

Tossups

1. In Greek Orthodoxy, this biblical character is credited with writing the Axion Estin hymn. Mormons believe that Noah is identical to this biblical character. In an early appearance, he claims to have been restrained for 21 days by the Prince of Persia. In Islam, his hadith contains the most explicit summary of the Five Pillars. In the Gospel of Luke, this character turns (*) Zacharias mute for saying that his wife Elizabeth is infertile. This character calls another “blessed...among women” before predicting the birth of a descendant of David. For 10 points, name this archangel who announced the birth of Christ and will blow his horn at the end of the world.

ANSWER: Archangel Gabriel

2. Early in the first movement of this work, a euphonium solo makes rapid octave leaps from G to G. This work's fifth movement opens with flutes and harps softly playing tritones in a syncopated half note rhythm. This work's third movement begins with arpeggios that rise in B-flat major and fall in E major and includes a section that originated from the “Dance of the Marionette” from the composer's (*) *Japanese Suite*. This work ends with a fade-out by a women's chorus in an adjacent room. Its first movement opens with a string ostinato playing *col legno* in 5/4 time. A theme in this work's central movement was adapted into the song “I Vow to Thee, My Country.” For 10 points, name this seven-movement suite by Gustav Holst that includes “Jupiter, the Bringer of Jollity.”

ANSWER: *The Planets*, Op. 32

3. In this novel, one character is laughed at for reading the findings of the scientist Rademacher. Another character in this novel proclaims that a picture of the Swiss Alps is interesting from a “geological perspective.” In this novel, a country farmer is laughed at for playing Schubert's “Die Erwartung” on the cello. A character in this novel wonders whether Pushkin was in the army, since “he was always proclaiming “To Arms!””. (*) Sitnikov introduces two characters to Madame Odintzova in this novel, in which the servant Piotr witnesses a duel between a character who kissed Fenichka and Pavel. Arkady Kirasnov marries Katya in this novel, after botching an autopsy gives a fatal case of typhus to his nihilist friend Yevgeny Bazarov. For 10 points, name this novel about generational conflict by Ivan Turgenev.

ANSWER: *Fathers and Sons* [or *Fathers and Children*; or *Otsy I Deti*]

4. A binary compound of this element and silver undergoes a phase transition at 147 C to become a fast ion conductor. Iridium is bound to two atoms of this element and two molecules of carbon monoxide in the resting form of the catalyst for the BP Cativa process. Vicinal diols can be cleaved into aldehyde or ketone fragments by a compound with this atom in the middle. A compound containing a pentavalent atom of this element is used as a mild oxidant for alcohols and is named for (*) Dess and Martin. Treating solutions containing this element's anion with Ag+ gives a pale yellow precipitate that doesn't dissolve in excess ammonia. This element is used to test for starch, and at STP, it is a purple solid. For 10 points, name this heaviest non-radioactive halogen, found right below bromine on the periodic table.

ANSWER: iodine [or I]

5. During this event, groups of twenty-five families were led by sergeants in accordance with a classical system known as Zhou Li. Towards the end of this conflict, a 15-year old boy was installed as leader due to his father's suicide. After the murder of Yang Xiuqing during it, Shi Dakai escaped over the walls of Nanjing in a basket. After the death of Frederick Townsend (*) Ward, Charles George Gordon took command of the Ever-Victorious Army during this conflict. At least 20 million people died in it, in which a faction was led by a man who claimed to be Jesus's younger brother, Hong Xiuquan. For 10 points, name this rebellion against the Qing Dynasty during the mid-nineteenth century, which tried to form a Heavenly Kingdom.

