

1. Charles Prestwich Scott's Liberal editorials helped transform this city's most prominent newspaper into "the greatest newspaper in the world". Early computers like the SSEM and Mark 1 were constructed in this city. In 1894, a 36-mile shipping canal was opened connecting this city's Trafford Park docks to Eastham. A crowd that gathered in this city to hear a speech from Henry Hunt were charged by mounted troops in an (*) 1819 incident that prompted the passage of the Six Acts. This site of the Peterloo massacre publishes the *Guardian* newspaper, and was connected by one of the world's first railroads to nearby Liverpool. For 10 points, name this industrial British city that shares its name with the most populous city in New Hampshire.

ANSWER: Manchester

<Bentley>

2. This author championed four literary "Pleiades", namely Gombrowicz, Musil, Broch, and Kafka, in his critical writings, which include *The Curtain* and *The Art of the Novel*. In one of his novels, a radio commentator bungles her suicide attempt by opening a bottle of laxatives instead of a container of aspirin. In that novel by this author, Pavel rats out the protagonist for sending an innocuous (*) postcard reading "Optimism is the opium of the people!" In another of his novels, the dog Karenin smiles shortly before dying of cancer, which reunites a former waitress and a surgeon who has an affair with Sabina. For 10 points, name this Czech author of *The Joke* who wrote about Tomas and Tereza in *The Unbearable Lightness of Being*.

ANSWER: Milan Kundera

<Bentley>

3. Silas Wright declined to seek this office in one of the earliest telegraph messages sent, preferring instead to run for Governor of New York. In 1976, Richard Schweiker received a strange and ultimately unrealized guarantee of this office. The same year, its then-holder was captured responding to a heckler with an enthusiastic middle finger. Charles Curtis's successor in this position once colorfully described it as "not worth a (*) bucket of warm piss." Nelson A. Rockefeller and John Nance Garner held this position, which was resigned by John C. Calhoun and Spiro Agnew. This job, whose duties in the Senate include breaking tie votes, was first held by John Adams. For 10 points, name this second-highest American executive office, now held by Joe Biden.

ANSWER: Vice President of the United States of America [or Vice Presidency of the United States of America; prompt on "President of the Senate"]

<Wasserman>

4. A conformal mapping preserves these entities across a given function. Cyclic quadrilaterals are particularly susceptible to a problem solving technique in which these entities are "chased". Galois theory has been used to shown that dividing up one instance of these entities into three equal parts is impossible via (*) construction. For two vectors, this quantity can be given by the arccosine of the dot product of the two vectors, divided by the length of each vector. Alternating interior ones generated by a transversal are equal to each other. Like line segments, you can use a compass and straightedge to bisect them. For 10 points, name these entities whose size can be measured with a protractor in degrees or radians.

ANSWER: angle [Accept solid angle; accept radians or degrees or any such measure of an angle]

<Mukherjee>

5. This object emerged after cornmeal was stolen by a dog, according to the Cherokee. A “dark rift” in this place, which served the same function as rivers of blood, pus, and scorpions, allowed people to enter the Mayan underworld Xibalba. On the seventh day of the seventh month each year, a bridge of magpies emerges over this locale to let a cowherd from Chinese folklore see his weaving lover. Its (*) English name comes from a Greek story in which a bite awoke the sleeping Hera, who produced it as she tore the infant Heracles away from her breast. For 10 points, name this bright set of night sky objects, a galaxy containing the Earth.

ANSWER: the Milky Way galaxy

<Jackson>

6. James Mirrlees argued that the schedule of this policy should depend on the ability distribution. Frank Ramsey treated determining this policy as a monopolist setting price based on maximizing social welfare, and argued it should be determined by the inverse of the price elasticity of demand. The Barro-Ricardo equivalence theorem shows that given certain assumptions, consumers are indifferent towards issuing public debt and a change in this policy. The cost of (*) negative externalities can be internalized if a Pigovian type of these is implemented. The Laffer curve shows the point at which this value maximizes government revenue. For 10 points, name this policy that requires paying governments a certain amount of money, often based on consumption or income.

ANSWER: taxes [or more specific types like income taxes, commodity taxes, etc.]

<Bailey>

7. One character in this novel is a former member of a band of thieves called the Redbeards. Another of its characters feels betrayed when two pearls she'd asked to keep are made into earrings and hates the slave Cuckoo. This novel is the first part of a trilogy that also contains *Sons* and *A House Divided*. During a riot in this novel, the protagonist's wife finds a cache of jewels, while the protagonist is paid off by a rich man whose house is being looted, allowing him to quit his job pulling a (*) rickshaw. This novel's protagonist buys land from the House of Hwang and purchases the concubine Lotus, leading him to neglect his wife O-Lan. For 10 points, name this novel about the Chinese peasant Wang Lung, written by Pearl S. Buck.

