1. The founding of these organizations is generally held to go back to the establishment of one of them by Arbell Denny. In 1993, the sale of land by one of these organizations resulted in the discovery of 133 bodies, and the history of these organizations was chronicled by historian Frances Finnegan in the book *Do Penance or Perish*. A major investigation into the operation of these institutions resulted in a publication called the Ryan's Report, which has been criticized for not using the testimonies of adult victims. More recently, state involvement with these institutions was analyzed in the McAleese report, which resulted in an apology by Prime Minister Enda Kenny, who pledged that the Irish government would pay up to 58 million euros to survivors of these institutions. For 10 points, identify these mostly-Irish religious institutions which took in so-called "fallen women," ostensibly to train them in homemaking skills, but really in order to use them as slave labor.
ANSWER: **Magdalen** laundries [accept anything mentioning "Magdalen" but prompt on "laundries"]

2. In one of the very first scenes of this film, the title character is shown reading the "Bee Journal," which contains an advertisement for Italian bees. This film ends with the title character floating away in a boat, recapitulating a conversation that the title character had in the beginning with a steam shoveler on a train. As a test, this movie's main character is sent into a trapper camp, where he and his friend end up killing the trappers, and the main character later kills a clerk after being asked for his autograph. A cannibal bounty hunter who is after the title character observes that a dead marshall "looks like a goddamn religious icon;" the title character of this movie kills that marshall and his friend after asking them, "have you heard of my poetry?" The main character of this film arrives in the town of Machine intending to work as an accountant at the Dickinson Metal Works, but after finding himself replaced is wounded in a gunfight over a prostitute and rescued by an Indian named Nobody. For 10 points, identify this film about the title character named William Blake, played by Johnny Depp, a Western directed by Jim Jarmusch.
ANSWER: **Dead Man**

3. These structures develop after CD3 minus/CD4 plus/CD45 plus inducer cells are activated through their interleukin-7 receptor or TRANCE and express LT-alpha-one-beta-two. Although not located in the mesentery, the high endothelial venules of these structures express MAdCAM-1. The subepithelial dome of these structures contains dendritic cells, which receive luminal antigens from the microfold cells located in the surrounding FAE. Found in the lamina propria, these structures are aggregated lymphoid follicles that are examples of GALT. For 10 points, identify these nodules of lymphatic cells found in the ileum of the small intestine.
ANSWER: **Peyer**'s **patch**es [or I**LF** or isolated **lymphoid follicle**s until "lymphoid follicles" is read; prompt on: **MALT**, **GALT**, **mucosa**l-**associated** lymphoid tissue, **lymph node**, **gut-associated** lymphoid tissue, **lymphoid tissue**]

4. Certain chapters of this novel are marked with the heading "Tracking with Closeups," which are inspired by the "Camera" sections of Dos Passos' *USA Trilogy*. Interspersed throughout this novel are quotations from *The Hipcrime Vocab*, a book by sociologist Chad Mulligan, and this novel's sections marked "This Happening World," are full of advertising slogans for products such as "MasQ-Lines" and organizations such as General Technics. The main plot of this novel, which is related in sections marked "Continuity," concerns Donald Hogan's activation as an assassin and Norman House's rise through the ranks of the General Technics, which seeks to use its intelligent computer Shalmaneser to exploit the country of Beninia. This novel takes its title from the location whose surface area the entire population of Earth

would cover in 2010 if you gave every "codder and shiggy and appleofmyeye a space of one foot by two." For 10 points, identify this dystopian science fiction novel, the best known work of John Brunner.
ANSWER: **Stand on Zanzibar**

5. One of these beings is known as Zosusan, which means "standing on an elephant's head," an allusion to the shape of the mountain which holds his shrine; that being is also named Konpira and has a thousand heads and a thousand arms. Another of these figures is personified as a giant with one foot raised to stamp out evil and carries a *kongo* thunderbolt; that being was summoned by the monk En-no-Gyoja, and is named Zao. One of these beings was a *tengu* formerly known as Tarobo, who became a manifestation of Jizo and the protector of children against fire named Ataro. Tokugawa Ieyasu had himself declared to be one of these beings, to be worshipped at the Nikko Toshogu shrine. Most of these beings originate in the Shugendo mythos, and their task is usually to protect mountains or other important areas. For 10 points, identify these beings of Japanese mythology, a type of *kami* who are syncretized with Buddhist boddhisatvas.
ANSWER: **gongen** [prompt on "kami"]

