smithsonian** Institution (accept **National Air & Space** Museum)

<HIST, AMER>

1. Traditionally, this constant is defined by twelve grams of carbon-12, but recent measurements are based on a one kilogram silicon sphere. For ten points each,

Name this chemistry constant, equal to about 6 . 02 times ten to the 23rd power, that is the number of particles in one mole of any substance.

ANSWER: **Avogadro**’s number (accept “constant” instead of “number”)

Avogadro’s number, along with balanced equations and molar masses, is crucial to this branch of chemistry that calculates amounts of reactants and products in reactions.

ANSWER: **stoichiometry**

The techniques of stoichiometry can be used to find this quantity, the amount of product that *should* be made from a known amount of the limiting reactant. In practice, problems with lab techniques may make the actual value different.

ANSWER: **theoretical yield** (accept word forms, like **theoretic yield**; prompt on partial answers)

<SCI, CHEM>

1. A Paschal one of these ritual objects is decorated with a cross, an alpha, and an omega. For ten points each,

Name these ritual objects. During Havdalah, a braided one of these objects with multiple wicks is lit and burned. ANSWER: **candle**s

Nine candles are burned in a namesake holder during this Jewish winter holiday that commemorates the eight days during which the oil in the Temple in Jerusalem miraculously burned.

ANSWER: **Hanukkah** (accept **Chanukah**)

Red, black, and green candles represent struggles, humans, and hope when held in a Kinara during this American cultural holiday.

ANSWER: **Kwanzaa**

<RMPSS, REL>

1. In Basile’s Italian version of this fairy tale, the title Princess Talia gives birth to twins, who wake her up by suckling on her fingers. For ten points each,

Name this fairy tale. In French fabulist Charles Perrault’s version of this fairy tale, the title princess is awoken from a hundred-year sleep by the kiss of a prince.

ANSWER: **Sleeping Beauty** (accept La **belle au bois dormant** or The **Beauty Sleeping in the Wood**s; accept

**Sole, Luna, e Talia** or **Sun, Moon, and Talia**)

In an 1812 version of this fairy tale, Dame Gothel locks the title woman in a tower, but cuts her hair and sends her away after discovering that she is pregnant with twins.

ANSWER: **Rapunzel**

“Rapunzel” was recorded in a collection of *Children’s and Household Tales* by this pair of German brothers. ANSWER: **Grimm** brothers (accept Johann and Wilhelm **Grimm**)

<LIT, EURO>

1. The Strait of Kerch separates this peninsula from the Russian mainland. For ten points each,

Name this region, home to cities like Sevastopol and Yalta. It was annexed by Russia in 2014 after a highly questionable referendum.

ANSWER: **Crimea** (accept the **Crimea**n Peninsula)

The Crimean peninsula was annexed by Russia from this country, where pro-Russian forces have seized buildings in eastern cities like Donetsk. The Dneiper [nee-per] River flows through this country’s capital, Kiev.

ANSWER: **Ukraine**

The Crimean peninsula juts into this large central Asian sea, which the Strait of Kerch connects to the Sea of Azov to its north. To the east of this sea are the Caucasus mountain range and, beyond that, the Caspian Sea.

ANSWER: **Black** Sea

<GEO, GEO>

1. The British and Americans didn’t really get along for a while after the Revolution. For ten points each,

In 1795, war between Great Britain and the United States was avoided due to a treaty named for this man. This first Chief Justice of the United States also contributed to the *Federalist Papers*.

ANSWER: John **Jay** (accept **Jay**’s Treaty)

In the early 19th century, British ships impressed American sailors into service and British forces supported Native American raids on American settlers; in Congress, War Hawks agitated until James Madison asked for the declaration of this war.

ANSWER: War of **1812**

During the War of 1812, Andrew Jackson won the Battle of Horseshoe Bend with support from this native tribe. Despite their service, this tribe was forced off their land with the 1835 Treaty of New Echota.

ANSWER: **Cherokee**

<HIST, AMER>

1. Common logarithms assume this number as the base. For ten points each,

Give this number. It is the base of the decimal system and, as such, inspires the workings of the metric system. ANSWER: **ten**

In base systems larger than ten, the value of “ten” takes up a single digit, usually written as “A.” This numeral system, which uses base 16 and is common in computing, uses the letters A through F to serves as digits.

ANSWER: **hexadecimal** (prompt on “hex”)

The hexadecimal value 100 [”one zero zero”] is equal to this value in the decimal system. ANSWER: **256** [can be read as “two hundred fifty-six” or as “two five six”] (accept **16 squared**)

<SCI, OTHER>

1. The Edgar Allan Poe character C. Auguste Dupin solves crimes using second-hand information, making him the first literary example of the “armchair” type of people with this profession. For ten points each,

Name this profession that, after Poe published his stories about C. Auguste Dupin, became a popular literary subject, as in Sir Arthur Conan Doyle’s Sherlock Holmes stories.

