1. One character in this book is the governor Tatnai, who is ordered to not disturb certain workers. This work's ninth chapter features news of mixed marriages, which culminates in the sending off of foreign wives and children. A literary chiasmus focusing on a celebration in Jerusalem is present in the Apocryphal "Greek" version of this text. After Zerubbabel leads a group of workers in this book, several Samaritans send a letter to Cambyses II to hinder their efforts. Joshua, exhorted by Haggai and Zechariah, orders the rebuilding of the Temple of Jerusalem, as permitted by Cyrus. For 10 points, name this Old Testament book often paired with Nehemiah.
ANSWER: Book of **Ezra** [prompt on **Esdras** until mention of "Greek"]

020-09-12-15102

2. Slotnick gave a formula for the velocity of these phenomena based on depth. They show a dip-dependent NMO velocity signature in VTI media. These phenomena can propagate in a liquid, so their shadow zone ends at 140 degrees. Unlike their counterparts, the speed of these phenomena depends on the bulk modulus. The displacement in these waves is parallel to the direction of travel. They are faster than their counterparts, meaning they arrive at the surface first, hence their name. For 10 points, name these seismic compression waves, the counterparts of S waves.
ANSWER: **P** waves (prompt on **sesmic** waves or **compression** waves before mentioned)

001-09-12-15103

3. Most of the sheep farming in this region occurs in the cool zone between Mar del Plata and Tandil. Heavy Italian immigration helped settle this region's Córdoba, Santa Fe, and Mendoza provinces. At its north, this region abuts the desert known as the Gran Chaco, while its south runs into the semi-arid plateau Patagonia. It is the setting for a characteristic romantic literature about the duels of honor fought by the *gauchos.* For 10 points, identify this region which is home to Buenos Aires and comprises the open plains of Argentina.
ANSWER: the **Pampa**s [or La **Pampa**]

019-09-12-15104

4. The winning side in this war withdrew from a city it had occupied during the war to prevent conflict with the British, who owned a license to the nickel mines in that city, Petsamo. The losing side in this war had built part of the Enckell Line, which was superseded by the Mannerheim Line. In a follow-up to the conflict called the Continuation War, the losing side attacked the Soviet Union concurrently with Germany's Operation Barbarossa and briefly regained Karelia and parts of Lake Ladoga. For 10 points, name this 1939-1940 war during which the Soviet Union invaded Finland.
ANSWER: **Winter War** [or **Russo-Finnish** War of 1939-1940 before "Soviet Union"]

003-09-12-15105

5. Huitzilopochtli threw one of these objects belonging to Copil into Lake Texcoco. People were buried squatting and carrying a jade bead, which represented them, in the seventh trial on the journey to Mictlan. When people questioned Hanuman's reverence for Rama and Sita, he showed them that they resided in this object of his. Birds warned Sigurd of Regin's arrival after the former ate the one belonging to Fafnir. Ammit devoured the ones heavier than the feather of Ma'at. As a sacrifice to the sun gods, Aztec priests extracted these objects from living victims. For 10 points, name these organs through which a stake must be pushed to kill a vampire.
ANSWER: **heart**s

003-09-12-15106

6. One work by this artist inspired a Sylvia Plath poem in which a mother keeps ill-bred aunts and disfigured cousins away from the speaker's christening. In another of this artist's paintings, a train is in the background while pineapples, bananas and a Greek sculpture are in the foreground. One work by this artist of *La Reve Transforme* contains a painting-within-a-painting of an industrial complex. Another of his works shows dummies among an empty urban square. This artist of *Metaphysical Interior with Large Factory* and *The Disquieting Muses* painted a work that shows a menacing shadow in the back, an open wagon on the right, and a girl rolling a hoop up a road. For 10 points, name this Greek-Italian painter of *Melancholy and Mystery of a Street*.
ANSWER: Giorgio de **Chirico**

7. One document in support of this cause stated that "unfortunately, the overworked term 'genocide' is applicable" and led to the recall of the Foreign Service employee who wrote that dissent-channel communique, Archer Blood. This goal was opposed by the militias Razarkars and al-Shams, and its achivement led to the displacement into refugee status of many Bihari speakers. This goal was advanced by the militant Freedom Force, which was enraged that Yahya Khan had asked Zulfikar Ali Bhutto to become prime minister. Politically, it was advocated by the Awami League, whose leader Mujibur Rahman became president after this cause was won. For 10 points, identify this goal which was achieved in 1971 when a new country broke off from Pakistan.
ANSWER: the **independence of Bangladesh** [or the **independence of East Pakistan** or other equivalents]