6. Terrence Horgan has proposed a "regional" variety of this concept. John Haugeland argued against token identity theory by promoting a weak version of this concept. In his paper "Mental Events," Donald Davidson promoted his theory of anomalous monism, which denied that there were psychophysical laws, but which was consistent with this thesis. A famous paper arguing that the "global" variant of this concept was equivalent to its "strong" variant was written by Jaegwon Kim about the different "Concepts of" this idea, which is implied by reductionism. For 10 points, identify this concept, which holds if, for two sets of properties A and B, no two things can be different with respect to A-properties without also differing in B-properties.
ANSWER: **supervenience**

7. An early history of the art of making these artworks was a "Discourse" on them written by John Evelyn in 1697, and a notable series of these artworks were created for Quen Anne by John Croker. A major revival of this art form in Britain was stimulated by Alphonse Legros, who created one of these artworks that depicted Charles Darwin, and the Wyon family had for generations held the role of official makers of these objects for the British royal family. The art of making these objects during the early Renaissance was popularized by the painter Pisanello, who created a large one of these depicting Byzantine emperor John VIII Paleologus. Notable American examples of these objects include ones that depict Robert Louis Stevenson in bed writing and another that was rejected for depicting the "Spirit of America" as a nude male; both of those were created by Augustus Saint-Gaudens. For 10 points, identify this type of artwork, typically made from bronze, an example of which was created by Daniel Chester French for the Pulitzer Committee.
ANSWER: **medal**lion [prompt on answers like "portraiture", or "coin"]

8. This man once ran unsuccessfully for the presidency of his nation as the nominee of the National Opposition Front. This man came to power as the head of a junta that included Horacio Maldonado Shaad and Francisco Gordillo MArtinez, taking power after the overthrow of then-president Fernando Romeo Lucas Garcia. During his stint in power, this man ran the "Victoria 82" pacification campaign oriented around the "Frijoles y fusiles," or "beans and rifles" strategy, which rendered him so unpopular that he was overthrown by Oscar Mejia, his own defense secretary. Earlier this year, this man's conviction for genocide, relating specifically to his army's mass murder of his nation's Maya Ixil people was overturned by his country's Supreme Court. For 10 points, identify this general who from 1982 to 1983 served as dictator of Guatemala.

ANSWER: Jose Efrain **Rios Montt**

9. The Ward algorithm is a commonly-used hierarchical variance-minimization algorithm of this type. An algorithm of this type whose time complexity is quadratic in number of samples and linear in number of iterations sends messages between data points until convergence; that algorithm, which relies on whether a given point can be an exemplar for another point is called affinity propagation. One algorithm of this type relies on defining core samples and a minimum distance between samples in order to isolate high-density regions; that algorithm is called DBSCAN. Another algorithm of this type minimizes a "distortion measure" by reassigning the labels of the data points and recomputing the means, leading it to be known as the "K-means" algorithm for this process. For 10 points, identify this type of algorithm which groups data points together in a multidimensional space based on common features.
ANSWER: **cluster**ing algorithm

10. The published text of this novel contains a chapter from a second draft of this novel, which concerns the narrator's romance with a communist named Barbara. One character in this work is persecuted for the fact that he sells wireless radios, which this work's main character alleges are immoral. At the end of this work, which is narrated by a nameless doctor, Agatha is trained to replace Mother Gisson, who had earlier been training Irmgard Miland in the same role. After Miland is selected as the Mountain Bride in this novel, its main character orchestrates her ritual sacrifice, and the main character's henchman Wenzel persuades the residents of the village to reopen a mine which is believed to contain gold. The insurance agent Wetchy is beaten by the villagers of Mt. Kuppron in this work, in which Wetchy represents the Jews. For 10 points, identify this allegory of fascism in which the residents of a small town are enthralled by the devious Marius Ratti, a novel by Hermann Broch.
ANSWER: The **Spell** or Die **Verzauberung**

