Tossups

1. An iconic scene involving this film character was inspired by the scene in *Metropolis* in which Rotwang turns Maria into a robot. In one film, this character states "We belong dead" before pulling a lever to destroy Dr. Pretorius' facility. This character appeared in two films directed by James Whale, including one in which he is rejected by a woman with frizzy black-and-white hair intended to be his bride. This character is chased into a mill by torch-wielding peasants in a Universal monster movie in which he is played by Boris Karloff. For 10 points, name this character whose creation elicits the quote "It's alive! It's alive!", a green monster with two bolts in his neck.
ANSWER: Dr. Frankenstein's **monster** [or the **monster**; or Dr. Frankenstein's **creature**; prompt on "Frankenstein" alone; do not accept or prompt on "Doctor Henry Frankenstein" or "Doctor Frankenstein"]

2. This term was coined in *A Study of History* by British historian Arnold Toynbee. A book that analyzes the effect of this phenomenon in architecture was written by Fredric Jameson and is subtitled *The Cultural Logic of Late Capitalism*. This term was defined as "incredulity towards metanarratives" in a book about this type of *Condition* by Jean-Francois Lyotard. This intellectual movement emphasizes the use of irony and parody, or pastiche, and the mixing of "high" culture and popular culture. Philosophers of this intellectual era include Jacques Derrida and Jean Baudrillard. For 10 points, give this term for the broad artistic and intellectual response to modernism.
ANSWER: **postmodern**ism [or **po-mo**]

3. Angus Calder wrote a book titled after "The Myth" of this event, claiming that the perceived civilian response to it was itself a product of wartime propaganda. A photograph called "St. Paul's Survives" became a symbol of this event. A man gave the "Every Man to his Post" speech during this event, the failure of which led to the cancellation of Operation Sea Lion. During this event, the Luftwaffe bombed London for 57 consecutive nights. For 10 points, name this campaign of strategic bombing of the United Kingdom in 1940-1941 that takes its name from a shortening of the name given to Nazi war tactics.
ANSWER: The **Blitz** [or the **London Blitz**; prompt on **Battle of Britain** until it is read; do not accept "blitzkrieg"]

4. This character admonishes another to not show others the "the steep and thorny way to heaven" while treading the "primrose path of dalliance." In one scene, this character hands out flowers and herbs but keeps rue to herself. A character picks up a skull at this character's burial, at which this character's brother jumps into the grave. This character sings nonsense like "hey non nonny, nonny" in a scene that takes place shortly before her death. After a soliloquy that states that "conscience does make cowards of us all," this sister of Laertes is told to "Get thee to a nunnery." For 10 points, name this Shakespearean character, the daughter of Polonius who drowns in *Hamlet*.
ANSWER: **Ophelia**

5. This man claimed he couldn't stand to hear his opponent speak after vomiting during a campaign speech. With his rival George Brown, this man formed the Great Coalition. He resigned from one post after donations from Hugh Allan, the head of a certain railway company, were revealed to public. This politician's government faced a revolt led by a member of the Metis people named Louis Riel in the Red River Rebellion. Alexander McKenzie replaced this man after the Pacific Scandal. This man oversaw the passage of the 1867 British North America Act, which granted his nation independence. For 10 points, name this first Prime Minister of Canada.
    ANSWER: John A. **Macdonald** [or John Alexander **Macdonald**]

6. In this painting, a man wearing green pants is clasping his hands in prayer and looking to the ground next to the central figure. A group of rioters is visible behind Principe Pio in this painting's background. Its companion piece shows townspeople attacking Turkish soldiers to prevent the transport of the Infanta and is sometimes titled *The Charge of the Mameluks*. A large cubic lantern illuminates the central yellow-and-white clad figure of this painting, who extends his arms in despair as he faces a row of French executioners. For 10 points, name this Francisco Goya painting that depicts Napoleon's army massacring Spanish citizens on the title date.
    ANSWER: *__Third of May, 1808__: The Execution of the Defenders of Madrid* [or *The __Third of May, 1808__: the Executions on Principe Pio Hill*; or *El __tres de mayo de 1808__ en Madrid*]