ANSWER: *The* Good Earth

<Morlan>

8. Three peacocks walk along a balcony in the background of one of this artist's paintings, in which the baby Jesus holds a crystal globe topped by a cross while sitting on Mary's lap in front of the title patron. This artist painted a small river flowing out of the Fountain of Life in a section of a larger work in which blood spews into a cup from the chest of an animal on a (*) pedestal. This artist of the *Chancellor Rolin Madonna* included a convex mirror inscribed with scenes from the Passion at the back of a painting in which a woman in green clasps hands with the title merchant. For 10 points, name this Flemish artist who completed the *Ghent Altarpiece* and painted the *Arnolfini Wedding*.

ANSWER: Jan van Eyck

<Bollinger>

9. In 1879, John Robertson founded the world's second national park just south of this city. Pulbah Island is in a saltwater lake north of this city. One annual event in this city involves running up from Pitt Street Mall to the top of its tallest building, which used to be called the AMP Tower and is now known as its Tower Eye. In this city's City2Surf run, runners end up in the suburb of Bondi Beach. In the 19th century, (*) Lachlan Macquarie opened economic opportunities to the Emancipists in this city. The long steel-arch bridge over Jackson Harbor in this city is sometimes called the Coathanger. Jorn Utzon designed the distinctive shell appearance of its opera house. For 10 points, name this capital of New South Wales and most populous city in Australia.

ANSWER: Sydney

<Bentley>

10. This compound acts as a catalyst in aromatic nitration, and it is typically used along with a mercury(II) compound in the hydration of alkynes. This compound is mixed with chromium trioxide and water in the Jones reagent. One industrial process for the production of this compound works by oxidizing a certain element into its trioxide, then converting it into oleum, which is a (*) "fuming" form of this compound. That process uses a vanadium pentoxide catalyst, replaced the earlier lead chamber process, and is known as the contact process. This substance has a pKa of around negative 13. Once known as oil of vitriol and found in battery acid, for 10 points, name this strong diprotic acid with formula H₂SO₄.

ANSWER: sulfuric acid [or H₂SO₄ before mention, or oil of vitriol before mention]

<Busse>

11. One of these objects provides the title of a novel in which Tadasu has difficulty distinguishing between his mother, Chinu, and his step-mother, Tsuneko; that novel was written by Jun'ichiro Tanizaki. Alihodja Mutevelic, a shopkeeper from the city of Visegrad, is nailed to one of these objects in an Ivo Andric novel. Five tramps travel west in "The River", a subsection of "Powhatan's Daughter", which along with (*) "Cutty Sark" and "Cape Hatteras" is a major section of a poem titled for another of these objects. A sudden searing pain makes Peyton Farquhar realize that he is being hung from one. For 10 points, identify these objects, the subjects of a Hart Crane poem about one in Brooklyn and an Ambrose Bierce story about one across Owl Creek.

ANSWER: bridges [accept Bridge of Dreams, The Bridge on the Drina, or "An Occurrence at Owl Creek Bridge"]

<Bentley>

12. Helmut Walcha and E. Power Biggs were players of this instrument. Messaien's *Les corps glorieux* and *La Nativité du Seigneur* are for this instrument, for which Charles-Marie Widor wrote 10 symphonies. This instrument enters with a loud C major chord in the *Maestoso* finale of a certain C minor (*) symphony. César Franck's "Panis Angelicus" is for tenor, strings, and this instrument. Chorale-Preludes are a genre for this instrument, for which Dietrich Buxtehude wrote most of his output. This instrument is featured in Saint-Saëns's Third Symphony. J.S. Bach's works for this instrument include his *Toccata and Fugue in D minor*. For 10 points, name this keyboard instrument that features manuals, pedals, stops, and pipes.

ANSWER: pipe organ

<Berend>

13. Jan Assmann argued that the story of this group's alliance with a "leper army" under Osarsiph was constructed as a memory-bearer for historical trauma. Josephus considered whether the first syllable of this group's name denotes "captives" or "kings," and linked them to the Biblical Hebrews. A surviving letter from one king of this group complains of unreasonable hippopotamus noise.

Sequenre Tao and Kamose battled the last major king of this group, (*) Apophis. This group introduced the chariot and ruled from Avaris during the 15th through 17th dynasties. The end of the Middle Kingdom and onset of the Second Intermediate Period coincides with the rise of this Semitic group. For 10 points, name these "rulers of foreign lands" who invaded Egypt around 1800 BCE.