11. Easley Blackwood wrote a Gigue in the key of "A-down minor" for this instrument, as part of a suite in fifteen-note equal temperament. A concerto by Roberto Sierra for this instrument shares its name with an Alejo Carpentier novel, and features pairs of woodwinds quoting the second Concerto Grosso of Corelli. Another concerto for this instrument begins the third movement with an F Lydian scale and follows that "Dance of the Axes" with a movement that imitates bird calls in a pun on the title, "Canarios". Besides that homage to Gaspar Sanz and another player of this instrument, the same composer wrote a work in which the soloist on this instrument plays four B-minor chords before the start of a theme beginning with the motive F#-E-F# in the English horn. For 10 points, name this instrument which is featured in Joaquin Rodrigo's *Fantasia para un gentilhombre* and *Concierto de Aranjuez*.
ANSWER: **guitar**

12. Together with Christopher Jencks, this thinker co-authored a sociological history of the American education system titled *The Academic Revolution*. This thinker had planned on punning on that title in a later work that was to be titled *The Academic Counterrevolution*; instead, that work, which criticized the consumerist attitude of university students, was titled *On Higher Education*. This thinker collected essays like his satirical vision of bombing the USSR with consumer goods, titled "The Nylon War," and his criticism of deterrence, titled "The American Crisis," in a collection whose titled asked *Abundance for What?* Lionel Trilling praised another collection of this man's essays for being better than any American novel in "giv[ing] me the sense of the actuality of our society;" that collection, which contained an essay titled "Philosophy for Minority Living," and coined the term "nerve of failure" to refer to Jews' ability to be themselves despite general societal disapproval, was *Individualism Reconsidered*. This man's most famous work analyzed the "changing American character" as it transitioned from inner-directed to outer-directed. For 10 points, identify this American sociologist who together with Reul Denny and Nathan Glazer

co-authored *The Lonely Crowd*.
ANSWER: David **Riesman**

13. This author called the world "a dream without a dreamer," in his essay "Metaphysics, Critique of Knowledge; Mysticism, Critique of Being." This author's first published work was a collection of philosophical essays titled *Not All Is Vigil with Open Eyes*, and although his most famous work was published posthumously, works published during his lifetime include *A Novel that Begins*, and a humorous collection titled *Papers of Recienvenido*. This writer called his most famous work "the first good novel" and "the best novel since both it and the world began," and wrote it together with "the last bad novel," a parodic work called *Adriana Buenos Aires*. That most famous novel by this writer consists mostly of prologues to the novel itself, which have titles like "Prologue to the Never-Seen," and "Prologue That Thinks it Knows Something, Not About the Novel (It's Not Allowed That), But About the Doctrine of Art." An inspiration for many writers of the *martinfierrista* generation, so named for the literary magazine in which they published, for 10 points, identify this Modernist Argentinian author, a friend and major influence on Jorge Luis Borges who wrote *The Museum of Eterna's Novel*.
ANSWER: **Macedonio** **Fernandez** [accept either]

14. This effect is a consequence of the noncommutativity of Lorentz transformations, and it can be derived by noting that two successive Lorentz boosts in different directions are expressible as the composition of a boost and a spatial rotation. This effect can be obtained from the fully covariant BMT equation, and the existence of this effect provides an explanation for the observed spectrum in the anomalous Zeemann effect. This kinematic effect arises when a component of acceleration exists perpendicular to the electron's velocity vector, which occurs in atoms by virtue of Coulomb screening. This effect's energy contribution reduces the magnitude of the spin-orbit interaction, yielding the correct spin-orbit energy for atomic electrons. For 10 points, identify this relativistic effect, a motion of the electron spin named after its discoverer.
ANSWER: **Thomas precession**