ANSWER: Taiping Rebellion [or Taiping Revolt; or Tai Ping Tian Guo]

6. In a work, this thinker distinguished between states of opinions, which he called “beliefs”, and determined modes of action, which he called “rites”. That work by him theorizes that religion was a so-called “primordial matrix” for culture, with collective representations and their societal respect forming a concept he called “awe”, which is based on totemism. In his doctoral dissertation, he described crime as something that offends the states of the (*) “collective conscience”, and its punishment as attempting to maintain “mechanical solidarity”. This author of *The Division of Labor in Society* defined sociology as the objective study of “social facts”. For 10 points, name this French sociologist, who wrote *The Rules of Sociological Method* and *Elementary Forms of Religious Life*.
ANSWER: Emile Durkheim [or David Emile Durkheim]
7. John Clerk wrote the *Essay on Naval Tactics* in order to introduce linear tactics to this navy. Sailors petitioned to see their families during the Nore mutiny and to retain the concessions from the Spithead mutiny against this navy. After the construction of *La Gloire*, this navy commissioned Isaac Watts to build an ironclad with the first armored box, or citadel, called the *Warrior*. A pocket-sized (*) chronometer called the H4 was invented by John Harrison for this navy. Warships of this navy were split into six divisions, or “rates”, based on the number of guns they had. This navy lost most of its shipyards at Sheerness and Chatham at the battle of Medway against the Dutch fleet. Henry VIII was often called its “father”. For 10 points, name this main naval branch of the British Armed Forces.
ANSWER: Royal Navy [or English Navy or British Navy until “British Armed Forces” is read]
8. This thinker posited that a list of a substance’s predications make up a complete notion of the substance. His namesake law states that if two objects have exactly the same properties, then they are the same object. Those ideas are his Predicate-in-Notion Principle and his concept of the Identity of Indiscernibles. He posited the existence of simple substances that interact with each other via the Principle of (*) Pre-Established Harmony; said substances also being nonextendable, indivisible, and windowless. This author of *Discourse on Metaphysics* stated that everything happens for a reason, which is his Principle of Sufficient Reason. For 10 points, name this author of *Monadology*, who asserted that God must have created the best of all possible worlds in his *Theodicy*.
ANSWER: Gottfried Wilhelm Leibniz [or Gottfried Wilhelm von Leibniz]
9. One character in this work tells a story about seeing an old woman who is kept in a jar and answers “I would die” to every question. Another character in this work is ordered to be flogged due to his sexual impotence; that character prays at a temple for the cure to his impotence, and then kills a sacred goose to the horror of the temple’s guardian. In this work’s beginning, the sophist (*) Agamemnon debates the protagonist, who quits his job to go on a journey with the servant Giton. In this work, Lichas dies in a storm after being told a story about a widow who gave away her husband’s corpse by Eumolpus. The characters in this work attend a feast thrown by Trimalchio. For 10 points, name this incomplete proto-novel centering on Encolpius, a first-century AD Roman comedy written by Petronius.
ANSWER: Satyricon *liber* [or *The Book of Satyr-Like Adventures*]
10. Thomas Sturgill and his postdoc Bryan Ray discovered the first of these proteins after stimulating it with insulin. These proteins interact with their targets by recognizing the “docking”, or “D”, motifs. Ste5 (S T E 5) and KSR are scaffold proteins that enable the activation of these enzymes. c-Raf serves as a gatekeeper in the best-known pathway involving these enzymes. In asthma and COPD, the p38 enzymes of this type are more active. The classical example of these enzymes, which must be phosphorylated (*) twice before they can phosphorylate stuff, appear in the ERK 1/2 pathway. JNKs (junks) belong to this family of enzymes. For 10 points, name this family of serine/threonine kinases that appear in many cell signaling cascades, including those activated in mitosis.
ANSWER: MAP kinase [or mitogen-activated protein kinase; or MAPKKK (up to 3 “K”); or MAP2K; or MAP3K; or MAP kinase kinase kinase (up to 3 “kinase”); prompt on “(serine-threonine) kinases”]