ANSWER: armchair **detective** (accept amateur **detective**; accept private **detective**; accept consulting **detective**)

In C. Auguste Dupin’s first appearance, he discovers who killed Madame L’Espanaye and her daughter on this title Parisian street.

ANSWER: Rue **Morgue** (accept The **Murders in the Rue Morgue**)

In this other Poe short story, C. Auguste Dupin finds the title object, which had been stolen from a noblewoman by a government minister.

ANSWER: The **Purloined Letter**

<LIT, AMER>

1. One of these people holds a bouquet of flowers as she bends over with a let in the air behind her in *Fin d’Arabesque* [fan da-rah-BESK]. For ten points each,

Name these tutu-wearing people who appear practicing *at the Barre* in another painting. ANSWER: ballet **dancer**s (accept **ballerina**s)

*Fin d’Arabesque* and *Dancers at the Barre* are by this French painter and sculptor, who also created *Little Dancer of Fourteen Years* and *L’Absinthe* [lab-SANTH].

ANSWER: (Hilaire Germain) Edgar **Degas**

In a Degas painting set in this American city, his brother Rene´ reads *The Daily Picayune* while a group of men feel out the quality of the title product at *A Cotton Exchange in* this city.

ANSWER: **New Orleans** (accept A **Cotton Exchange in New Orleans** or The **Cotton Exchange in New Orleans**; accept A/The **New Orleans Cotton Exchange**; accept “office” in place of “exchange” in all above-listed answers)

<FA, VISUAL>

1. Because of the slash-and-burn agriculture needed to grow palm trees on rainforest soil, palm oil is usually not considered this type of crop. For ten points each,

Give this term, which is applied to foods like coffee and cocoa that are certified by UTZ or the Rainforest Alliance if their production did not degrade the environment or threaten the quality of the farmers’ lives.

ANSWER: **sustainable** (accept word forms like **sustainability**)

Some agriculture is considered unsustainable due to the overuse of these chemicals, which can cause runoff of nitrogen into rivers, lakes, and other water sources. This term applies to any material, including natural manure and synthetic ammonia-based chemicals, that provides nutrients to plants.

ANSWER: **fertilizer**s

The high water demand of this non-food, fiber crop led to such unsustainable irrigation in the USSR that the Aral Sea shrank to 10% of its original size.

ANSWER: **cotton**

<SCI, BIO>

1. This European country’s colonial holdings included the Congo Free State, where enslaved workers had their hands cut off if they couldn’t harvest enough of a certain crop. For ten points each,

Name this country. Originally, its King Leopold II personally owned the Congo and authorized the Force Publique to commit atrocities to protect his investments.

ANSWER: **Belgium**

Leopold II was given control of the Congo in an 1880s conference held in this German capital city. ANSWER: **Berlin** (accept **Berlin** Conference)

After ivory production proved relatively weak, Leopold’s profiteering from the Belgian Congo primarily relied on this crop. It is harvested from the latex of trees and vines, and it can be vulcanized to stabilize it for commercial use.

ANSWER: **rubber**

<HIST, WORLD>

1. Seven people died in one of these events in Springfield, Illinois in 1908, and one of these in Tulsa in 1921 destroyed the wealthy Greenwood community; in both cases, scholars have criticized a lack of historical education about these events. For ten points each,

Name these violent events that, in the early 20th century, often began with lynchings.

ANSWER: **race riot**s (accept anything related to a **riot**, **civil disturbance**, etc. over **racial** issues between whites and blacks; prompt on partial answers)

Massive race riots escalated in this city in 1943 and 1967; in the latter, the National Guard was called into this city by Michigan governor George Romney.

ANSWER: **Detroit**

In 1992, 63 people died during the Rodney King race riots in this city, and looting was particularly bad in this city’s Koreatown neighborhood.

ANSWER: **Los Angeles** (accept **LA**)

<HIST, AMER>

1. Algorithms for performing this operation include “Bubble,” which checks pairs of adjacent elements and swaps if necessary. For ten points each,

Name this computational task that is usually done to create ascending or descending lists out of randomly listed numbers.

ANSWER: **sort**ing (accept **order**ing a set)

This mathematical term describes an arrangement of all the elements of a set. This term is often contrasted with combination, a similar concept that ignores the order of a set.