7. This technique's "logistic" form can be used when a certain quantity can only have two possible values. A value that measures the effectiveness of the results of this technique is the coefficient of determination, which is often denoted as r-squared. The earliest applications of this technique used the method of least squares to determine the orbits of celestial bodies. The true values of the estimated parameters in this technique are often denoted with a beta. For 10 points, identify this common statistical modeling technique, the linear variety of which uses a linear combination of predictor variables to predict a dependent variable by fitting a line to a set of data.
    ANSWER: **regression** [or logistic **regression**; or linear **regression**]

8. This hero's kingship is usurped by Menestheus after he, like Paris, leaves to kidnap a young Helen of Troy and take her as his wife. He is given a glass of poisoned wine by his stepmother Medea, but it is knocked out of his hands at the last second. This hero's second wife falls in love with Hippolytus, this man's son by the Amazon queen Hippolyta. This hero's failure to change the black sails on his ship to white ones leads his mortal father Aegeus to despairingly throw himself into the sea. He abandons Ariadne on an island shortly after she gives him a ball of string with which to navigate the Labyrinth. For 10 points, name this hero who slays the Minotaur.
    ANSWER: **Theseus**

9. This man lost a highly contentious Senate election to Truman Newberry. He built an industrial town in the middle of the Amazon rainforest that he named after himself. Security guards hired by this man attacked labor organizers while they were taking a group photograph in the "Battle of the Overpass." He published the Protocols of the Elders of Zion and other anti-Semitic articles in his newspaper, the Dearborn Independent. This man raised his worker's wages to a staggering five dollars per day and perfected assembly line manufacturing. For 10 points, name this American businessman whose namesake car company produced the Model T.
    ANSWER: Henry **Ford**

10. An enzyme that targets a secretion of this organ is referred to as P-30 due to its size. Secretions of this organ include citric acid and a namesake acid phosphatase. A disease of this organ is scored on the Gleason scale. A hyperplasia of this organ can be detected by testing for its namesake "specific-antigen". The secretions produced by this organ combine with those of the bulbo-urethral gland and the seminal vesicle before they are released from the body. Cancers of this organ are commonly checked via a digital rectal exam. For 10 points, name this male reproductive gland, whose tumors are the most common cause of cancer in men.
ANSWER: **prostate**

11. This non-Doppler effect phenomenon creates the Lorentzian profile of spectral lines because it causes natural broadening. This statement is responsible for the nonzero value of zero-point energy. One of these statements exists for any set of variables that do not commute, such as for time and energy. The formulator of this statement created a thought experiment involving a microscope attempting to observe an electron. This statement sets a lower bound of the reduced Planck's constant over two. For 10 points, name this principle which states that the position and momentum of a particle cannot both be precisely known.
ANSWER: Heisenberg **uncertainty** principle

12. Nobles in this country were granted equality after the passage of the Golden Liberty. A ruler of this country known as "the Brave" was the first to unite it, and was a member of the Piast dynasty. Members of this country's nobility also sat in its legislature, in which all members had a veto power that nullified the laws passed in any given session. That legislature was called the Sejm ["same"]. After the signing of the Union of Lublin, this nation formed a commonwealth with Lithuania. A king of this nation relieved a siege at Vienna, turning back an Ottoman invasion of Europe. For 10 points, name this nation which was ruled by men like Jan III Sobieski from Warsaw.
ANSWER: **Poland** [or **Polska**]

13. A character in one of this author's poems "came home with a smooth round stone / as small as a world and as large as alone". That poem ends with the line "its always ourselves we find in the sea". Another poem by this author ends "how do you like your blue-eyed boy / Mister Death". In another poem by this author of "maggie and millie and molly and may" and "[Buffalo Bill's]", "a yearning nation's blueeyed pride" is instructed by colonel trig westpointer to beat the title character, who was "more brave than me:more blond than you". For 10 points, name this poet of "i sing of olaf glad and big" who frequently used unconventional punctuation and capitalization.
ANSWER: Edward Estlin **Cummings** [or E.E. **Cummings**]

14. Roman Catholics cite John 3:5 as the basis for performing this practice, while Jehovah's Witnesses do not recognize any instance of this practice performed by another sect after 1914. Catholic teachings hold that this event can occur through desire and through martyrdom in addition to the more common method, which often involves aspersion or affusion. When this ceremony is performed in Catholic churches, a prayer of exorcism is said. After Jesus received this sacrament, the voice of God declared that Jesus is his son. For 10 points, identify this sacrament commonly undergone by Christian infants, the main profession of Jesus's cousin John.
ANSWER: **baptism** [or word forms like **baptizing**]