11. In one poem, this author asks “sailor will your sword / whistle and fall and sink into the fat? / In the great ash-pit of Jehoshaphat”. In another poem by him, the speaker declares “There are no monuments for the last war here; / on Boylston Street, a commercial photograph / shows Hiroshima boiling.” A third poem by him says: “we have lost our summer millionaire, / who seemed to spring from an (*) L.L. Bean catalogue.” The speaker declares “I myself am death” in that poem by him about “Nautilus Island’s hermit heiress.” This author of “The Quaker Graveyard in Nantucket” wrote of “a savage servility” that “slides by on grease” at the end of a poem inspired by a statue of Colonel Shaw. For 10 points, name this poet of “Skunk Hour” and “For the Union Dead.”
ANSWER: Robert Lowell [or Robert Traill Spence Lowell IV]
12. The Uehling potential is a first-order quantum correction to this law that accounts for vacuum polarization. A variant of this law that predicts an exponentially damped force that is always attractive is said to be a “screened” form of it and is generated by the Yukawa potential. A direct analogue of this result for the case of steady-state currents is the Biot-Savart law. John Robison’s discovery of the (*) inverse-square nature of this law was replicated by its namesake using a torsion balance with a metal ball on a silk thread. A constant in it is equal to one over four pi times the permittivity of free space, and the principle of superposition for it equates the net force to the charge times the vector sum of the electric fields. For 10 points, name this law describing the electrostatic interaction of two point charges.
ANSWER: Coulomb’s law
13. The location of “sip wells” is often kept a secret in this desert, which is home to many ancient river beds called omiramba. Along with the Australian Aborigines, a group living in this desert with a gift-based economy was called “The Original Affluent Society” by Marshall Sahlins. The remains of Lake Makgadikgadi are an endorheic basin in this desert, formed by the same processes that created the swampy delta of the (*) Okavango river. A long-term project to study meerkats is based in this desert, which comprises most of the area of the former Bechuanaland. The discovery of a Coca-Cola bottle by a San tribe in this desert opens the film *The Gods Must Be Crazy*. For 10 points, name this large desert that encompasses most of Botswana and is the home of the bushmen.
ANSWER: Kalahari desert
14. An early painting by this artist depicts a hunched-over Emperor Theodosius being pushed away from the Milan cathedral by a golden-robed St. Ambrose. This artist’s teacher wrote him a letter of recommendation focusing praise on his *Achilles Discovered among the Daughters of Lycomedes*. This artist imitated a painting by Lorenzo Lotto in depicting a man wearing a blue sash and sporting a distinctive style of goatee and curved mustache. That depiction was designed to help Bernini sculpt a bust of its subject and was a (*) triple portrait. He depicted a monkey resting on the arm of Jeffrey Hudson, a midget who served Queen Henrietta Maria. This student of Rubens painted many portraits of his patron “at the hunt” and on horseback. For 10 points, name this Flemish court painter for Charles I of England.
ANSWER: Anthony van Dyck
15. In the West, this president quelled the White River War against the Ute tribe and returned land to the Ponca after the Standing Bear case. This person sent James Burrill Angell to renegotiate a treaty with China. This president’s Indian policy was largely dictated by his Secretary of the Interior, Carl Schurz. Roscoe Conkling fought him over the New York Customs House, which this president tried to take away from the (*) Stalwarts. Congress overturned his veto of a bill to put silver into circulation, the Bland-Allison Act. An Electoral Commission awarded the presidency to this man after a controversial election against Samuel Tilden. For 10 points, name this president who ended Reconstruction after the Compromise of 1877.
ANSWER: Rutherford Birchard Hayes