ANSWER: **permutation** (prompt on “P” or “nPr”)

One of the least efficient sorting functions imaginable, bogosort, simply generates every possible permutation until it lucks into the one in the desired order. If a set has *n* elements, there are this many total permutations for bogosort to potentially check.

ANSWER: **n factorial** (accept **n!**)

<SCI, OTHER>

1. While this artist stayed at the Quinta del Sordo, the “Villa of the Deaf Man,” he created fourteen murals of dark, dramatic subjects, which were removed from the walls and attached to canvas in the 1870s. For ten points each,

Name this Spanish artist, who painted *La maja desnuda*, *La maja vestida*, and *The Third of May, 1808* . ANSWER: Francisco (Jose´) de **Goya** (y Luceientes)

This is the colorful collective name for the fourteen paintings Goya created on the walls of the Quinta del Sordo, so called because of the very dark colors that dominate these paintings.

ANSWER: **Black** Paintings (accept Pinturas **negra**s)

In one of Goya’s Black Paintings, this Roman counterpart of the Titan Cronus is shown *Devouring His Son*, gnawing on the left arm of a bloodied and headless body.

ANSWER: **Saturn**

<FA, VISUAL>

1. Answer the following about the Holocaust’s profound effect on literature, for ten points each.

In this work, Elie Wiesel recounts how he was deported from a ghetto in Sighet and his eventual arrival at Auschwitz. Wiesel’s loss of faith is shown in this work when he states god is “hanging here on the gallows.”

ANSWER: **Night**

Art Spiegelman relayed his father’s experiences surviving the Holocaust in this first graphic novel to win a Pulitzer Prize. In this work, Nazis are depicted as predatory cats while Jews are shown as their prey.

ANSWER: **Maus**

This writer wrote of falling in love with Peter van Pels while hiding in an annex in Amsterdam. Unfortunately, this young girl’s namesake diary had to be published posthumously as she did not survive her time at Bergen-Belsen.

ANSWER: Anne **Frank** (accept Annelies **Frank**; accept The Diary of Anne **Frank**)

<LIT, EURO>

1. At the end of 2016’s *Kimi no Na wa*, the main characters reunite in this city. For ten points each,

Name this large bustling metropolis whose Shibuya Crosswalk is often depicted in film and TV. Otomo Katsuhiro’s 1988 film *Akira* takes place in a “Neo” version of this capital of Japan.

ANSWER: **Tokyo**

In *Kimi no Na wa*, the main characters are first able to communicate due to this supernatural occurrence. This action, which also happens as the result of a fortune cookie in *Freaky Friday*, causes Mitsuha to use the incorrect pronouns when speaking to Taki’s friends.

ANSWER: **switching bodies** (accept clear equivalents)

*Kimi no Na wa* became the first Japanese animated film *not* by this director to gross over 100 million yen. This director behind Studio Ghibli has dominated the box office with films like *Princess Mononoke*, *The Wind Rises*, and *Spirited Away*.

ANSWER: **Miyazaki** Hayao

<TRASH, POP CULT>

1. Because bromine trifluoride’s central atom has two unshared electron pairs, this theory predicts an unusual T-shape for the molecule. For ten points each,

Name this theory of molecular geometry, based on electron pairs moving as far away from each other as possible around an atom. It predicts a bent shape for water.

ANSWER: **VSEPR** [ves-pur] theory (accept **valence shell electron pair repulsion** theory; accept **Gillespie- Nyholm** theory)

The molecule methane has four shared electron pairs and no unshared pairs, so it adopts this shape, not trigonal pyramidal, under VSEPR theory.

ANSWER: **tetrahedral**

Molecules like carbon dioxide are classified as linear under VESPR theory because all of their bond angles measure this many degrees.

ANSWER: **180** degrees

<SCI, CHEM>

1. This man recruited Castor, Pollux, Heracles, Atalanta, and other heroes to accompany him on a difficult quest set by this man’s uncle, Pelias. For ten points each,

Name this Greek hero, who led the Argonauts on a quest for the golden fleece. ANSWER: **Jason** (accept **Iason**)

Pelias sent Jason after the golden fleece after Jason arrived in Iolcus wearing only one of these pieces of clothing. An oracle had warned Pelias that he would be threatened by a man wearing only one of these strappy pieces of footwear.

ANSWER: **sandal**s (prompt on “shoes”)

After Jason returned with the golden fleece, this woman helped him claim Pelias’s throne by tricking Pelias’s daughters into killing him. When Jason tried to marry Glauce, this sorceress killed Glauce and the sons she had had with Jason in revenge.