ANSWER: the Hyksos [or the Foreign Rulers before it is read; prompt on Egyptians]

<Bollinger>

14. In one of his operas, the agitated orchestral accompaniment undercuts the attempts a character to reassure himself after murdering his mother in "Le calme rentre dans mon cœur". This composer's resistance to the Metastasian ideals of *opera seria* have caused his works to be characterized as "reform operas". In one of his operas, the chorus repeatedly cries "No!" in response to one of the title character's repeated pleas in (*) "Deh placatevi con me". In that opera by him, a solo flute plays during part of a ballet depicting Elysium called "The Dance of the Blessed Spirits". This composer of *Iphigénie en Tauride* wrote the aria "Che farò senza Euridice?". For 10 points, name this composer of *Orfeo ed Euridice*.

ANSWER: Christoph Willibald (Ritter von) Gluck

<Lawrence>

15. In one nucleus that receives signals for this sense, octopus cells generate temporally precise signals which are then relayed by the lateral lemniscus and the inferior colliculus. This sense makes use of the ILD and ITD, which is processed at the medial and lateral superior olive. The primary cortex of this sense is located in Brodmann Areas 41 and 42 within the superior temporal gyrus and is (*) tonotopically arranged, like the hair cells that cause displacement of the basilar membrane in the organ of Corti. This sense is carried by cranial nerve eight, which fires in response to changes in pressure created by the displacement of the tympanic membrane. For 10 points, name this sense, whose signals are carried from the cochlea by the auditory nerve.

ANSWER: hearing [or audition; accept equivalents]

<Mukherjee>

16. Some members of this organization celebrate "hump day" in anticipation of "trunk day" a year later. Its stories include a place called Bountiful where a group builds a ship after a vision of bright white fruit on a sacred tree, and it holds that "sons of perdition" will exist forever in God's absence in the Outer Darkness. In 2011, these holders of sealing ceremonies commissioned a new Samoan edition of the (*) *Pearl of Great Price*, bundled with a text depicting the Lamanites' loss at Cumorah to the wicked, dark-skinned Nephites. Male members of this faith go on a two-year mission to tell of a sacred book on golden plates. For 10 points, name this religious sect founded in America by Joseph Smith, whose central temple is in Salt Lake City.

ANSWER: Mormon Church [or Mormonism; or the LDS Church; or Church of Jesus Christ of Latter-Day Saints; or the Mormon mission]

<Jackson>

17. The quantization of this quantity was first demonstrated by the Little-Parks effect, and Abrikosov vortices are sometimes named for the fact that they contain a quantum of this quantity. The inverse of the quantum of this quantity is equal to the Josephson constant. This quantity is equal to the line integral of the vector potential around a boundary. Type II superconductors have the ability to pin lines of this quantity. The negative time derivative of this quantity is equal to the induced (*) emf according to Faraday's Law, and this quantity can be given as the dot product of the magnetic field with the surface area. For 10 points, name this quantity which gives the amount of magnetic field passing through a given area.

ANSWER: magnetic flux [or electromagnetic flux]

<Mukherjee>

18. Vice Admiral George Tyrone died when he crashed a ship named after this figure into the *HMS Camperdown* in Lebanon. Baron Stockmar was sent to advise this figure - whose childhood was scarred by John Conroy's Kensington System - by Leopold I of Belgium, this ruler's uncle. This monarch's ascension occurred during the premiership of Lord Melbourne and caused the Duke of Clarence to become Ernest Augustus I, ending a personal union with (*) Hanover. The Duke of Kent, a son of George III, fathered this first British monarch to have a Diamond Jubilee. This ruler's relationship with Benjamin Disraeli culminated in the creation of the title of Empress of India. For 10 points, name this longest-reigning British monarch, whose husband was Prince Albert.