15. Toronto FC forward Sebastian Giovinco is nicknamed the "atomic [one of these creatures]." In *Rick and Morty*, a bunch of these creatures constantly swarm over the eyes of an electronics salesman with the last name Johnson. One of these creatures is voiced by Woody Allen in a Dreamworks Animation film released around the same time as Pixar's *A Bug's Life*. Secret identities of a superhero imitating the traits of these insects have included Hank Pym and Scott Lang. Raisins are placed on a piece of celery with peanut butter on it to imitate these insects "on a log." For 10 points, name these insects mimicked by a Marvel superhero played by Paul Rudd who can shrink his size.
ANSWER: **ant**s

16. Early in his career, this composer incorporated aspects of the concerto grosso into a series of three consecutive symphonies titled *Le matin*, *Le midi*, and *Le soir*. In a G major symphony by this composer, the Allegretto second movement introduces an ensemble of triangle, cymbals, and bass drum to imitate Turkish Janissary bands. For the Esterházy family, this composer wrote a symphony that ends with all but two violins leaving the stage. In the second movement of this composer's Symphony No. 94, the quiet opening theme is interrupted by a sudden loud chord. For 10 points, name this composer of symphonies nicknamed *Military*, *Farewell*, and *Surprise*.
ANSWER: Joseph **Haydn** [or Franz Joseph **Haydn**]

17. The second section of a novel by this author quotes extensively from Mr. Povondra's newspaper clippings, and that novel contains a "supplementary chapter" about the sex lives of some animals. In one of his works, a protagonist is appalled to earn that some creatures are sterile like flowers, after which she burns a manuscript describing the production of omega-enzyme and biogene. This author of *War with the Newts* wrote a play in which Alquist approves of the developing love between Helena and Primus after the revolt of the title figures against their human creators. For 10 points, name this Czech playwright who coined the term "robot" in *R.U.R.*
ANSWER: Karel **Capek** ["CHA-pek"]

18. Rudolph Marcus combined the assumptions of Hinshelwood with RRK theory to estimate this quantity. This quantity changes due to isotopic substitution in the kinetic isotope effect. This quantity is equal to the product of the concentrations of reactants raised to their order, all multiplied by a namesake constant of proportionality. The constant associated with this process is proportional to the exponential of negative activation energy divided by RT according to the Arrhenius equation. This quantity, which is equivalent to the change in reactant concentration over time, can be increased with a catalyst. For 10 points, give this value which refers to the speed of a reaction.
ANSWER: reaction **rate**

19. The formation of one type of these objects is characterized by a free expansion phase, a Sedov-Taylor phase, and finally a cooling phase. 84 of these objects are listed in the Gum catalogue, and "dark" objects of this type are so dense that light from surrounding objects cannot pass through them. A well-studied one of these objects is the first entry in the Messier catalogue. Very old red giant stars can eject material that forms the "planetary" type of these objects. The Pillars of Creation are a part of one of these objects named "Eagle." For 10 points, name these pretty astronomical clouds of star-forming gas and dust that include ones named "Orion" and "Crab."
ANSWER: **nebula**e [or emission **nebula**e; or planetary **nebula**e; or dark **nebula**e]

20. This leader's trade relationship with the South during the American Civil War led many "Confederados" to immigrate to his country. Giuseppe Garibaldi participated in an uprising against this leader called the Ragamuffin War. His reformist daughter Isabel served as regent during his many tours of Europe. This man's nation defeated the forces of Juan Manuel de Rosas in the Platine War, during which his army was led by the Duke of Caxias. His regime issued the Law of the Sexagenarians and the Law of the Free Birth, both of which foreshadowed his ending of slavery in his country through the Golden Law. For 10 points, name this second and final Emperor of Brazil.
ANSWER: Dom **Pedro II** [prompt on just "Pedro"]

Extra

The narrator of the Shusaku Endo novel *Silence* is a member of this profession. It's not teacher, but a member of this profession named Arnall delivers a lecture that scares Stephen Dedalus in *A Portrait of the Artist as a Young Man.* The title character is kicked out of his training in this profession due to public drunkenness and ends up as the lover of Sharon Falconer in a novel by Sinclair Lewis. The main character of *The Power and the Glory* is described as a "whiskey" one of these people. For 10 points, identify this profession of Elmer Gantry, who do God's work in spreading the word of Jesus and are often called "Father."
ANSWER: **priest** [or equivalents like **preacher**, **minister, reverend, clergyman**, etc.]