ANSWER: **Medea**

<RMPSS, MYTH>

1. Dr Hastie Lanyon dies of shock after witnessing the transformation of this novel’s protagonist. For ten points each,

Name this novel, in which the respectable first title character creates a potion that transforms him into the ruthless second title character.

ANSWER: The Strange Case of **Dr Jekyll and Mr Hyde**

Dr Jekyll and Mr Hyde were created by this Scottish author, who also created the character David Balfour in

*Kidnapped*.

ANSWER: Robert Louis **Stevenson**

In this Stevenson novel, Billy Bones asks Jim Hawkins to look out for a one-legged seafaring man. Jim later boards a pirate ship en route to this novel’s title location.

ANSWER: **Treasure Island**, or the mutiny of the Hispaniola

<LIT, BRIT>

1. In 1948, the assassination of Jorge Elie´cer Gaita´n set off riots and started a decade-long civil war. For ten points each,

Name this South American country where the ensuing riots ravaged the capital city and earned the name El Bogotazo [bo-gah-TAH-zo].

ANSWER: **Colombia**

This is the name given to Colombia’s aforementioned decade-long civil war, in which hundreds of thousands of people were killed.

ANSWER: **La Violencia** (prompt on “(the) violence”)

In the aftermath of *La Violencia*, guerrilla fighters formed FARC, a peasant army that terrorized Colombia until signing a ceasefire agreement with Juan Manuel Santos in 2016 . That agreement helped Santos win this international prize.

ANSWER: **Nobel Peace** Prize (prompt on partial answers)

<HIST, WORLD>

1. The photograph *Pillars of Creation* shows stars being formed within the “Eagle” one of these bodies. For ten points each,

Name these interstellar clouds of dust and gas. They may be planetary, like the Cat’s Eye, or supernova remnants, like the Crab.

ANSWER: **nebula**e (accept **nebula**s)

Astronomers seeking stellar nurseries often search for this type of radiation, found between UV rays and gamma rays on the EM spectrum.

ANSWER: **X-rays**

Newly formed stars of sufficient mass will quickly deplete their supply of the 7-isotope of this element, the lightest of the alkali metals.

ANSWER: **lithium** (accept **Li**)

<SCI, OTHER>

1. For ten points each, give the following about early Protestantism.

This German theologist was excommunicated by Pope Leo X [tenth] in 1421 for refusing to recant much of his 95 Theses.

ANSWER: Martin **Luther**

Luther’s break from the Catholic Church began this period of religious history, in which Protestants tried to change the workings of the church.

ANSWER: Protestant **Reformation**

This man, who wrote *Institutes of the Christian Religion* and worked in Geneva after breaking from the Catholic Church, names a group of Protestant denominations that often prefer to call themselves “Reformed Protestants.”

ANSWER: John **Calvin** (accept **Calvinism** or **Calvinist**s)

<HIST, EURO>

1. The struggle of this novel’s central family is paralleled by an old turtle attempting to cross a road. For ten points each,

Name this John Steinbeck novel about the Joad family’s westward-trek to California. This novel’s title refers to the hardship the Joads will face but also of the deliverance they can achieve.

ANSWER: The **Grapes of Wrath**

The Joads’ flee their home in Oklahoma to escape the famine caused by this extreme 1930s drought. This period, which resulted in “black blizzards,” led to a collapse of the agriculture sector and contributed to the Great Depression.

ANSWER: the **Dust Bowl**

While in California, the Joads meet this christ-figure. This preacher exclaims “you don’ know what you’re a doin” as he is murdered for striking against the Hooper Ranch.

ANSWER: **Jim Casy** (accept either underlined name)

<LIT, AMER>

1. For ten points each, name the following leaders of France.

This current President defeated Marine le Pen in the 2017 elections. ANSWER: Emmanuel **Macron**

This general led Free France during World War II and rose to power as President in 1958 as the Fourth Republic fell.

ANSWER: Charles **de Gaulle**

This Prime Minister of France, known as “the Tiger,” led the French delegation at the Paris Peace Conference. His insistence on harsh German reparations made it into the Treaty of Versailles.

ANSWER: Georges **Clemenceau**

<HIST, EURO>

1. This piece was written as part of an “Experiment in Modern Music,” and shares some of its themes with songs like “Embraceable You” and “The Man I Love” by the same composer. For ten points each,

Name this George Gershwin piece, a fusion of classical and jazz music, that premiered in 1924 with Gershwin on the piano.

ANSWER: **Rhapsody in Blue**

*Rhapsody in Blue* opens with a famous solo for this instrument which glissandos despite being a single-reed instrument and not, say, a trombone.

ANSWER: **clarinet**

Gershwin’s “Embraceable You” was premiered on Broadway in 1930 by Ginger Rogers, who went on to star in 10 musical films with this legendary dancer.