ANSWER: Queen Alexandrina Victoria [or *HMS Victoria*; or *HMS Camperdown* before mention]

<Liao>

19. In one poem, this man asked "Why has not man a microscopic eye?" and answered "For this plain reason, - man is not a fly". In another of his poems, a bag of "sighs, sobs, and passions" and a vial of "soft sorrows, melting griefs, and flowing tears" are poured on Thalestris and another woman. This author asked "Who breaks a butterfly upon the wheel?" in his "Epistle to (*) Dr. Arbuthnot". One of his poems describes how "Hope springs eternal from the human breast" and claims that "the proper study of Mankind is Man". The gnome Umbriel visits the Cave of Spleen in a mock-heroic poem by this author in which the Baron steals the title object from Belinda. For 10 points, name this English satirist who wrote *An Essay on Man* and "The Rape of the Lock"

ANSWER: Alexander Pope

<Jose>

20. In a dialogue named for this concept, Evodius talks about eternal and temporal law with Augustine. Like God and immortality, this is assumed by practical reason but outside the realm of pure reason among Kant's three metaphysical concerns. Plantinga argued that God could only create worlds where this concept exists in its namesake "Defense" against the problem of (*) evil. Challenges to this idea include Laplace's demon. Bergson paired this concept with *Time*, and Sartre believed that this concept is absolute as an axiom of existentialism. Critics ask if God's foreknowledge precludes this concept, and compatibilists accept both this concept and its seeming opposite, determinism. For 10 points, name this ability of a person to make genuine choices.

ANSWER: free will [or free choice of the will; or freedom of the will; or human freedom; or liber arbitrium; accept *De Libero Arbitrio*; do not accept "liberty"]

<Jackson>

21. This city's rule passed to Itumish after a tragic polo accident killed its ruler Qutb al-Din, who had formerly been the favorite slave of Muhammad of Ghur. This city was taken by a ruler from the Afsharid Dynasty after the Battle of Karnal. The Ghulam dynasty ruled this city, whose Koh-i-Noor Diamond was stolen after it was brutally sacked in 1739 by Nadir Shah. Tamerlane also sacked this city after overcoming the rockets used by Muhammad ibn Tughluq. The founding of the (*) Mughal Empire is sometimes dated to Babur's taking of this city after the First Battle of Panipat, when he defeated the Lodi Dynasty of this city's namesake Sultanate. For 10 points, name this Indian city to the north of a "New" version of itself that is currently the capital of India.

ANSWER: Delhi [do not accept or prompt on "New Delhi"]

<Bollinger>

22. The discharge rate of these is given by Peukert's law. Solid nickel chloride and molten sodium are used in the ZEBRA form of these devices, which is also an example of the thermal form of them. One of these was invented by Georges Leclanche and employs a zinc "can". They can be generally classified into primary and storage categories, with the latter reusable. Reactants are not continually added to these devices, distinguishing them from (*) fuel cells. One form of these devices see lithium ions move alternatively between the positive and negative electrodes. These devices were pioneered by the Voltaic Pile. For 10 points, name these devices that create electrical energy from chemical energy, commonly found in sizes like D and AA.

ANSWER: batteries [word forms ok; prompt on electrochemical cell or voltaic cell]

<Bentley>

23. A cab driver in this novel suffers from an aortic aneurism, which forces him to leave his beloved Lucy in Salt Lake City. A steadily decreasing number is painted somewhere on the farm of John Ferrier in this novel's second section, "The Country of the Saints". In this novel, both Joseph Stangerson and Enoch Drebbler are found dead underneath the word (*) "RACHE" written in blood. Stamford introduces this novel's narrator, a doctor returning from Afghanistan, to his future roommate. That crime is found to have been committed by Jefferson Hope by his novel's protagonist, who next appeared in the novel *The Sign of Four* with his companion John Watson. For 10 points, name this 1887 novel in which Arthur Conan Doyle introduced Sherlock Holmes.

ANSWER: A Study in Scarlet

<Berend>

24. Emperor Frederick II gave Salerno a monopoly on training people in this profession in medieval Italy. In the Classical era, Soranus of Ephesus subscribed to the Methodic School of this profession. While serving Louis XIII, University of Montpellier product Charles de Lorme designed a costume for these people that included a beak-like mask. Elizabeth (*) Blackwell was a pioneer in this profession. Bernard Kouchner formed an NGO of these individuals in 1971 in response to the Biafran War. Practitioners of this profession like Waldemar Hoven and Karl Brandt were sentenced to death, although "Angel of Death" Josef Mengele escaped by fleeing to South America. For 10 points, name this profession that still uses an oath attributed to Hippocrates.

ANSWER: Medical Doctors [or physicians or surgeons; accept reasonable equivalents including answers mentioning medicine; accept specific answers like plague doctors, etc.]

<Bentley>

1. This concept was based on, and named for, Nicolai Trubetzkoy's approach to linguistics. For 10 points each:

[10] Name this anthropological school which uses the "distinctive feature method" and believes that cultures are interdependent systems based on universal properties of the human mind.

ANSWER: **structuralism** [or **structuralist**]

[10] The founder of anthropological structuralism was this French thinker who did extensive research among Brazilian Indians and wrote *The Elementary Structures of Kinship* and *The Savage Mind*.