8. A play by this author ends with the protagonist's wife Sarah urging him to "blow on the coal of the heart." In a poem by this author, the speaker describes darkness rising over Ecbatan, Kermanshah, Baghdad, and Palmyra, and imagines lying "face downward in the sun" and feeling "how swift how secretly / the shadow of the night comes on." Another of this author's poems recommends that a work of art be "wordless as the flight of birds" and "palpable and mute / as a globed fruit." This author wrote a play in which Nickles and Mr. Zuss put on the masks of Satan and God and watch the title character react to calamities originally visited upon Job. For 10 points, name this author of "You, Andrew Marvell" and *J. B.*, an American poet who wrote "a poem should not mean but be" in "Ars Poetica."
ANSWER: Archibald **MacLeish**

9. The ratio of the rate of emission of these particles to Auger ionization is proportional to the third power of atomic number. Dust particles lose momentum after interaction with these particles in Poynting-Robertson drag. Pair production generates an electron and positron from one of these particles. One cross-section for scattering of these particles by charges is given by eight pi over three times the square of the classical particle radius, that being the Thompson cross-section; another such cross-section is the Klein-Nishina formula. The energy of one of these is equal to Planck's constant times its frequency. For 10 points, name these particles that carry the electromagnetic force and travel at the speed of light because they are the quanta of light.
ANSWER: **photon**s

10. This poet described his work as "the roll, the rise, the carol, the creation" in his "To R.B," which was addressed to the compiler and popularizer of his work, Robert Bridges. He wrote of a man who suffered from "Fatal four disorders" and concludes that "seeing the sick endears them to us, us too it endears" in a poem about the death of a farrier. This poet praised "the achieve of; the mastery of the thing!" in a poem dedicated "to Christ our Lord" which describes the flight of a "dapple-dawn-drawn Falcon." He wrote of his appreciation for "All things counter, original, spare, strange" in a poem which opens "Glory be to God for dappled things." For 10 points, name this Catholic priest and poet of "Felix Randal," "The Windhover," and "Pied Beauty."
ANSWER: Gerard Manley **Hopkins**

11. This philosopher explains his inability to understand interactions from sense-data, ending an essay that tackles skepticism by claiming the absolute certainty of a few beliefs. This philosopher argues that goodness is non-natural and indefinable in terms of other properties. This author invites the reader to substitute "pleasant" for anything in the sentence "Is it good that x is pleasant?" to argue that value cannot be analyzed in the open-question argument. That question is further examined by this philosopher for his refutation of the "naturalistic fallacy." For 10 points, name this British philosopher who wrote *Principia Ethica*.
ANSWER: George Edward **Moore**

12. In one work by this author, a committee uses garbage trucks to create a huge traffic jam to assist the title character in paying her debts before the arrival of a bailiff. The title character of another novel by this author has a father named Alfons who retires from running a coal company to become a consummate talk show guest. The former Hitler Youth leader Herbert Kalick is hit by the performer Hans Schnier in that book by this man, who also wrote a novel in which the Faehmel family reconciles over a cake designed as a replica of St. Anthony's Abbey. For 10 points, name this German author of *Group Portrait with a Lady*, *The Clown*, and *Billiards at Half-Past Nine*.
ANSWER: Heinrich **Böll**

13. The so-called lemma of d'Alembert [DAH-lum-ber] is an incomplete proof of this statement that can be completed using the Weierstrass extreme value theorem. A more direct proof of it uses Rouché's theorem to show that a function with a known number of the values in question has the same number as the function of interest. One corollary of this statement is that every polynomial with only real roots can be written a linear combination of linear and quadratic terms. For 10 points, name this theorem that states that every polynomial over the complex numbers has at least one root, the basic result in an important branch of mathematics.
ANSWER: the **fundamental theorem of algebra** [prompt on **FTA**]