15. One section of this text contains replies to 33 questions asked by Bukht-Masareh, a Christian. Another section of this text, called the "Book of Daylamite", is addressed to Muslims and contains an account of creation. This text is divided into nine sections called "nasks", and it is believed that at least three of the nasks were written by the scribe Adurfarnbag. This text's section "On Washing the Body" gives instructions on the use of barsoms. Later sections of this text rigorously define terms such as Dastur, Frashokereti, Soshyant, and Amesha Spenta. For 10 points, name this Middle Persian text, dating from the 10th century, that serves as the official encyclopedia of the Zoroastrian faith.
ANSWER: **Denkard**

16. Numerical integrals over this region can be done by using the equally spaced mesh scheme of Monkhorst and Pack or the tetrahedron method with Blöchl's correction. The irreducible wedge of this region is the minimal portion needed to describe the entire region. The curve on a crystal momentum versus energy plot can be folded back to this region in a reduced scheme. One of order n can be obtained by finding the volume enclosed while crossing n minus one Bragg planes and the first one is the Wigner-Seitz cell of the reciprocal lattice. For 10 points, identify these "zones" that are perpendicular bisectors of the reciprocal lattice vectors.
ANSWER: first **Brillouin** zone

17. One of these works tells the listener that if "ever the bridges of this town… be taken, and its battlements go down," and the listener "take ship unto some happier shore," the speaker will remain "to

beg from spectres by a broken arch." In another of these works, the author feels "a quiet pain/ For unremembered lads," and concludes "that summer sang in me/ A little while, that in me sings no more." One of these works concludes with the speaker's refusal "to sell your love for peace/ Or trade the memory of this night for food," and begins with the assertion that "Love is not all: it is not meat nor drink/ Nor slumber nor a roof against the rain." That work is contained in its author's collection titled *Fatal Interview*, while another of these works begins with the lines "Euclid alone has looked on beauty bare," and is found in the collection *The Harp Weaver*. For 10 points, identify these poems of 14 lines in iambic pentameter, found in collections such as *A Few Figs from Thistles* and *Renascence*.
ANSWER: **sonnets** of Edna St. Vincent **Millay**

18. In a November 28, 2011 article in *The Nation*, the man responsible for one side in this event admitted that his response "caused all hell to break loose." Response to this event directly contributed to the electoral defeat of Paul Schell two years after its occurrence, and one of the major organizers of this event was John Sellers, director of the Ruckus Society. Five days after this event began, Director-General Mike Moore announced the suspension of the gathering to which this event was a response. Police response to this event was led by Norm Stamper, who in the aforementioned article regretted the indiscriminate use of tear gas, and during this event, "black bloc" anarchist groups engaged in widespread property destruction. This event took place over five days in late November and early December in response to a Ministerial Conference which convened to inaugurate the Millenium Round of negotiations. For 10 points, identify this 1999 event taking place in the seat of King County in response to the a meeting there of a certain international body.
ANSWER: **W**orld **T**rade **O**rganization **protests** in **Seattle** or the **Battle** in **Seattle** [accept anything mentioning protesting, Seattle, and the WTO, prompt on partial answers]

19. The invention of this technique is sometimes credited to John Gorrie, and one of the first functional implementations of it was a system developed by Robert Portner and Edward Elis. The British historian S.F. Markham called this technique possibly "the greatest contribution to civilization in this century," and a definitive history of this technique from 1900 to 1960 was written by American scholar Gail Cooper. The literary critic Fred Hobson thought it unimaginable that *Absalom! Absalom!* could be written under the influence of this technique. The most famous sociological work on this technique is an article written by Raymond Arsenault, who argued that this invention was the most important advance in Southern culture because its availability made migration to the South possibly by erasing regional differences, in his article "The End of the Long Hot Summer." For 10 points, identify this invention popularized in America by the Carrier corporation.
ANSWER: **air condition**ing