ANSWER: Claude **Levi-Strauss** [do not accept or prompt on partial answer]

[10] Levi-Strauss developed a "triangle" demonstrating different cultural methods of performing this process, and it appears in the title of the first volume of his *Mythologiques*. Richard Wrangham argued that it spurred human evolution, and early humans used flint to create an important component of this process.

ANSWER: **cooking** meat/food

<Weiner>

2. Identify the following about some firearms important in American history, for 10 points each.

[10] This first type of rifle popular amongst Native Americans succeeded the matchlock rifle. Invented by Marin le Bourgeois, pulling the trigger on these weapons caused the frizzen to strike the namesake mechanism, igniting a spark that ultimately fired the ball.

ANSWER: **Flintlock** Rifle

[10] Springfield Rifles get their name from the Springfield Armory, which was a target of this 1786 rebellion against taxes in Massachusetts by Revolutionary War veterans.

ANSWER: **Shay's** Rebellion [or **Shays'** Rebellion]

[10] This company's namesake repeating rifles were called the "Gun that Won the American West". Its first model, produced in New Haven, could fire 15 shots in under 10 seconds and was called "the gun that was loaded on Sunday and fired all week" in the Civil War.

ANSWER: **Winchester** Repeating Arms Company

<Bentley>

3. This quantity is the x-intercept of the logarithmic form of Verhulst's logistic model. For 10 points each:

[10] Name this maximum population size achievable in a given environment within the constraints of food, water, and habitat availability.

ANSWER: **carrying capacity** [prompt on "k"]

[10] Because these species tend to produce larger offspring in lower numbers than r-selected species, their population tends to hover around the carrying capacity.

ANSWER: **k-selected** species [accept word forms, such as **K selection**]

[10] The carrying capacity for a given species might drop if the species opts for this strategy involving a single reproductive episode before death. Salmon do this when they swim to their freshwater birthplaces.

ANSWER: **semelparity** [accept word forms]

<Gupta>

4. This event, which lasted roughly from 1500 to 1850 CE, has been linked with reduced forest burning by Native Americans and a decline in the number of sunspots. For 10 points each:

[10] Identify this event that caused massive crop failures across the world due to low temperatures. Since cooling was mostly regional, it did not constitute true glaciation period.

ANSWER: The **Little Ice Age**

[10] Another important topic in environmental history is this reciprocal transaction that followed the Age of Discovery and was described by Alfred Crosby. This system led to the Old World receiving helpful crops like potatoes, while the New World got smallpox.

ANSWER: **Columbian** Exchange [accept Christopher **Columbus** or Cristoforo **Colombo** or Cristóbal **Colón** or Cristóvão **Colombo**]

[10] The Columbian Exchange may also have introduced Europe to this disease, which was historically treated by covering the genitals in mercury. The U.S. government conducted infamous studies on this disease in Guatemala and at Tuskegee.

ANSWER: **Syphilis** [or the **French** Disease or **Spanish** Disease or **Italian** Disease or **Polish** Disease or **Christian** Disease of **Frank** Disease or **British** Disease]

<Bentley>

5. This substance was first generated by Heike Onnes's application of the cycle named for Hampson, for which Onnes won a Nobel Prize. For 10 points each:

[10] Identify this exotic substance, whose properties are dependent on whether the 3 or 4 isotope of the namesake element is used. It occurs when that element has been cooled to below the lambda point.

ANSWER: **liquid helium** or **LeHe** [DO NOT READ OUT LOUD but accept **superfluid helium**]

[10] Liquid helium is one of these substances that behave as if they have zero viscosity. A candidate for a theory of quantum gravity treats the vacuum as one of these substances which imparts a physical force to gravity.

ANSWER: **superfluids** [accept word forms.]

[10] The reason why superfluid helium 4 has many properties that are different than superfluid helium 3 is that because helium 4 is comprised of these particles, which may occupy the same energy states and be non-distinguishable.

ANSWER: **Bose** particles [or **bosons**]

<Jose>

6. This man gained control of Alba Longa after the death of his grandfather Numitor, and he was succeeded by Numa Pompilius. For 10 points each:

[10] Name this man, who became the god Quirinus at his death. He founded a city on seven hills by the Tiber river after he killed his twin brother Remus.

ANSWER: **Romulus**

[10] Twelve of these creatures were seen flying over the eventual site of Rome by Romulus, whereas Remus saw only six. Garuda's brother Jatayu takes this form.