14. The eighth chapter of this novel introduces a storyline about Federico Tellez Unzategui, who becomes obsessed with exterminating rats after rats eat his baby sister. Its sixth chapter describes the trial of Gumercindo Tello, who offers to castrate himself in court to prove that he did not rape Sarita Salaverria. One of this novel's title characters is based on Raul Salmon, and is hired by Genaro Jr., although his hatred of Argentina causes friction with his employer, Radio Panamerica. The even chapters of this novel contain screenplays that become confused with one another and resemble the love affair between the narrator and the first title character. For 10 points, name this novel that interweaves radio soap operas by Pedro Camacho and the romance of Mario Varguitas, written by Mario Vargas Llosa.
ANSWER: *Aunt Julia and the Scriptwriter* [or *La tía Julia y el escribidor*]

15. Followed by "beautiful," this word refers to a turn of the century movement which resulted in the McMillan Plan and sought to improve way of life through the construction of imposing monuments. The New Zealander Charles Reade worked with Ebenezer Howard to design the "garden" type of these, which were inspired by Edward Bellamy's *Looking Backward*. Joel Garreau posited "Boomers," "Greenfields," and "Uptowns" as the edge varieties of these. Ernest Burgess described them with the concentric zone model. The metaphors of these entities as "containers" and "magnets" is central to a Lewis Mumford work that documents them "in history." For 10 points, name these population centers that are surrounded by suburbs.
ANSWER: **cities** [or **city**]

16. In polymer chemistry, an equation that includes the free volume fraction, the Doolittle Equation, better describes the temperature dependence of viscosity than this equation. The development of transition state theory led to the creation of an equation for more complex situations than this equation can handle; that equation is named for Polanyi and Eyring. In collision theory, the leading coefficient of this equation is replaced with the collision frequency, Z, and the steric factor, p. The right hand side of this equation more commonly contains a pre-exponential factor labeled A. For 10 points, name this equation that relates temperature and the rate constant.
ANSWER: **Arrhenius** Equation

17. This ruler replaced the Third Department with a secret police force called the Okhrana which was headed by his interior minister Loris Melikof. This ruler banned the use of the Ukranian language with the Ems Ukaz and banned Polish after he put down the January Uprising. He signed the Aigun Treaty with Qing China and initiated the Zemstvo system. After winning battles at Pleven and Shipka Pass, he signed the Treaty of San Stefano with the Ottoman Empire. This man was assassinated by the terrorist group People's Will after his Emancipation Reform of 1861freed the serfs. For 10 points, name this Russian tsar who reigned from 1855 to 1881.
ANSWER: **Alexander II**

18. This composer commemmorated Joseph de Marliave by writing a toccata that begins with sixteen consecutive E's. Marliave's wife Marguerite Long performed the premiere of this composer's Piano Concerto in G major, which begins with a whip crack. Inspired by Schubert to compose a suite of eight *Noble and Sentimental Waltzes*, this composer was commissioned by Paul Wittgenstein to write his D major *Piano Concerto for the Left Hand*. This composer's nostalgia for Spanish culture inspired him to produce both his *Rapsodie espagnole* and his *Pavane for a Dead Princess*. Another of his pieces was originally commissioned as a ballet by Ida Rubinstein, and repeats a single theme over a ostinato rhythm played on a snare drum. For 10 points, name this French composer of *Bolero*.
ANSWER: Maurice **Ravel**

19. During one battle in these conflicts, the life of a commander was saved after a sailor named Reuben James took a sword wound for his superior. One of these conflicts saw Tobias Lear sent as a peace envoy following a decisive victory at the Battle of Derne. Another began with the capture of the *Meshuda* at the Battle of Cape Gata after a declaration of war by Umar ben Muhammed. One of these conflicts led to a British bombardment of Algiers and another saw the U.S.S. *Philadelphia* set ablaze following the actions of Stephen Decatur. For 10 points, name this series of wars fought between the United States and North African pirates.
ANSWER: **Barbary** Wars

20. A chorus of shepherds in this opera sing "Emily, Emily, Michael, Bartholomew / How are your children and how are your sheep" before presenting gifts such as olives and quinces. One of its characters is comically hard of hearing, and offers black licorice to this opera's protagonist in the aria "This is my box." This opera's female lead sings "All that gold!" and attempts to steal it before being caught by the Page and pardoned by King Melchior. At the end of this opera, the title character gives his crutch to the Christ child, causing his leg to miraculously heal. Its original performance took place on Christmas Eve, 1951, and was broadcast by NBC. For 10 points, name this opera about a crippled boy's encounter with the Magi, composed for television by Gian-Carlo Menotti.
ANSWER: *Amahl and the Night Visitors*