20. One of these documents included a clause that allowed the legislature to set the minimum and maximum value of a day's labor every six years. That document, which also abolished "corporations of professions, arts, and crafts," was intended to be superseded by a never-adopted one of these documents, whose notable feature included the abolition of property requirements for voting and holding elective office. The third of these documents, which was the second one that actually went into effect, created an executive body to which appointees would be nominated by the Council of Five Hundred and confirmed by the Council of Ancients. That document lasted for 4 years before being replaced with a document that abolished the Directory and established the Consulate after the Coup of 18 Brumaire. The first of these documents was prefaced by the Declaration of the Rights of Man and Citizen. For 10 points, identify these documents which codified the legal framework of a European nation from 1791 until 1799.
ANSWER: **constitutions** of **revolutionary France** [accept anything that mentions France, the

revolution, and constitutions; prompt on any partial answer]

1. This field got its start as an experimental domain in 1961 when Franken et al. observed second coherent harmonic generation from a ruby laser. For 10 points each:
[10] Identify this subfield of physics in which material response to incident light is no longer constantly proportional to intensity.
ANSWER: **nonlinear optics**
[10] The regime of nonlinear optics is entered when this quantity, the proportionality constant between polarization and the applied field, becomes itself a quantity of the applied field.
ANSWER: electric **susceptibility**
[10] In the spontaneous form of this nonlinear optical process, a "pump" photon propagating in a medium splits into two photons, called signal and idler; because the values that satisfy the energy and momentum conservation conditions are not unique, this process can be used to generate a continuous range of frequencies with a single-frequency input.
ANSWER: optical **parametric** process

2. This thinker argued that the title type of state "all too often guarantee the integrity and solvency of financial institutions at no matter what cost" in his *A Brief History of Neoliberalism*. For 10 points each:
[10] Identify this foremost Marxist geographer, best known for his series of companions to *Das Kapital*, including *The Limits of Capital* and *The Mystery of Capital*.
ANSWER: David **Harvey**
[10] Harvey has advocated a collective right to this sort of polity; the conflict between this type of polity and the philosophers living in it, particularly in ancient Greece, was the focus of Leo Strauss' book about this type of polity "and Man."
ANSWER: the **city**
[10] Harvey's advocacy of a right to the city is inspired by his reading of this French Marxist thinker, the author of *The Critique of Everyday Life* and *The Production of Space*.
ANSWER: Henri **Lefebvre**

3. The privileges of these individuals included receiving a piglet from every litter, and together with the priestesses of the Delphic Oracle they were responsible for conducting state sacrifices. For 10 points each:
[10] Identify these individuals, who rode to war accompanied by statues of the Dioscuri. According to the poet Tyrtaeus, their existence was established by the Great Rhetra.
ANSWER: **king**s of **Sparta** or **Lacedaemonian**s
[10] Together with 28 elders, who had to be over the age of 60, the kings made up this assembly, which essentially controlled Spartan policy.
ANSWER: **Gerousia** [prompt on things like "assembly of elders"]
[10] The Spartan *ephors* presided over this body, which comprised all Spartan men who had passed the *agoge*. This body was responsible for electing *ephors* as well as members of the *gerousia* and kings.
ANSWER: **apella**

4. The U Gem stars are the prototype for the dwarf novae subtype of this class of systems. For 10 points each:
[10] Identify this class of star systems which consists of a white dwarf that accretes mass from a normal companion.
ANSWER: **cataclysmic variable** or **cataclysmic binary**
[10] The presence of a strong form of this phenomenon for a white dwarf in a CV system prevents the

formation of an accretion disk and channels material straight to the dwarf's surface. The dwarf itself has its axis locked to the binary as a result of the presence of this phenomenon.
ANSWER: **magnetic field**
[10] Classical novae erupt because the dwarf primary accretes enough material rich in this element to trigger runaway fusion, either through the p-p chain or the CNO cycle.
ANSWER: **hydrogen**