ANSWER: **vultures**

[10] By Janus's will, one of these natural phenomena emerged to try and block Romulus's attempted abduction of the Sabine women. It took down many of Romulus's men.

ANSWER: a hot **spring** [or a **geyser**; or a **fountain**]

<Mukherjee>

7. Demonstrate your knowledge of ballet terminology, for 10 points each.

[10] This is the term for a jump from one foot to the other, while "throwing" one leg (as its name implies). In the "grand" form of this technique, a mid-air split is performed.

ANSWER: jeté

[10] Special ballet shoes are designed to allow dancers to perform this technique: which is dancing while balanced on the tip of ones toes.

ANSWER: en pointe

[10] In this one of the five basic numbered foot positions, one foot is placed in front of the other, aligned heel-to-toe, with both feet in contact

ANSWER: fifth position

<Lawrence>

8. Identify the following about European epics, for 10 points each.

[10] The sword Durandal belongs to this title character of a *chanson de geste*, one of Charlemagne's twelve paladins. After he is betrayed by Ganelon, his friend Oliver convinces him to blow the *olifant* to request aid against the Saracens, but he dies while doing so.

ANSWER: Roland [or Orlando; accept *The Song of Roland* or *La Chanson de Roland*]

[10] Vainamoinen defeats Joukahainen in a singing contest and steals the Sampo from Pohjola alongside Lemminkainen and Ilmarinen in this Finnish epic, compiled by Elias Lonnrot.

ANSWER: the Kalevala

[10] The adventures of the title character's father Gahmuret take up the first two books of this epic by the minnesinger Wolfram von Eschenbach. Gawan marries Orgeluse in this work, whose title character obtains the armor of the Red Knight.

ANSWER: Parzival [or Parsifal]

<Graebner>

9. Answer the following about visual art techniques, for 10 points each.

[10] In this paint medium, egg yolk is commonly used to bind the pigments. In order to prevent it from cracking, it must be applied in thin layers, which often creates a translucent appearance.

ANSWER: egg tempera

[10] This country's art forms include "pictures of the floating world," or *ukiyo-e* prints, created by artists such as Katsushika Hokusai.

ANSWER: Japan [or Nippon; or Nihon]

[10] In this other printmaking technique, the image is inscribed into a surface and ink is poured into the resulting grooves, after which paper is pressed onto the surface from above to transfer the ink. Francisco Goya utilized this in creating his *Caprichos* and *Disasters of War* series.

ANSWER: intaglio [also accept aquatint since all the clues apply to that as well]

<Rosenberg>

10. Characters in this novel include the twins Manuel and Esteban, the former of whom develops a crush on the actress Camila Perichole, who herself is the longterm mistress of the Viceroy. For 10 points each:
[10] Identify this novel in which Brother Juniper is burned at the stake for writing a tract claiming that the collapse of the title structure was divinely justified.

ANSWER: *The Bridge of San Luis Rey*

[10] *The Bridge of San Luis Rey* was written by this American author of *The Skin of Our Teeth*, who depicted the small-town romance between George Gibbs and Emily Webb in *Our Town*.

ANSWER: Thornton Niven Wilder

[10] This church organist and choir director angrily refers to existence as "ignorance and blindness" in the third act of *Our Town*, where it is revealed that he hanged himself, perhaps as a result of his rampant alcoholism.

ANSWER: Simon Stimson [accept either underlined name]

<Bentley>

11. In the early 20th century, Architect Leopoldo Batres damaged the Pyramid of the Sun in this city by removing some of its original stones to add a fifth level to it. For 10 points each:

[10] Identify this large Mesoamerican city, which also contains the Avenue of the Dead.

ANSWER: Teotihuacan

[10] Teotihuacan was located approximately 30 miles north of Tenochtitlan, the capital of these people. Their leaders included Montezuma.

ANSWER: Aztec People

[10] This other Mesoamerican site located in the Valley of Oaxaca contains several relief sculptures called danzantes. This city contains the South Platform and was a major Zapotec site until around 700 CE.

ANSWER: Monte Alban

<Bentley>

12. A cold finger is used as an apparatus in a configuration that extracts impurities by this phase change. For 10 points each:

[10] Identify this change of phase of solid to gas, without the liquid step in between.

ANSWER: sublimation [accept word forms]

[10] Sublimation with the cold finger is one common method of extracting this drug. This alkaloid is the most consumed drug on earth.

ANSWER: caffeine

[10] Another method of extracting caffeine from a material is to mix it with carbon dioxide that is in this phase. Hydrothermal vents often spew water that is in this phase, because the water is highly pressurized and very hot.