Bonuses

1. This man took his last position in office after John Lambert's drafted the Instrument of Government. For 10 points each:
[10] Name this Lord Protector of the Commonwealth, a Protestant leader of the victorious Roundheads during the English Civil Wars.
ANSWER: Oliver **Cromwell**
[10] The Self-Denying Ordinance set up this body, of which Cromwell was the Lieutenant-General. This army, which came into being after Parliament's loss at Marston Moor, did not rely on part-time militias.
ANSWER: **New Model** Army
[10] This commander-in-chief of the New Model Army began his service in the English Civil Wars fighting alongside his father, Fernando, and later resigned his post after refusing to invade Scotland.
ANSWER: Thomas **Fairfax** [or 3rd Lord **Fairfax** of Cameron]

2. This novel is set on San Lorenzo, a fictional Caribbean island where Papa Monzano kills dissenters with a large hook. For 10 points each:
[10] Name this novel in which ice-nine is accidentally released into the ocean, freezing everything and killing most of humanity. A bizarre fictional religion called bokononism was created in this novel.
ANSWER: *Cat's Cradle*
[10] This author of *Cat's Cradle* also wrote about Billy Pilgrim, a World War II prisoner of war who becomes unstuck from time, in *Slaughterhouse-Five*.
ANSWER: Kurt **Vonnegut**, Jr.
[10] In *Cat's Cradle*, adherents of bokononism practice "boko-maru," a highly spiritual activity in which two of these body parts are rubbed together.
ANSWER: bare **feet** [or the soles of **feet**; or **foot**]

3. This author states that he is "now alone on earth, no longer having any brother...or society other than myself" in the first of ten "walks" that make up his unfinished *Reveries of a Solitary Walker*. For 10 points each:
[10] Name this French philosopher, who wrote that a state must represent the "general will" to be legitimate in his *The Social Contract*.
ANSWER: Jean-Jacques **Rousseau**
[10] This book by Rousseau was banned for its section in which a Savoyard priest asks the title character to think freely about religion. It traces the education of a youth as a "man and a citizen" in 18th century France.
ANSWER: *Emile*
[10] Rousseau's description of Emile's ideal female counterpart, Sophie, is blasted in this book arguing that women should "endeavor to acquire strength, both of mind and body". It was written by Mary Wollstonecraft.
ANSWER: *A **Vindication of the Rights of Woman*** [or *A **Vindication of the Rights of Woman*** *with Strictures on Political and Moral Subjects*]

4. Under the "biological concept," this process is considered to be complete only when there is total reproductive isolation between the resulting groups. For 10 points each:
[10] Name this process that can occur "sympatrically" when a group in one geographical location is split, or "allopatrically" when a group is divided by a geographic barrier.
ANSWER: **speciation** [or obvious equivalents like "**formation** of new **species**"; accept **sympatric speciation** or **allopatric speciation**; prompt on "evolution"; prompt on "cladogenesis"]
[10] A canonical example of sympatric speciation is thought to have occurred in the Lake Victoria species of this group of fish. Tilapia belongs to this fish family.
ANSWER: **Cichlid**s [or **Cichlidae**]
[10] In plants, speciation often occurs due to auto-poly-ploidy, which is a doubling in this quantity. The value of this quantity in *Drosophila* is 8, and aneuploidy ["AN-you-ploidy"] occurs when there is an abnormal value of it.
ANSWER: **chromosome number** [or obvious equivalents; prompt on "n" or "2n"]