052-09-12-15121

21. An N-acetyl derivative of this amino acid is used in over-the-counter expectorants, and TGF-beta has a characteristic group of nine of these residues, eight of which form a namesake knot. The catalytic site of caspases contains histidine and this amino acid, and along with histidine, it coordinates with zinc ions in zinc finger motifs. This amino acid is present in high concentrations in keratin and thus in human hair. For 10 points, name this amino acid that can form disulfide bonds, unlike methionine, and is symbolized C.
ANSWER: **cysteine**

032-09-12-15122

22. One character in this novel ponders choosing between "the woman from the bulrush basket or the woman from Plato's myth," and that character abides by the "rule of threes" in his relationships with women. While in Geneva, one character in this novel falls in love with the university professor Franz, who is obsessed with the kitsch he finds in the movement called "The Great March." The protagonist's favorite mistress is the painter Sabina, who ends up in California at this work's end. Its protagonist has a son named Simon and dies with Tereza in a car accident. For 10 points, Tomas's life just before the Prague Spring is chronicled in what Milan Kundera novel?
ANSWER: The *Unbearable Lightness of Being* [or *Nesnesitelná Lekhost Byti*; or *L'Insoutenable Légèrité de l'Être*]

003-09-12-15123

23. One group that participated in this event lost one man in a skirmish at the Exchange Hotel and was called the Hibernian Rifles. Another participant in this event was quickly ordered executed by John Maxwell. That participant, Patrick Pearse, was part of a group that took over locations such as Boland's Bakery and Jacob's Biscuit Factory, though it was centered in the General Post Office. Arms were to be given to one side from Germany through Roger Casement, who was captured before any exchange. For 10 points, name this failed uprising that proclaimed an Irish Republic and lasted a week after starting on a certain holiday.
ANSWER: **Easter Rising** [or equivalent terms; or **Eiri Amach na Casca**]

023-09-12-15124

1. This event was investigated by Colonel Georges Picquart. For 10 points each:
[10] Name this 1894 scandal, in which the namesake Jewish army officer was accused by the French government of betraying secrets to the Germans.
ANSWER: **Dreyfus** Affair
[10] This editor of the newspaper *L'Aurore* published Emile Zola's "J'accuse" letter on the front page, denouncing the persecution of Dreyfus.
ANSWER: Georges **Clemenceau**
[10] The real traitor turned out to be this anti-Semitic army major, who was never convicted for his dirty deeds. When the truth began to come out, he fled to the United Kingdom.
ANSWER: Ferdinand Walsin **Esterhazy**

052-09-12-15201

2. In a 2009 study that built on this concept, Tinsley and Lebak observed a similar pattern with "reflexive capacity" in adults. For 10 points each:
[10] Identify this concept subdivided into "skill-oriented," "individual," and "cultural" varieties and defined as the difference in capability of a learner who receives and who does not receive help.
ANSWER: **zone of proximal development** [prompt on **ZPD**]
[10] This Soviet psychologist who coined the term "zone of proximal development" wrote *Thought and Language* and theorized that children learn by "scaffolding."
ANSWER: Lev Semyonovich **Vygotsky**
[10] In contrast, this Swiss psychologist developed the sensorimotor, preoperational, concrete operational, and formal operational stages based on the presence of object permanence and the perseverative search error.
ANSWER: Jean **Piaget**

003-09-12-15202

3. Its most famous ruler distributed so much gold on his hajj that he caused inflation and devaluation of the metal. For 10 points each:
[10] Name this African empire with capital at Timbuktu.
ANSWER: **Mali**nke empire
[10] This founder of the Mali empire won the Battle of Kirina and created the Gbara, or legislative assembly of the empire.
ANSWER: **Sundiata** Keita
[10] Sundiata defeated this Ghanaian ruler at Kirina. Until his defeat, he had used Kumbi Saleh as a major military base.
ANSWER: **Sumanguru** Kante

032-09-12-15203

4. These cells are infected in Waldenstrom's macroglobulinemia. For 10 points each:
[10] Name this type of immune cells, which are activated by the secretion of interleukin-2, one form of which releases antibodies.
ANSWER: **B** cells
[10] This other family of immune cells include natural killer cells, as well as families that express CD4 and CD8, the "helper" and "cytotoxic" types.
ANSWER: **T** cells
[10] This class of molecules is expressed attached to foreign antigens on the surface of antigen-presenting cells, such as macrophages and B cells, and is recognized by T helper cells.
ANSWER: **MHC** Class **II** [or **Major Histocompatibility Complex** Class **II**; prompt on **MHC** or **Major Histocompatibility Complex**]