16. **This man's paternal grandfather was left to die at the hands of centaurs during a hunting competition with Acastus, whose sons this man killed after they deposed his grandfather. After a revelation made by Helenus, Odysseus retrieved this man from Scyros and together they fetched Philoctetes from Lemnos. He carried off Hermione (hur-MAI-nee) and was subsequently killed by Orestes. This son of (*) Deidamia was conceived during the time his father spent hidden in the court of King Lycomedes. After throwing Astyanax off the walls of Troy, this man killed Priam in a temple of Zeus and made Andromache his concubine. For 10 points, name this grandson of Thetis and Peleus who was the son of Achilles.**
ANSWER: Neoptolemus [or Pyrrhus]
17. **In a story by this author, a character is chided by his teacher for reading Wild West tales like *The Apache Chief* instead of studying his Roman history. When one of his characters admits to writing for *The Daily Express*, another character teasingly calls him a "West Briton". One story by him ends with an old man ranting about how boys who have sweethearts deserved to be (*) whipped. In another story by him, the narrator promises to buy something for Mangan's sister, but arrives just as the title bazaar is closing. The song "The Lass of Aughrim" reminds Gretta of her former romance with Michael Furey in a story by him about Gabriel Conroy. For 10 points, name this author who included the stories "An Encounter", "Araby", and "The Dead" in his collection *Dubliners*.**
ANSWER: James Joyce [or James Augustine Aloysius Joyce]
18. **Walter Baade was so pissed at Rudolph Minkowski for dissing his theory about this process occurring in Cygnus A that he bet \$1,000, then a case of whiskey, and finally a bottle of whiskey, that he was right about it. Groundbreaking simulations of this process by Toomre & Toomre showed the presence of tidal tails. The blue ring-shaped rim around the Cartwheel formation resulted from this process creating a compressional wave that is driving intense star formation. The best evidence for dark matter is provided by an example of it in the (*) Bullet Cluster. The distinctive shape of the Mice and Antennae galaxies is due to them undergoing this process. For 10 points, name this type of astronomical event that will occur in four billionty years between the Milky Way and Andromeda.**
ANSWER: galaxy collisions [or galaxy mergers; or galaxy interactions; or tidal interactions]
19. **According to a literary source, this region accepted Christianity when a bad-ass bishop demonstrated its power by defeating a sword-swinging warrior with a crucifix. This region gave up its independence by accepting the Old Covenant. Primary sources on this region include a history by Ari the Wise and the *Book of Settlements*. Celtic monks called *papar* settled in this region around the 7th century. Local lords called *godr* in this region met at the (*) Law Rock, over which the Lawspeaker presided. A famous explorer from this region went on a journey when he was exiled for three years for killing his neighbor. This region is home to the oldest Parliament in world history. For 10 points, name this island territory settled by Viking explorers and governed by the Althing.**
ANSWER: Iceland
20. **This artist voluntarily left the Surrealist movement in the midst of a mock tribunal designed to excommunicate him for daring to work with models. This man and Samuel Beckett obsessed over the design of a tree for a Paris revival of *Waiting for Godot*. A series by him grew from a commission to decorate the Chase Manhattan Plaza that he was unable to fulfill. He celebrated a six-month affair with a woman by using matches to construct a rudimentary (*) scaffolding for a house. He sculpted many lone figures stepping towards each other in pieces like *The City Square*. This artist of *The Palace at 4 AM* sculpted a terrifying hybrid human-praying mantis in *Woman with Her Throat Cut*, but is best known for his sculptures of tall, really wiry people in motion. For 10 points, name this Swiss sculptor of the elongated *Walking Man* series.**
ANSWER: Alberto Giacometti

Bonuses

1. A tedious boxing and weightlifting mini-game in this game inspired a Retsupurae in-joke in which slowbeef and Diabetus say this game's name at the end of every video. For 10 points each:
[10] Identify this ridiculous third-person shooter in which police officer Jack Slate uses his dog Shadow to instantly murder the criminals of Grant City.
ANSWER: **Dead to Rights**
[10] Dead to Rights was an over-the-hill title produced by this company, which rolled out Galaxian, Dig Dug, and Pac-Man well before merging with Bandai.
ANSWER: **Namco** Limited [or **Namco-Bandai**]
[10] Jack performs this action near the end of Dead to Rights, despite the FBI clearing him of murder charges. James Bond goes to Tokyo after performing this action in *You Only Live Twice*.
ANSWER: **faking his death** [or obvious equivalents]
2. A logical left shift inserts a 0 into this value, while a logical right shift inserts a 0 into its counterpart. For 10 points each:
[10] Identify this value that is 0 for odd numbers and 1 for even numbers, at least for the x86 and x86-64 architectures.
ANSWER: **least-significant bit** [or **LSB**; prompt on obvious equivalents, such as the "lowest bit"]
[10] Whether the least-significant *byte* or most-significant byte is stored in the smallest address determines whether a system has the "little" or "big" versions of this property, the way bytes are ordered in computer memory.
ANSWER: **endianness**
[10] As the x86 and x86-64 architectures dominate the computer industry, most computers are little-endian. However, this mainframe manufacturer's z/Architecture is big-endian; this company is well known for developing Deep Blue and Watson.
ANSWER: **IBM** [or **International Business Machines** Corporation; prompt on "Big Blue"]
3. Answer the following about weird Asian mythical animals, for 10 points each.
[10] This person was guided by the *yata-garasu*, a three-legged crow from the region of Kumano. The rise of this person brought an end to the Age of the Gods.
ANSWER: Emperor **Jimmu** [or **Jimmu-tenno**]
[10] *Kumiho* are Korean varieties of these animals that frequently transform into beautiful women to seduce men and then eat their livers or hearts. The *kami* Inari uses these animals as messengers.
ANSWER: **foxes** [or **kitsune**]
[10] The *fenghuang* is often considered a Chinese example of this kind of fiery bird, which is reborn when it arises from its own ashes.
ANSWER: **phoenixes** [or **phoenices**]
4. Answer the following about the politics of the Holy Roman Empire, for 10 points each.
[10] The princes and bishops of the Holy Roman empire who could vote for the emperor were known by this term. Frederick William I was known as the "Great" one of these people from Brandenburg.
ANSWER: prince-**electors**
[10] A 1356 proclamation known by this name explicitly named the seven positions whose titles conferred elector status. A 1222 edict with this name ceded a number of rights to the Hungarian nobility.
ANSWER: **Golden Bull** [or **Golden Bull** of 1356; or **Golden Bull** of 1222; or **chrysobull**; prompt on "bull"]
[10] The elector from this region was the only one of the seven not allowed to sit at regular imperial meetings. This region received a renewed constitution in 1627 at Ferdinand II's direction.
ANSWER: **Bohemia** [or **Böhmen**; or **Bohême**; or **Čechy**]