ANSWER: Fred **Astaire**

<FA, OTHER>

1. Around 12,000 years ago, the cheetah population experienced one of these events that may have left only a single breeding pair in all of Africa. For ten points each,

Name this type of genetic drift event, similar to the founder effect, in which a disaster like drought or disease severely reduces a population’s size, causing future generations to have low genetic diversity.

ANSWER: **bottleneck**

The effect of a bottleneck on a population’s gene pool can be calculated using this model of genetics at equilibrium. This equation is usually written as *p*2 *+ 2pq + q*2 *= 1* [p squared plus 2 p q plus q squared equals 1].

ANSWER: **Hardy-Weinberg** equation (accept model, equilibrium, etc.; accept **H-W** equation)

If the values of *p* and *q* in the equation differ from one generation to the next, then the population is experiencing this change in traits over time. Natural selection is the major cause of this change in Darwin’s theory of it.

ANSWER: **evolution**

<SCI, BIO>

1. Identify some comic plays by Aristophanes named for animals, for ten points each.

In this Aristophanes play, the title chorus of amphibians annoy Dionysus as he crosses their lake on his way to Hades by chanting “bre-ke-ke-kax-koax-koax,” an ancient Greek onomatopoeia similar to the English “ribbit.”

ANSWER: The **Frog**s (accept **Batrachoi**)

In this Aristophanes play, Pisthetaerus and Euelpides [yoo-EL-pih-deez] convince the title animals to build a city in the sky called cloud-cuckoo-land, under the direction of the Hoopoe [hoo-poo].

ANSWER: The **Birds** (accept **Ornithes**)

The chorus of this Aristophanes play represent Athenian jurors who swarm like the title creatures as Procleon despairs over his useless son, who is addicted to attending trials.

ANSWER: The **Wasp**s (accept **Sphekes**)

<LIT, OTHER>

1. This theory often led to high tariffs, monopolies, economic wars, and a devotion to keeping a trade surplus out of fears of enriching other countries. For ten points each,

Name this 18th century economic policy in which a nation tried to maximize the amount of gold and silver it possessed.

ANSWER: **mercantilism** (accept word forms; prompt on “bullionism”)

This Scottish economist was a vicious opponent of mercantilism, attacking it in works like *The Theory of Moral Sentiments* and *The Wealth of Nations*.

ANSWER: Adam **Smith**

Smith’s theories were inspired by the Physiocrats, who argued that this activity was the primary driver of economic success. Franc¸ois Quesnay [kay-nay] divided the economy into the “sterile” class of merchants, the “proprietary” class of landowners, and the “productive” class, who provide this kind of labor to the landowners.

ANSWER: **agriculture** (accept **farm**ing and any equivalents)

<RMPSS, SOC SCI>

1. The losing side in this battle was led by a brother of Tecumseh known as “the Prophet,” as Tecumseh was away trying to secure more allies against the Americans. For ten points each,

Name this 1811 battle. Twenty-nine years later, the winning general capitalized on his victory at this battle by using it in a campaign slogan.

ANSWER: Battle of **Tippecanoe** (accept **Tippecanoe and Tyler Too**)

The “Tippecanoe and Tyler Too” slogan helped this man win the election of 1840 . He caught pneumonia after his inauguration speech and died after just a month as President.

ANSWER: **W**illiam Henry **Harrison** (prompt on Harrison)

William Henry Harrison led at the Battle of Tippecanoe in his role as Governor of the territory that became this state. Modern governors of this state include Evan Bayh, Mitch Daniels, and Mike Pence.

ANSWER: **Indiana**

<HIST, AMER>

1. For ten points each, give the following about gravity.

Newton’s Law of Gravitation states that the force of gravity between two objects is proportional to the product of their masses divided by this power of the distance between them.

ANSWER: **second** power (accept **2**; accept **square**)

This is the magnitude of the gravitational acceleration felt by objects near the surface of the Earth. Round your answer to the nearest tenth of a meter per second squared.

ANSWER: **9 . 8** meters per second squared

Projectiles being accelerated only by gravity will travel in a path of this shape.

ANSWER: **parabola**

<SCI, OTHER>

1. Features in this national park include the 300-foot-deep Cedar Sink collapse sinkhole, a “Bottomless Pit,” and “Hanson’s Lost River,” believed to have been explored by a man later killed in World War II. For ten points each,

Name this American national park, the longest cave system in the world. ANSWER: **Mammoth Cave** National Park (accept **Mammoth Caves**)

Mammoth Cave is found in this US state, a short drive from Bowling Green and a little south of Fort Knox. ANSWER: **Kentucky**

Fort Knox is found just outside this most populous city of Kentucky, which lies on the Ohio River across from Indiana.