5. The Netherlands played a crucial role in World War II. For 10 points each:
[10] After the Dutch put up unexpectedly tough resistance, Nazi bombers destroyed this Dutch city at the mouth of the Rhine River. This hometown of Erasmus is now the most active port in Europe.
ANSWER: **Rotterdam**
[10] This woman was the queen of the Netherlands during the war. She fled to Great Britain during the occupation and broadcast messages of inspiration to the Dutch resistance movement.
ANSWER: Queen **Wilhelmina**
[10] The Netherlands was part of this German system defending the coastline of occupied territory in Western Europe. In 1944, Rommel was assigned to fortify its weaknesses.
ANSWER: **Atlantic Wall**

6. The speaker of this poem is directed by a "hoary cripple, with malicious eye" to the title structure. For 10 points each:
[10] Name this dramatic monologue whose title comes from a line spoken by Edgar in *King Lear*. Its speaker, an aspiring knight, journeys to the title structure before placing a slug-horn to his lips.
ANSWER: "**Childe Roland to the Dark Tower Came**"
[10] This author published "Childe Roland to the Dark Tower Came," as well as the dramatic monologues "Andrea del Sarto" and "Fra Lippo Lippi," in his collection *Men and Women*. He also wrote *The Ring and the Book*.
ANSWER: **R**obert **Browning** [prompt on **Browning**]
[10] Browning published this work as the first volume of *Bells and Pomegranetes*. It follows the wanderings of the title innocent girl, and contains the line "God's in his heaven / All's right with the world!"
ANSWER: *Pippa Passes*

7. From 1930 to 1940, this country was ruled by King Carol II. For 10 points each:
[10] Name this country, whose Fascist Iron Guard supported its leader Ion Antonescu. During much of the Cold War, it was ruled by Nicolae Ceausescu.
ANSWER: **Romania**
[10] In 1859, this territory united with Moldavia to form Romania. It was founded by Radu Negru in 1290, and is divided into Muntenia and Oltenia.
ANSWER: **Wallachia**
[10] This fifteenth century voivode of Wallachia launched the unsuccessful Night Attack on the forces of Mehmet II and became notorious for his cruelty against both enemies and dissidents.
ANSWER: **Vlad the Impaler** [or **Vlad III** Dracul; or **Vlad Tepes**; or **Vlad Dracula**; do not accept "Vlad Dracul"; prompt on **Vlad**]

8. This philosopher claimed that watching tragedies helped people achieve emotional release, or catharsis, in his *Poetics*. For 10 points each:
[10] Name this ancient Greek philosopher who distinguished material, formal, efficient, and final causes in *Physics*, and propounded the doctrine of the mean in *Nicomachean Ethics*.
ANSWER: **Aristotle**
[10] In the *Nichomachean Ethics*, Aristotle asserts that the greatest human good is this goal, which is usually translated as "happiness" or "flourishing." Its name comes from the Greek for "good spirit."
ANSWER: **eudaimonia**
[10] This Arabic philosopher allegedly read the *Metaphysics* of Aristotle forty times after he could not understand al-Farabi's commentary. He then applied Aristotle's theories to treating disease in his *Canon*.
ANSWER: **Avicenna** [or Abu Ali **Sina**; or Ibn **Sina**; or Abu Ali al-Husayn ibn Abd Allah ibn **Sina**]

9. This Swedish scientist established an observatory at Uppsala. For 10 points each:
[10] Name this man who established a temperature scale that has standard-pressure water freezing at 100 degrees and it boiling at 0 degrees, values which were later reversed by Linnaeus.
ANSWER: Anders **Celsius**
[10] Celsius identified this persistent ionospheric phenomenon as magnetic in nature, noting that increases in its intensity corresponded with deflections of a compass.
ANSWER: the **aurora borealis** (or **northern lights); accept** aurora_s)
[10] Celsius also participated in Maupertius' geodetic survey of Uppsala, measuring the length of one of these near the north pole for comparison to the length of one near the equator. This supported the hypothesis that the Earth is oblate and flattened near the poles.
ANSWER: a degree of **latitude**