5. This work's title character loses the money that he has been saving to buy the title conveyance when he is forced to bribe the secret police because one of his associates belongs to an outlawed political society. For 10 points each:
[10] Identify this novel, whose protagonist is a man nicknamed "Camel."
ANSWER: **Rickshaw** or **Rickshaw Boy** or **Camel Xiangzi** or **Luotuo Xiangzi**
[10] *Rickshaw* was written by this Chinese novelist, whose other works include *Four Generations under One Roof* and *The Philosophy of Lao Zhang*.
ANSWER: Lao **She** or Shu **Sheyu** or Shu **Qingchun**
[10] Lao She wrote an allegorical novel about a city populated by these creatures, one of whom narrates a novel about the family of the teacher Mr. Sneaze in a Soseki novel.
ANSWER: **cat**

6. In this scene, the first ballerina on stage dances a simple sequence 38 times while she is joined by 23 others on stage, all of whom repeat the same sequence. For 10 points each:
[10] Name this scene with music by Ludwig Minkus. It takes place as part of Solor's opium-induced dream sequence after Nikiya dies.
ANSWER: *The **Kingdom of the Shades*** [prompt on *La **Bayadere*** or *The **Temple Dancer***]
[10] This choreographer staged *The Kingdom of the Shades* but is more famous for his work with Glazunov on *Raymonda* and *The Seasons*.
ANSWER: Victor Marius Alphonse **Petipa**
[10] This other work by Petipa with Minkus's music does not actually focus on the title knight-errant, but instead focuses on the lovers Kitri and Basilio.
ANSWER: ***Don Quixote***

7. After waking up, this work's narrator decides to go for a swim in the Thames, only to discover that he is now in the 21st century. For 10 points each:
[10] Identify this utopian novel in which the Guest has a vision of the post-industrial future, in which London is somehow not a grimy hellholle.
ANSWER: **News From Nowehere**
[10] *News From Nowhere* is a work of speculative fiction by this British socialist and strong advocate of the Arts and Crafts movement.
ANSWER: William **Morris**
[10] Falling asleep and waking up in a different century is a reliable narrative device for William Morris, who uses it again in this fictionalized account of the priest who was one of the leaders of the 1381 Peasants' Revolt.
ANSWER: A **Dream of John Ball**

8. This woman asked her husband to stand in twilight wrapped in a fish net with one foot on a cauldron and the other on a goat, whereupon her lover attacked him. For 10 points each:
[10] Identify this woman made of flowers who was transformed into an owl for her transgression.
ANSWER: **Blodeuwedd**

[10] Blodeuwedd was created to be a wife to this man, because his mother Arhianrhod cursed him to have no human wife. His name means "Bright Lion with a Sure Hand."
ANSWER: **Llew Llaw Gyffes**
[10] This sorcerer and nephew of Math ap Mathonwy created Blodeuwedd. He conspired to arrange the rape of Math's foot holder by stealing Pryderi's pigs, for which Math turned him into a stag for three years.
ANSWER: **Gwydion**

9. Abdul Qader Mollah has recently been sentenced to death for his participation in this event, the occurrence of which was communicated to Richard Nixon by the diplomat Archer Blood. For 10 points each:
[10] Identify this 1971 event that took place under the auspices of Operation Searchlight.
ANSWER: **Bangladeshi genocide** [accept anything mentioning Pakistan's suppression of Bangladesh]
[10] This Pakistani president ordered Operation Searchlight; he had earlier succeeded the general Ayub Khan and resigned when India intervened and defeated Pakistan in the ensuing war.
ANSWER: Agha **Yahya** Khan
[10] Operation Searchlight was launched partly in response to the electoral victory of this party, led by Mujibur Rahman, which favored Bengali independence from Pakistan.
ANSWER: **Awami** League

10. Caroline Tisdall, the art critic for the *Guardian*, helped this artist select 400 of his drawings for an exhibition titled "The Secret Block for a Secret Person in Ireland." For 10 point each:
[10] Identify this artist, whose *Celtic (Kinloch Rannoch) The Scottish Symphony* consisted partly of him picking bits of gelatin off a wall and putting them on a tray which he later emptied over his head, one of his so-called "actions."
ANSWER: Joseph **Beuys**
[10] Beuys lay wrapped in felt in a room with a live coyote for eight hours over three days during this "action," which involved seeing nothing of the title country other than the coyote and the inside of the gallery.
ANSWER: **I Like America and America Likes Me**
[10] Beuys was a member of this loose 1960s and 70s collective of artists who mixed various media like video and sculpture, and took their name from the Latin for "flow."
ANSWER: **Fluxus** collective