5. This knight's murder of King Lot of Orkney sparks a lengthy feud that ends with his own death at the hands of brothers Gawain and Gaheris. For 10 points each:
[10] Name this Knight of the Round Table whose perpetual hunt for the Questing Beast is interrupted by a duel with King Arthur during which the Sword in the Stone is broken.
ANSWER: Sir **Pellinore**
[10] After the Sword in the Stone is broken, King Arthur is presented this new sword by the Lady of the Lake.
ANSWER: **Excalibur** [or **Caliburn**]
[10] This Knight of the Round Table and illegitimate son of Lancelot successfully obtains the Holy Grail, after which he becomes the only knight permitted to sit in the Siege Perilous.
ANSWER: **Galahad**

6. This piece's fourth movement closes with a coda that incorporates five thematic motifs into a five-voice fugue. For 10 points each:
[10] Name this C major symphony by Wolfgang Amadeus Mozart, nicknamed for the chief Roman god.
ANSWER: *Jupiter* Symphony [or Symphony No. **41**]
[10] Most of Mozart's symphonic third movements pair one of these dances with a contrasting trio section. One in G major for keyboard is traditionally attributed to J.S. Bach.
ANSWER: **minuet**
[10] Many of Mozart and Haydn's symphonies have fourth movements in this form. Like the ritornello, these pieces state a central theme multiple times, with episodes of contrasting music between each statement.
ANSWER: **rondo** [or **rondeau**; or **sonata-rondo**; do not accept "round"; do not accept "sonata"]

7. The unmanned Japanese robotic probe ABISMO visited this place in 2008. For 10 points each:
    [10] Name this trench in the Western Pacific Ocean that contains the deepest parts of the world's oceans.
    ANSWER: **Mariana**s Trench [or **Mariana** Trench]
    [10] This deepest part of the Marianas Trench is named after the ship that made the first measurements of its depth in the 19th century. Director James Cameron descended to this place in a similarly named vessel in 2012.
    ANSWER: **Challenger Deep**
    [10] Challenger Deep is located in a country called the "Federated States" of this Western Pacific island region that includes the nations of Palau and Kiribati ["KEER-uh-boss"], as well as the U.S. territory of Guam.
    ANSWER: **Micronesia** [or Federated States of **Micronesia**]

8. This country improved its relationship with the Ottoman Empire by promising to build a railroad from its capital to Baghdad. For 10 points each:
    [10] Name this country that sparked an international crisis by dispatching a gunboat, the *Panther*, to the Moroccan port of Agadir in 1911. The Herero genocide occurred in one of its African colonies.
    ANSWER: **Germany** [or **German Empire**; or **Deutschland**; or **Second Reich**]
    [10] Germany was forced to surrender most of its overseas territories by this 1919 treaty, which ended World War One.
    ANSWER: Treaty of **Versailles**
    [10] During World War One, Germany conspired with the Ghadar party, a group made up of people of this nationality, to sabotage the British Empire. An activist of this nationality encouraged countrymen to support the British war effort by joining the ambulance corps.
    ANSWER: **Indian** people [or **Bharatiya**]

9. Shor's quantum computer algorithm can perform this procedure in polynomial time. For 10 points each:
    [10] Name this procedure of completely decomposing an integer into its divisors. Cryptographic algorithms like RSA rely on the difficulty of performing this procedure on very large numbers.
    ANSWER: **prime factorization** [or word forms like "**factoring into primes**"; prompt on "factorization" or "integer factorization"]
    [10] This corollary of Euclid's first theorem guarantees the existence of the greatest common factor and least common multiple. This theorem states that every positive integer has a unique prime factorization.
    ANSWER: **fundamental theorem of arithmetic** [prompt on "unique (prime) factorization theorem"]
    [10] This algorithm is currently the fastest for finding prime factors for numbers with fewer than 100 digits. This algorithm can be repurposed and represented as the parabola x equals y squared in order to find prime numbers.
    ANSWER: **quadratic sieve** [or **QS**]

10. This poem consists of twenty five quatrains, the first of which begins "As I was going down impassive Rivers / I no longer felt myself guided by haulers." For 10 points each:
[10] Name this poem narrated by the title vessel, which recounts its crash into the "furious lashing of the tides" after the death of its crew.
ANSWER: "The **Drunken Boat**" [or "Le **bateau ivre**"]
[10] This French symbolist wrote "The Drunken Boat" at the age of 16. He was shot by his lover Paul Verlaine.
ANSWER: Arthur **Rimbaud**
[10] This author discussed the poetry of Rimbaud and his contemporaries in his essay "The Bow and the Lyre." This author of the poem "Sunstone" analyzed Mexican culture in "Labyrinth of Solitude."
ANSWER: Octavio **Paz**