ANSWER: supercritical fluid phase

<Jose>

13. Answer the following about ecological disasters in American history, for 10 points each:

[10] Over 90 percent of these types of trees were killed in the 1930s due to a devastating blight. The “Washington” one of these trees in Cambridge, Massachusetts is the subject of an Oliver Wendell Holmes poem, and Daniel Boone laid out his vision for Kentucky under the “Justice” one.

ANSWER: American **Elm** Tree [or **Ulmas Americanus** or **Ulmus**]

[10] Although as many as 30 million of these animals once roamed the Great Plains, by 1893 all but 300 had been killed. William Cody, who ran a popular Wild West Show, was nicknamed for this animal.

ANSWER: American **Buffalo** [or American **bison** or Bison **bison**]

[10] Massive flocks of these birds migrated across America until the 19th century, when industrialization and hunting wiped them out. The last known member of this species died in a Cincinnati Zoo in 1914.

ANSWER: **Passenger Pigeon** [or **Ectopistes migratorius**; or **Wild Pigeon**; prompt on just "pigeon"]

<Bentley>

14. The April 2013 Rana Plaza collapse in this country's suburban Savar district drew further attention to a garment export industry already being scrutinized for several deadly fires. For 10 points each:

[10] Name this low-lying Asian country, which relies on clothing manufacturing for 75% of its exports.

ANSWER: People's Republic of **Bangladesh**

[10] The Rana Plaza was owned by Mohammad Sohel Rana, a leader of the Jubo League, which is the youth affiliate of this political party. This party, which is currently led by Prime Minister Sheikh Hasina, secured the independence of Bangladesh in 1971.

ANSWER: **Awami League**

[10] The November 2012, the Tazreen fire in Bangladesh focused attention on this American company, the major client of the factory, which declined to compensate survivors. In May 2013, this company and the Gap announced that they will form their own factory safety plan rather than join an international one.

ANSWER: **Wal-Mart** Stores Inc.

<Weiner>

15. This argument, from its author's *Pensées*, can be restated as saying that it is always rational to choose in favor of infinite expected value. For 10 points each:

[10] Name this eponymous argument. It says that the chance of eternal reward or eternal damnation makes it more sensible to believe in God than not.

ANSWER: **Pascal's wager**

[10] This American professor critiqued Pascal's wager as too rationalistic in his *The Will to Believe*. He also wrote *Principles of Psychology* and *Pragmatism*.

ANSWER: William **James**

[10] James's Gifford lectures classified this religious thinker as a “sick soul.” This author of *The Kingdom of God is Within You* discussed the “infectious” character of good art in “What is Art?”

ANSWER: Count Leo **Tolstoy** [or Lev Nikolayevich **Tolstoy**]

<Jackson>

16. Don Medigua disguises himself as the title character in this composer's operetta *El Capitan*. For 10 points each:

[10] Name this American composer known for composing such military marches as "The Gladiator March," "The Liberty Bell," and "Semper Fidelis."

ANSWER: John Philip **Sousa**

[10] This Sousa march, the national march of the United States, is often considered his magnum opus. Sousa's lyrics for the melody of the trio begin "Hurrah for the flag of the free!", and that trio features a notable piccolo counterline.

ANSWER: "**Stars and Stripes Forever**"

[10] This unrelated march is the best known work of Johann Strauss Sr. It is named after the Austrian general who was victorious at the Battle of Custoza in 1848, and it is played as the final encore every year at the Vienna New Year's Concert while the audience claps along.

ANSWER: ***Radetsky March***, Op. 228

<Berend>

17. Answer these questions about ritually-sanctioned purity in religious tradition, for 10 points each.

[10] This Hebrew word, meaning "fit" or "suitable," indicates foods permitted by Jewish law.

ANSWER: **kosher** [or **kasher**; or **kashruth**]

[10] This world religion marks forbidden foods or acts as *haraam*.

ANSWER: **Islam** [or **Muslim** faith]

[10] The Romans used this monosyllabic, indeclinable adjective to denote things sanctioned by divine religious law beyond a secular *jus* or *lex*.

ANSWER: **fas**

<Jackson>

18. "The Unequalled Self" is the subtitle of Claire Tomalin's biography of this man, who chronicled his affairs with Deborah Willet, Mary Knepe, and others in his most widely read work. For 10 points each:

[10] Identify this seventeenth-century naval administrator who used Thomas Skelton's "tachygraphy" shorthand to write his famous diaries, which contain detailed accounts of the Great Plague and Great Fire of London.