ANSWER: **Louisville**

<GEO, GEO>

1. Failure of this process in the embryo explains why some babies are born with tails or webbed fingers. For ten points each,

Name this process of programmed cell death in which the release of cytochrome *c* from mitochondria triggers a cell to commit suicide.

ANSWER: **apoptosis**

Resistance to apoptosis is characteristic of these undifferentiated cells that can form multiple cell types. The adult kind is found bone marrow while the embryonic kind is pluripotent.

ANSWER: **stem** cells

Another apoptosis-resistant type of cell is this immortal tumor cell line, named for an African-American patient who died of cervical cancer in 1951 .

ANSWER: **HeLa** (accept **Henrietta Lacks**)

<SCI, BIO>

1. In a play about two men who pretend to have this name, Gwendolen Fairfax and Cecily Cardew are deceived by men who pretend to share this title name. For ten points each,

Identify this given name used by both Algernon Moncrieff and Jack Worthing. The play in which they appear is named for a pun that communicates the “importance of” having this name and behaving sincerely.

ANSWER: **Ernest** (accept The **Importance of Being Earnest**)

*The Importance of Being Earnest* is by this English playwright, who also wrote *Lady Windermere’s Fan* and was imprisoned for his homosexuality.

ANSWER: Oscar Fingal O’Flahertie Wills **Wilde**

Oscar Wilde was imprisoned in this location. The line “yet each man kills the thing he loves” is from Wilde’s *Ballad of* this place.

ANSWER: **Reading Gaol** [”redding jail”]

<LIT, EURO>

1. Ancient Egyptians called themselves the “cattle of” this leader of the Egyptian pantheon, who was often depicted with a falcon head. For ten points each,

Name this sun god, who defeated Apep every day while sailing the “sun boat” across the sky. ANSWER: **Ra** (accept Re)

This god was syncretized with Ra as Ra-Horakhty. This son of Isis and Osiris had eyes representing the sun and moon, and defeated Set in a boat race by using a boat made of wood painted to look like stone.

ANSWER: **Horus** (accept **Harpocrates**; accept **Nekheny**)

Like Horus, Khepri, and Atum, this patron of Thebes was also syncretized with Ra after the rule of Ahmose I. When this wind god was combined with Ra, he was depicted as a red-eyed, lion-headed man.

ANSWER: **Amun** (accept **Amun-Ra**)

<RMPSS, MYTH>

1. In June 1940, this man proclaimed “we shall defend our island, whatever the cost may be. We shall fight on the beaches...” For ten points each,

Name this British Prime Minister. ANSWER: Sir Winston **Churchill**

Churchill’s “We shall fight on the beaches” speech was given after Operation Dynamo, a week-long evacuation of Allied forces off the continent from this French harbor town. Hundreds of thousands of troops were rescued, many by “little boats.”

ANSWER: **Dunkirk** (accept extra information, like the **Dunkirk** evacuation)

In a speech two weeks later, Churchill noted that “...the Battle of France is over, the Battle of Britain is about to begin.” The speech encouraged listeners with the declaration “Let us...bear ourselves that if the British Commonwealth and Empire lasts for a thousand years, men will still say” this five word phrase.

ANSWER: **“This was their finest hour.”**

<HIST, EURO>

1. For ten points each, give the following about the number 2 pi.

Two pi is the exact measurement of this quantity, the distance around a circle, if the circle’s radius is 1 . ANSWER: **circumference** (do not accept or prompt on perimeter)

Two pi is the period, or the amount of time before behavior starts repeating, of both the sine and cosine functions; two of the basic six trigonometric functions have a period of just pi. Name either.

ANSWER: **tangent** and/or **cotangent**

Two pi is an important part of the formula for several probability distributions, including this bell curve-shaped distribution. The Empirical Rule, learned early in stats classes, notes that 95 percent of this distribution lies within two standard deviations of the mean.

ANSWER: **normal** probability distribution (accept **Gaussian** probability distribution)

<SCI, OTHER>

1. This essay states that “History cannot bring enlightenment; only individual searching can.” For ten points each,

Name this essay that instructs the reader to “trust thyself.” This essay reinforces its author’s idea of rejecting conformity by stating “a foolish consistency is the hobgoblin of little minds.”

ANSWER: **Self-Reliance**

This Transcendentalist author wrote “Self-Reliance.” This author of the *Over-Soul* allowed his friend Henry David Thoreau to stay on his land so that the latter could write *Walden*

ANSWER: Ralph Waldo **Emerson**

In a chapter titled *Spring*, Thoreau states he witnessed the green rebirth of this concept. While at Walden Pond, Thoreau wandered the woods and observed nearby animals to become one with this concept.