11. These concepts represent a series of statements that are necessary to achieve intertheoretical reduction. For 10 points each:
[10] Identify these statements that take their name from the fact that they provide a path from the domain of one science into the domain of another.
ANSWER: **bridge** laws
[10] Jerry Fodor argued against intertheoretical reduction via bridge laws in a paper titled after these kinds of sciences, such as psychology or sociology, whose independence from physics he championed. In a much later paper, Fodor asserted that they were "still autonomous after all these years."
ANSWER: **special** sciences
[10] Fodor's series of lectures collected under *The Elm and the Expert* contains a chapter titled "Why We Are So Clever," a reference to this autobiographical work by Friedrich Nietzsche.
ANSWER: **Ecce Homo**

12. This composer's shorter works include the *March of the Bluebirds*, for piccolo and piano. For 10 points

each:
[10] Name this composer who recycled the *March of the Bluebirds* tune for the scherzo of his chamber work *Mladi*, but is better known for composing a *Sinfonietta* for the Sokol Gymnastic Festival.
ANSWER: Leos **Janacek**
[10] Janacek's sextet *Mladi* is scored for a wind quintet plus this instrument. Adding this instrument and a trumpet to a wind quintet would give you the ensemble called for in Hindemith's *Septet*.
ANSWER: **bass clarinet**
[10] Janacek's works for this instrument include *In the Mists* and *On an Overgrown Path*, as well as a sonata named for the first of October 1905.
ANSWER: **piano**

13. In Chinese Buddhism, this figure was sometimes syncretized with the monk Bu Dai, and is usually depicted as a fat and jovial man. For 10 points each:
[10] Identify this last of the five earthly Buddhas, who will preach three sermons to his followers when he returns from his heavenly realm of *tusita*. In the future.
ANSWER: **Maitreya**
[10] This figure is believed to guard the world until Maitreya's return. This bodhisattva of infinite compassion is sometimes depicted with a thousand arms.
ANSWER: **Avalokitesvara**
[10] Avalokitesvara can transform into whatever form will grant relief from suffering according to this Mahayana text, which is partially dedicated to the explication of his powers.
ANSWER: **Lotus** Sutra or the **Saddharma Pundarika** Sutra

14. During the early part of his reign, this monarch was involved in the *incompatibilitas* controversy with his nobles, in which he opposed a ban on the simultaneous holding of multiple offices. For 10 points each:
[10] Identify this first monarch to accept the Council of Trent, and the last king of the Jagiellonian dynasty to rule Poland.
ANSWER: **Sigismund II Augustus** or **Zygmunt II** [accept either name and number, or name and sobriquet]
[10] Sigismund's attempt to turn the territory occupied by the Order of the Brothers of the Sword into a vassal state resulted in this protracted conflict with Russia, which was only ended in 1583 by the Peace of Yam Zapolsky.
ANSWER: **Livonian** War
[10] Seeking support for the Livonian War, Sigismund finally acceded to this 1569 resolution of the Sejm, which combined Poland and Lithuania into a single state.
ANSWER: Union of **Lublin**

15. In the first act of this play, a fight breaks out between Emma and Ella, because the latter had used up a chicken that Emma had been saving for 4-H. For 10 points each:
[10] Identify this play about the Tates, Wesley, Emma, and their mother Ella, which ends with the hitmen Emerson and Slater blowing up Emma's car to try and kill Weston Tate.
ANSWER: The **Curse of the Starving Class**
[10] This other play by the author of *The Curse of the Starving Class* centers on Hoss, a "marker," or killer, whose territory has been usurped by the renegade Crow.
ANSWER: The **Tooth of Crime**
[10] Both *The Tooth of Crime* and *The Curse of the Starving Class* were written by this American dramatist who wrote about Dodge's murder of Halie's baby in *The Buried Child*.