10. The scars on this character's back are compared to a chokecherry tree. For 10 points each:
[10] Name this character who is nursed back to health by Amy Denver. She is rowed across the Ohio River by Stamp Paid after running away from Sweet Home.
ANSWER: **Sethe**
[10] Sethe kills her daughter instead of surrendering her back to slavery in this Toni Morrison novel, whose title character may be that baby's returned spirit.
ANSWER: *__Beloved__*
[10] Sethe kills her daughter in defiance of this sadistic brother of Mrs. Garner, who leads a posse to capture her in Cincinnati. He orders his pupils to examine Sethe's animal characteristics and steal her breast milk.
ANSWER: **schoolteacher**

11. Hund's rule of maximum multiplicity seeks to maximize this quantity in an atom. For 10 points each:
[10] Name this quantity which for an electron is either positive or negative one-half.
ANSWER: **spin**
[10] The differing spin states of isotopes such as hydrogen-1 and carbon-13 forms the basis of this type of spectroscopy, used in modern day MRI.
ANSWER: **NMR** or **nuclear magnetic resonance** spectroscopy
[10] Interactions between an electron's spin and its angular momentum gives rise to this series of small shifts and splitting in the atom's energy levels. It includes the 21 centimeter line found in the interstellar medium.
ANSWER: **hyperfine** structure

12. Examples of this genre of novels include Ellen Glasgow's *Barren Ground* and Upton Sinclair's *The Jungle*. For 10 points each:
[10] Name this subgenre of realism which flourished in American literature during the first part of the twentieth century. It presents characters who unsuccessfully struggle against a deterministic, uncaring universe.
ANSWER: **naturalism** [or **naturalistic** literature]
[10] This leading American naturalist wrote *An American Tragedy* and *Sister Carrie*.
ANSWER: Theodore Herman Albert **Dreiser**
[10] This naturalistic novel was adapted into Erich von Stroheim's film *Greed*. It ends with its protagonist handcuffed to the corpse of Marcus Schouler in Death Valley.
ANSWER: *__McTeague__: A Story of San Francisco*

13. The central location of this work is depicted as a mountain which culminates in "The Earthly Paradise" and includes seven terraces or cornices. For 10 points each:
[10] Name this work which ends as its protagonist drinks from the River Eunoe.
ANSWER: *__Purgatorio__* [or *__Purgatory__*]
[10] The *Purgatorio* follows the *Inferno* in the *Divine Comedy* of this Italian poet.
ANSWER: **Dante** Alighieri
[10] In between the fifth and sixth terraces, Dante and Virgil meet this Roman poet. He wrote about the exploits of the title hero in the *Achilliad* and about Eteocles and Polynices in his most famous work.
ANSWER: Publius Papinius **Status**

14. It can be avoided by the banker's algorithm. Its prerequisites include mutual exclusion and circular wait. For 10 points each:
[10] Name this condition that happens for two processes A and B when A is holding a resource that B needs and will not release it until B releases a resource that A needs, which it is holding until it gets the resource it needs from A.
ANSWER: **deadlock** (prompt on **race** condition)
[10] Deadlock can lead to this related condition, in which processes never get the resources they need to do whatever it is they need to do.
ANSWER: **starvation**
[10] Deadlock and starvation are illustrated in the dining philosopher's problem formulated by this Dutch computer scientist. He also devised a greedy shortest path algorithm.
ANSWER: Edsger Wybe **Dijkstra**

15. He wrote a symphony in E flat major that was dedicated to Napoleon Buonaparte, until he scratched the dedication out of the score. For 10 points each:
[10] Name this composer of the *Eroica Symphony*.
ANSWER: Ludwig van **Beethoven**
[10] This symphony, called "the Apotheosis of Dance" by Wagner, has a second movement Allegretto that was encored at the premiere, and is in A major.
ANSWER: Symphony Number **7** in A major
[10] This concerto in E flat major by Beethoven is dedicated to Archduke Rudolf, and it instructs the performer not to improvise its cadenzas. It was his final concerto.
ANSWER: **Emperor** piano concerto [or **piano concerto** no. **5** in E flat major; prompt on partial answer including **5**]