ANSWER: **nature**

<LIT, AMER>

1. The Japanese Alps run the length of this island. For ten points each,

Name this largest of the Japanese islands. It contains the Kanto and Kansai regions, as well as the cities of Kyoto and Osaka.

ANSWER: **Honshu**

The Ainu people are indigenous to this island north of Honshu. This snowy island forms Japan’s largest prefecture and is governed from Sapporo.

ANSWER: **Hokkaido**

Hokkaido and Honshu are connected by one of these structures named Seikan. In Europe, one of these structures connects England and France by crossing under the English Channel.

ANSWER: underwater **tunnel** (accept the **Chunnel**)

<GEO, GEO>

1. Answer the following about artistic depictions of a symbolic woman, for ten points each.

In this enormous sculpture that stands in New York Harbor, designed and built by Bartholdi and Eiffel and given to America as a gift from France, the title symbolic woman holds a tablet inscribed with the date July 4, 1776 and holds a torch in her other hand.

ANSWER: **Statue of Liberty** (accept **Liberty Enlightening the World**; accept La **liberte´ e´claireant la monde**)

In this painting by Euge`ne Delacroix [yoo-JEHN deh-lah-CWAH], Lady Liberty holds the French flag over the bodies of fallen Frenchmen while walking beside a young boy brandishing pistols.

ANSWER: Liberty **Leading the People** (accept La Liberte´ **guidant le peuple**)

A woman often interpreted as Liberty stretches her head and lantern-wielding hand through a doorway in this artist’s black and white painting *Guernica* [gayr-NYEE-kah], which protests the horror of war and the bombing of the title city in the Spanish Civil War.

Guernica

ANSWER: Pablo Ruiz y **Picasso**

<FA, VISUAL>

1. This political party’s failed Presidential candidates included Charles Coteworth Pinckney and DeWitt Clinton. For ten points each,

Name this early American political party, which did attain the Presidency via John Adams. ANSWER: **Federalist** Party

Charles Cotesworth Pinckney was part of a powerful political family from this southern state. His brother, Thomas Pinckney, served as Governor shortly before this state’s legislature moved from Charleston to its current capital, Columbia.

ANSWER: **South Carolina**

As Governor of New York, DeWitt Clinton pushed for the construction of this project, which his opponents mockingly nicknamed “Clinton’s Ditch.”

ANSWER: **Erie Canal** (prompt on canal and other generic answers)

<HIST, AMER>

1. This author wrote about a prostitute nicknamed “Boule de Suif,” [bool duh sweef] or “Ball of Fat,” who is scorned by her fellow travelers after she secures their safe passage between Rouen and Le Havre by sleeping with a soldier. For ten points each,

Name this French author, who included “Boule de Suif” in a collection of short stories about the Franco-Prussian War.

ANSWER: Guy de **Maupassant**

In this Maupassant [moh-pah-SAWN] short story, Mathilde Loisel [mah-TEELD lwah-ZELL] and her husband work for ten years to repay a debt after Mathilde returns from a fancy party to discover that she has lost the title borrowed piece of jewelry.

ANSWER: The Diamond **Necklace** (accept La **parure**)

In Maupassant’s short story “The Horla,” the narrator is terrorized by an invisible type of this creature, which feeds on human life. A more common form of this legendary creature is the title character of Bram Stoker’s *Dracula*.

ANSWER: **vampire**

<LIT, EURO>

1. Antoine Lavoisier [lah-vwah-see-ay] determined that cellular respiration and this reaction are essentially the same, since both consume oxygen and release energy. For ten points each,

Name this type of chemical reaction in which a flammable substance combines with oxygen, producing carbon dioxide and water.

ANSWER: **combustion** (accept **burning**)

Because they release heat and raise the temperature of the surroundings, combustion reactions can be described by this term.

ANSWER: **exothermic**

By carefully measuring mass changes in combustion reactions, Lavoisier disproved the existence of this substance, once thought to be released by all burning objects.

ANSWER: **phlogiston**

<SCI, CHEM>

1. This author set many of his works in the fictional Yoknapatawpha County [yawk-nah-pah-taw-fah county]. For ten points each,

Name this Mississippi author of *As I Lay Dying* and *Absalom, Absalom!* ANSWER: William Cuthbert **Faulkner**

This William Faulkner novel is narrated by Benjy and Quentin Compson, who are obsessed with their sister Caddy. ANSWER: The **Sound and the Fury**

Most of the portions of the novel narrated by Quentin take place in this US state. Quentin commits suicide by jumping into the Charles River while attending Harvard University in this state.