ANSWER: Samuel **Pepys** ["PEEPS", but a phonetic pronunciation is acceptable]

[10] Pepys's diary includes an account of his attendance at a performance of *Bartholomew Fair*, a play by this Jacobean author of *Volpone* and *The Alchemist*.

ANSWER: Ben **Jonson** [or Benjamin **Jonson**]

[10] In this Ben Jonson play, the servant Brainworm foils Kno'well's efforts to spy on his own son. It pioneered a genre of comedy in which, as its "Induction" explains, characters are dominated by "some peculiar quality".

ANSWER: ***Every Man in His Humour***

<Bentley>

19. Deep learning is a relatively new approach in the machine learning branch of field of CS. For 10 points each:

[10] John McCarthy pioneered this field which attempts to develop "smart" machines. The Turing Test is an important assessment in this field that has strong and weak formulations.

ANSWER: **Artificial Intelligence** [or **AI**]

[10] One common practice in AI is to perform an informed or uninformed one of these actions on an object like a graph. Depth first, breadth first, and Dijkstra's are common algorithms for doing this.

ANSWER: **search** [prompt on **finding** a path]

[10] One formulation of AI treats the system as one of these entities that perceives and responds to an environment.

ANSWER: intelligent **agent** [prompt on **actor**]

<Butler>

20. Identify the following about some superficially-related literary works, for 10 points each.

[10] The cabinetmaker-slash-personification of death Basil appears in this Derek Walcott play, which takes place within the mind of Makak, who believes in a white goddess.

ANSWER: ***Dream on Monkey Mountain***

[10] Jia Zheng's son Baoyu is born with a piece of magical jade in his mouth in in *The Dream of the Red Chamber*, one of the Four Great Classical Novels of this Asian country.

ANSWER: **China** [or the People's Republic of **China**; or **PRC**; or **Zhonghua**; or **Zhongguo**]

[10] The title figure reconsiders shooting himself after encountering a young girl in this author's short story "The Dream of a Ridiculous Man". This man also wrote a novel in which Prince Myshkin ends up a Swiss sanitarium.

ANSWER: Fyodor Mikhailovich **Dostoevsky** [or Fyodor **Dostoyevsky**]

<Bentley>

21. This term was coined by Karl Morgenstern and popularized by Wilhelm Dilthey, and it can be used to describe works like *David Copperfield*, *Tristram Shandy*, and *A Portrait of the Artist as a Young Man*. For 10 points each:

[10] Identify this literary term used to denote a novel depicting a coming-of-age, a German word meaning "novel of formation".

ANSWER: **Bildungsroman**

[10] The protagonist adopts a young girl named Mignon, stages a production of *Hamlet* with a troupe of actors, and finds a scroll containing the story his own life after joining the Tower Society in *Wilhelm Meister's Apprenticeship*, a pioneering *Bildungsroman* by this German author.

ANSWER: Johann Wolfgang von **Goethe**

[10] The *Künstlerroman* is a sub-genre of the *Bildungsroman* about the growth of an artist. One such novel is *Heinrich von Ofterdingen*, a work of which pseudonymous German poet of *Hymns to the Night*?

ANSWER: **Novalis** [or Georg Philipp Friedrich von **Hardenberg**]

<Carson>

22. This right is provided for in Section I, Article 8, Clause 8 of the US Constitution. For 10 points each:

[10] Identify this right granted to an artist or author to exclusively reproduce and distribute a work. Works not subject to this right are in the public domain.

ANSWER: **Copyright** [do not accept "patent"]

[10] An early bill providing a limited form of copyright is commonly named for this artist, who also pioneered the sale of subscriptions for the engravings of his paintings. He lampooned the upper-class in *Marriage a-la-mode*.

ANSWER: William **Hogarth**

[10] One of the first international treaties on copyright was signed in this Swiss city in 1886.

ANSWER: **Berne**

<Bentley>

23. This process involves the transfer of eight electrons, and it is catalyzed by the product of *nif* genes. For 10 points each:

[10] Name this process that occurs in the root nodules of legumes, in which the triple bond of atmospheric nitrogen is broken in order to form ammonia.

ANSWER: nitrogen **fixation**

[10] Nitrogen fixation in root nodule legumes is catalyzed by this paraphyletic group of bacteria. Their symbiotic relationship with plants is the subject of the sanctions hypothesis.

ANSWER: **rhizobia** [or **rhizobium**]

[10] Nitrogenase often contains this metal along with iron in its active site. Sometimes, this metal is replaced by vanadium.

ANSWER: **molybdenum** [or **Mo**]

<Mukherjee>