ANSWER: Sam **Shepard** or Samuel Shepard **Rogers**

16. This text begins with the assertion that "where modern conditions of production prevail, all of life presents itself as an immense accumulation of" the title concept. For 10 points each:
[10] Identify this work which refers to its title concept as "a social relation among people, mediated by images," and represents an affirmation of "social life as mere appearance."
ANSWER: The **Society of the Spectacle**
[10] *The Society of the Spectacle* was written by this social critic and founder of the Situationist movement.
ANSWER: Guy **Debord**
[10] The spectacle is called *this* "par excellence" in the last section of *The Society of the Spectacle*, whose title refers to this concept "materialized." This concept is contrasted with "Utopia" in a Karl Mannheim work about "the sociology of knowledge."
ANSWER: **ideology**

17. This document was prepared pursuant to an 1807 Senate resolution, and suggested various improvements that its author thought could be completed for about $20 million. For 10 points each:
[10] Identify this document, which suggested that one of its title improvements connect Massachusetts to the Carolinas.
ANSWER: Report on the Subject of Public **Roads and Canals** [accept anything that mentions roads and canals; accept **Gallatin's** Report on **Roads and Canals** but don't read his name]
[10] The "Report on the Subject of Public Roads and Canals" was written by this Secretary of the Treasury.
ANSWER: Albert **Gallatin**
[10] One of the major objections to Gallatin's report was that it would have required the federal government to do this, which Jefferson thought unconstitutional.
ANSWER: go into **debt** [accept anything mentioning taking on debt]

18. Namesake molecules involved in this process include cadherins, selectins, mucins, integrins, and the immunoglobulin superfamily. For 10 points each:
[10] Identify this process in which a cell binds to another cell or the extracellular matrix.
ANSWER: cell-cell **adhesion**
[10] These three proteins cross-link actin filaments with the plasma membrane and are thus commonly involved in cell adhesion. They're commonly abbreviated by their first letter.
ANSWER: **ERM** proteins [or **ezrin**, **radixin**, and **moesin**]
[10] These things are commonly formed between the plasma membranes of cells in cell adhesion. Claudins and occludins help create the "tight" type of these things, which are mostly impenetrable, and their "gap" type is formed by connexin and allow the transport of ions and other small molecules between cells.
ANSWER: cell **junction**s

19. This novel is divided into two sections titled "A Little Nocturnal Novel" and "A Novel for Crossword Fans," with the former section concerned with the architect Atanas Svilar's search for his vanished father. For 10 points each:
[10] Identify this "crossword novel" which can be read "up and down" or "across" with different plots resulting from different readings.
ANSWER: **Landscape Painted with Tea** or **Predeo slikan cajem**
[10] This Serbian author wrote *Landscape Painted with Tea*.
ANSWER: Milorad **Pavic**
[10] Pavic is best known for this novel, his first, which comes in a "male" and "female" version that differ

by one paragraph. Written in the form of a lexicon, it ostensibly concerns the leader of the title people's challenge to the three major religious traditions to interpret his dream.
ANSWER: **Dictionary of the Khazars** or **Hazarski recnik**

20. Transition states are saddle points on these things, and they can be found when using the Born-Oppenheimer approximation to solve the Schroedinger equation for a molecular system. For 10 points each:
[10] Identify these things that show the relationship between the energy of a molecule and its geometry.
ANSWER: multidimensional **potential energy surface**s [**PES**; prompt on **hypersurface**s]
[10] Generating a PES requires inputting the structure/geometry of a molecule, which can be done using the Z-matrix method. In the Z-matrix method, the bond length, bond angle, and this angle, which is the angle between two intersecting planes, is defined. The phi and psi ones of these for amino acids are plotted against each other on a Ramachandran plot.
ANSWER: **dihedral** angle [or **torsion**al angle]
[10] This class of quantum chemistry methods is usually inappropriate for calculating potential energy surfaces. Examples include the AM1 method due to the Dewar group and the Pariser-Parr-Pople method. Good methods in this class are based on neglect of differential diatomic overlap.
ANSWER: **semi-empirical**