11. This architect made substantial "ornamental" deviations from his Warrant Design for a building on Ludgate Hill, including to its dome, which lies above a whispering gallery. For 10 points each:
[10] Name this architect of St. Paul's Cathedral.
ANSWER: Sir Christopher **Wren**
[10] St. Paul's Cathedral is located in this city, whose reconstruction he helped plan after its Great Fire of 1666.
ANSWER: **London**
[10] Wren was also commissioned to design this building to house John Flamsteed's scientific work, for which tall windows were installed in its Octagon Room. This building also marks the prime meridian.
ANSWER: **Royal Observatory**, Greenwich [or **Royal Greenwich Observatory**]

12. The simplest one of these compounds is ethylene and isomers of these compounds can be labelled using the E-Z notation. For 10 points each,
[10] Name these hydrocarbons that contain at least one carbon-carbon double bond.
ANSWER: **alkene**s [or **olefin**s]
[10] An alkene can be prepared from a carbonyl via this organic reaction, which uses a phosphonium salt consisting of tri-phenyl-phosphine bound to the desired alkyl chain.
ANSWER: **Wittig** reaction [do NOT accept "Wittig rearrangement"]
[10] When alkenes are cleaved by reacting with this compound, the reaction proceeds through a five ringed intermediate to form a carbonyl. CFCs destroy this compound in the atmosphere.
ANSWER: **ozone** [or **O_3**]

13. Answer the following about elite military units from the Middle East, for 10 points each.
[10] This empire was served by an elite detachment of 10,000 soldiers called the Immortals. Cyrus the Great ruled this empire that is called by either the name of its legendary ancestor or its origins in modern-day Fars province.
ANSWER: **Achaemenid** Empire [or **Persian** Empire; or **Persia**]
[10] These Ottoman infantry units were originally recruited from impoverished, Christian portions of the Balkans. They were purged from the Ottoman bureaucracy in the Auspicious Incident.
ANSWER: **Janissarie**s
[10] The janissaries often had power struggles with these Ottoman cavalry units. They were divided into the Timarli and the more elite Kapikulu.
ANSWER: **Sipahi** [or **Spahi**; or **Spakh**]

14. The narrator of this poem describes meeting people who have just left "counter or desk" in their workplaces of "grey eighteenth century houses." For 10 points each:
[10] Name this poem that states that "too long a sacrifice / Can make a stone of the heart". It memorializes "MacDonagh and MacBride / And Connolly and Pearse", who were involved in the title revolt in Ireland.
ANSWER: "**Easter, 1916**"
[10] "Easter, 1916" is by this Irish poet who included the line "World-Besotted Traveler" in his translation of Jonathan Swift's epitaph. He used the line "That is no country for old men" to begin his "Sailing to Byzantium"
ANSWER: William Butler **Yeats**
[10] "Easter, 1916" ends with the statement that things "Are changed, changed utterly" and that a figure described by this two-word phrase "is born".
ANSWER: a **terrible beauty** [or "a **terrible beauty** is born."]

15. Members of this religion usually refuse military service due to their pacifism. For 10 points each:
[10] Name this Protestant group that was active in the abolition of slavery and believes that humans possess an "inner light" of God. A member of this sect founded the colony of Pennsylvania.
ANSWER: **Quaker**s [or **Religious Society of Friends**]
[10] This man, considered a founder of the Quakers, traveled widely with his wife Margaret Fell spreading Quaker doctrines and campaigning against injustice, for which he was repeatedly imprisoned.
ANSWER: George **Fox**
[10] Quakers avoid hierarchies and believe that all adherents may be these people, in accordance with a Bible verse that encourages "proclaiming the excellencies of him who called you out of darkness."
ANSWER: **priest**s