ANSWER: **Massachusetts**

<LIT, AMER>

1. In the early 1800s, Napoleon gave up on building a French empire in the New World. For ten points each,

Napoleon sold this territory of nearly one million square miles of land to the United States in 1803 . ANSWER: **Louisiana** Territory (accept the **Louisiana** Purchase)

The Louisiana Purchase was made possible after Toussaint L’ouverture [too-sahn low-ver-ture] led one of these rebellions against their French masters in Haiti.

ANSWER: **slave** revolt (accept **slave** rebellion; accept descriptions of rebellions by **slaves**)

A large factor in the French army’s inability to put down the Haitian slave revolt was this disease. In 1793, Philadelphia suffered an outbreak of this viral disease, which causes liver damage.

ANSWER: **yellow fever**

<HIST, WORLD>

1. This scientist’s ice pail experiment showed that electric fields inside and outside a conductor do not affect each other, the basis for his namesake cage. For ten points each,

Name this British scientist whose law of induction explains the operation of electric motors and generators. ANSWER: Michael **Faraday**

The farad is the SI unit of this quantity, the ability of an object to store electric charge, as demonstrated by two parallel plates in a DC circuit.

ANSWER: **capacitance**

Faraday’s cup is a device for collecting these particles. These are atoms that have gained or lost electrons in their valence shells and so possess a net electrical charge.

ANSWER: **ion**s (accept **cation**s; accept **anion**s)

<SCI, PHYS>

1. Give the following about the musical piece *Also Sprach Zarathustra* for ten points each.

*Also Sprach Zarathustra* is an example of this type of program music that evokes the images of a story. Most pieces in this genre are a single movement, and many include program notes to help listeners understand the story.

ANSWER: **symphonic poem** or **tone poem** (prompt on poem)

The piece’s first movement, “Sunrise,” opens with a fanfare of instruments in this family playing the C, G, C motif. ANSWER: **brass** instruments (accept **trumpet** but no other specific type of instrument)

The piece is probably most famous for its use in this Stanley Kubrick film, in which the “Sunrise” opening brass fanfare plays as an ape learns to use a bone as a crushing tool.

ANSWER: **2001**: A Space Odyssey

<FA, AUDIO>

1. Both the Russian Kola Superdeep and Japanese Chikyu Hakken projects attempted to drill down more than 12 kilometers to reach this region. For ten points each,

Name this semi-fluid layer of the Earth, rich in the mineral olivine, that is located between the crust and outer core. ANSWER: **mantle**

The boundary between the crust and the mantle is this discontinuity, named after a Croatian seismologist, where the speed of P-waves changes.

ANSWER: **Mohorovic˘ic´** [mo-ho-ro-vitch-itch] discontinuity (accept **Moho**)

The absence of the Moho in some areas of the Pacific may have helped form volcanic island arcs like the Solomons, Ryukyus, and this long Alaskan chain at the southern edge of the Bering Sea.

ANSWER: **Aleutian** Islands

<SCI, OTHER>

1. Answer the following about three major schools of Chinese thought, for ten points each.

This ideology focuses not on the morality of individual people, but on their responsibilities toward forming a functioning state. Advocated by Li Si, this school of thought led to a highly autocratic and merit-based society.

ANSWER: **legalism** (accept word forms like **legalist**; accept **fa jia**)

Another authoritative Chinese ideology was created by this man, whose teachings are collected in the *Analects*. This man advocated for a society ruled by junizi, or gentlemen, who shared this often-quoted man’s scholarly inclinations.

ANSWER: **Confucius** (accept **Kong** Fuzi; accept **Kong** Qi)

The authoritative outlooks of legalism and Confucianism are contrasted by this philosophy, possibly created by Laozi. This ideology advocates a balance with nature, exemplified by the balance of yin and yang, and believes in following “the way.”

ANSWER: **Tao**ism (accept **Dao**ism)

<RMPSS, PHIL>

1. This man declared “segregation now, segregation tomorrow, segregation forever,” then tried to back that up by standing in the door to block two black students from entering his state’s university in Tuscaloosa. For ten points each,

Name this politician. His wife, Lurleen, ran for governor when he was term-limited in 1966 . ANSWER: George **Wallace**

George Wallace was the governor of this southern state. His “segregation” quote was made during his inauguration address from this state’s capital, Montgomery.

ANSWER: **Alabama**

As governor, Wallace was a staunch supporter of this type of law, named for a racist caricature. These laws required segregation in public places.

ANSWER: **Jim Crow** laws

<HIST, AMER>