16. For 10 points each, name the following about the illustrious Wyeth family.
[10] In a 1948 work, Andrew Wyeth showed this girl, who was paralyzed from the waist down, crawling towards a farmhouse in Cushing, Maine. That painting is named after this girl's namesake "World."
ANSWER: **Christina** **Olson** [accept either]
[10] Andrew Wyeth painted over 240 works showing this female neighbor of his from Chadds Ford, Pennsylvania.
ANSWER: **Helga** **Testorf** [accept either]
[10] Andrew wasn't the only Wyeth; his father N. C. illustrated classics like *Robinson Crusoe* for this literary magazine, other contributors to which included Theodore Roosevelt and Jacob Riis.
ANSWER: *Scribner's* Magazine [do not accept "Scribner's Monthly"]

17. For a body moving in one direction with speed v, this quantity is given by one over the square root of quantity one minus v-squared over c-squared, where c is the speed of light. For 10 points each:
[10] Name this quantity fundamental to special relativity.
ANSWER: the **Lorentz** factor [or Lorentz **gamma**; or relativistic **gamma**]
[10] This phenomenon sometimes named for Lorentz changes the dimensions of a body in the direction of motion by a factor of gamma minus one all over gamma.
ANSWER: length **contraction** [or Lorentz-FitzGerald **contraction**]
[10] The Lorentz factor also gives the ratio of the differential of measured time to that of proper time. For a given body, the proper time is the time measured in this way.
ANSWER: **in the body's own reference frame** [or **in the body's own coordinates**; or **in the reference frame in which the body is stationary**; or other equivalents]

022-09-12-15217

18. The younger brother of one of these figures once grew angry at a painter who included a lifesized portrait of that figure in the middle of an erotic gallery. For 10 points each:
[10] Name this group of figures that include the supposed woman Mallinath and the first, Rishabh Dev, who lived several sextillion years ago.
ANSWER: **tirthankar**as [or **jina**; or **fordmaker**s]
[10] The twenty-fourth and most famous tirthankar was this figure formerly known as Vardhamana, who established the precepts of asteya and bramacharya.
ANSWER: **Mahavira**
[10] Mahavira attained enlightenment on this festival day which commemorates the defeat of Ravana and the return of a Guru to Amritsar, and sees the lighting of a lot of lights.
ANSWER: **Diwali** [or **Dipavali**]

020-09-12-15218

19. One person staying at this location is made to learn French to earn her keep. For 10 points each:
[10] Name this location in which husband-acquiring skills are taught to characters like Amelia Sedley. It is contrasted with Dr. Swishtail's school and is the opening location of a novel.
ANSWER: **Miss Pinkerton's** Minerva House **Academy** For Young Ladies [accept equivalents for Academy, such as **school**]
[10] Miss Pinkerton's Academy is the opening location of this Thackeray novel about Becky Sharp, whose friend Amelia almost marries Captain Dobbin, but decides on George Osborne instead.
ANSWER: *Vanity Fair: A Novel Without a Hero*
[10] For a while, Becky's husband is this army captain and son of Old Sir Pitt, who lived a lavish life with Becky in Brighton before returning alive from the Battle of Waterloo.
ANSWER: **Rawdon** Crawley [prompt on **Crawley**]

020-09-12-15219

20. One side in this conflict was based on Mount Othrys. For 10 points each:
[10] Name this massive war fought primarily in Thessaly, whose first battles were fought after Cronus vomited up four of his swallowed children.
ANSWER: **Titanomachy** [or War of the **Titans**]
[10] This goddess was the first to be swallowed by Cronus and last to be disgorged, and relinquished her Olympian throne so that she could permanently watch over the hearth.
ANSWER: **Hestia** [or **Vesta**]
[10] In some myths, this consort of Zeus concocted the potion that was given to Cronus. More famously, Zeus tricked this woman into turning into a fly and swallowed her, but could not bear her hammering a helmet inside his body.
ANSWER: **Metis**

21. The rebellion on board this ship inspired Frederick Douglass's novella *The Heroic Slave*. For 10 points each:
[10] Name this ship where slaves led by Madison Washington rebelled and gained their freedom in the British-controlled port of Nassau in 1841.
ANSWER: the ***Creole***
[10] The tensions between Britain and the United States caused by the *Creole* rebellion were lessened by this 1842 treaty, which clearly defined the borders separating Maine and New Brunswick. It resulted in the United States gaining control of the Arostook Valley.
ANSWER: **Webster-Ashburton** Treaty
[10] The original border between those territories was established by this 1783 treaty, in which Britain acknowledged the independence of the United States.
ANSWER: Treaty of **Paris**