16. This artist inspired Cy Twombly to make a set of three pen illustrations showing three, two and one rowboats each. For 10 points each:
[10] Identify this artist of two different paintings titled *Snow Storm*, the more famous of which shows a bright orange Sun amid a stormy sky above the main scene of Hannibal's army crossing the Alps.
ANSWER: J.M.W. **Turner** [or John Mallord William **Turner**]
[10] This Turner painting inspired the aforementioned Twombly drawings. This painting shows the shining title ship being towed into harbor by a heavily contrasting dark steam-powered tug.
ANSWER: The *Fighting Temeraire*
[10] Turner's painting *Rain, Steam, Speed* shows a small row boat to the left in addition to one of these vehicles hurtling across a bridge towards the viewer.
ANSWER: **train** [or **locomotive**]

17. Answer the following about a cognitive process, for 10 points each.
[10] Recent evidence suggests that sleep facilitates effective use of this mental system. The "long-term" type of this faculty records both facts and information about how to do things so that both can be used again much later.
ANSWER: **memory**
[10] Long-term memory is often contrasted with this memory system that permits active, ongoing manipulation and organization of visual and verbal information.
ANSWER: **working** memory [prompt on "short-term memory"]
[10] Baddeley and Hitch's three-part model of the working memory includes this system that mentally simulates repeating verbal information. It complements the visuospatial sketchpad and the episodic buffer.
ANSWER: **phonological loop** [or **articulatory loop** or **articulatory rehearsal component**]

18. The victims of this event had surrendered to General Jose de Urrea's army only a few days earlier. For 10 points each:
[10] Name this massacre perpetrated on James Fannin's men a month after the Battle of the Alamo. At the Battle of San Jacinto, charging soldiers cried "Remember the Alamo! Remember [this massacre]!"
ANSWER: the **Goliad** ["go-LEE-ad"] massacre
[10] The Goliad massacre took place during this nation's revolution. It was annexed in 1845 as a state with its capital at Austin.
ANSWER: Republic of **Texas**
[10] This man popularized the battle cry "Remember the Alamo! Remember Goliad!" while leading Texan troops at the Battle of San Jacinto ["jah-SIN-toh"]. He later became the first President of the Republic of Texas.
ANSWER: Sam **Houston** [or Samuel **Houston**]

19. This man's lost wits are eventually found on the moon. For 10 points each:
[10] Name this paladin who titles poems by Matteo Boiardo and Ludovico Ariosto. In Ariosto's poem, this knight goes mad when Angelica elopes with the Saracen knight Medoro.
ANSWER: **Orlando** [or *Orlando* Furioso; or **Roland**]
[10] Orlando is one of the paladins who serve this Holy Roman Emperor. Orlando kills this Frankish king's rival, the Saracen king Agramante, who had besieged this man's capital of Paris.
ANSWER: **Charlemagne** [or **Charles the Great**; or **Charles I**; or **Carlo Magno**; or **Karl der Grosse**; or **Carolus Magnus**]
[10] *Orlando Furioso* is written in this form with eight-line stanzas that was also used by Lord Byron in *Don Juan* and William Butler Yeats in "Sailing to Byzantium."
ANSWER: **ottava rima**

20. The wave envelope describes a smoothed version of this quantity. For 10 points each:
[10] Name this quantity that describes the maximum displacement of a wave from equilibrium. As loudness increases, so does this quantity.
ANSWER: **amplitude**
[10] These waves have points of zero and maximum amplitudes called nodes and antinodes. These waves are used to model wind and string instruments.
ANSWER: **standing** waves [or **stationary** waves]
[10] Exact solutions to the Korteweg–de Vries equation are these types of waves. These waves appear to be a single wave which maintains its shape as it propagates.
ANSWER: **soliton**s [or **solitary** waves]

Extra

This character moves to Lycurgus, New York to work for his Uncle Samuel's collar factory. For 10 points each:
[10] Name this protagonist of *An American Tragedy*. He accidentally kills his pregnant girlfriend Roberta Alden by leaving her in a capsizing rowboat.
ANSWER: **Clyde** Griffiths [or Clyde **Griffiths**]
[10] This American wrote *An American Tragedy*. The title girl travels from her rural Wisconsin home to Chicago in his novel *Sister Carrie*.
ANSWER: Theodore **Dreiser** [or Theodore Herman Albert **Dreiser**]
[10] This American novelist singled Dreiser out for praise in his 1930 Nobel Prize acceptance speech. He wrote *Babbit* and *Main Street*.
ANSWER: Sinclair **Lewis** [or Henry Sinclair **Lewis**]