5. In this novel, a ranty speech about stars by an ex-Black Panther and motivational speaker named Barry Seaman is witnessed by the journalist Oscar Fate. For 10 points each:
[10] Name this five-part posthumous novel whose third section, “The Part About Fate”, follows a section in which a literature professor goes mad, called “The Part About Amalfitano”.
ANSWER: **2666** [or *Dos mil seiscientos sesenta y seis*]
[10] This Chilean author of *The Savage Detectives* set a barely-fictional version of the Ciudad Juarez femicides in the Mexican city of Santa Teresa in 2666.
ANSWER: Roberto **Bolaño** Ávalos
[10] This earlier author’s *A Universal History of Infamy* has been compared to Bolaño’s *Nazi Literature in the Americas*, since both survey a ton of fake people. This blind Argentine also created the fake author Pierre Menard.
ANSWER: Jorge Luis **Borges**
6. This composer included musical depictions of scenes from *Rapunzel* and *Rumpelstiltskin* in his *Märchenbilder* for viola and piano. For 10 points each:
[10] Name this German composer who wrote the song cycle *Dichterliebe* during his “Year of Song”. He wrote his only piano concerto for his wife, Clara Wieck.
ANSWER: Robert **Schumann**
[10] This collection of piano pieces by Schumann includes three musical cryptograms, portraits of Schumann’s alter-egos Eusebius and Florestan, and depictions of the *Commedia dell’arte* characters Pantalon and Colombine.
ANSWER: **Carnaval**, Op. 9
[10] *Carnaval* ends with the march of this group against the Philistines. This society was founded by Schumann to promote contemporary music and his Opus 6 is a series of eighteen dances named for this group.
ANSWER: **Davidsbündler** [or the **League of David**]
7. In a flashback, this character regrettably tells her future husband that playing baseball has made him conceited, and the second act of the play she appears in concludes with her wedding to George. For 10 points each:
[10] Name this character that asks to relive her twelfth birthday, but then finds the experience unbearable, and returns to her place in the cemetery in the final act of the play she appears in.
ANSWER: **Emily** Webb [prompt on “Webb”]
[10] Emily Webb is one of the protagonists of *Our Town*, which is by this American author who showed the Antrobus family surviving the Ice Age and the Biblical flood in *The Skin of Our Teeth*.
ANSWER: Thornton **Wilder** [or Thornton Niven **Wilder**]
[10] In the first act of *The Skin of Our Teeth*, it is revealed that Henry Antrobus, who spends much of the play killing people by throwing stones, originally had this first name.
ANSWER: **Cain**

8. An iminium ion undergoes a process of this type with an arene in the Vilsmeier-Haack reaction. For 10 points each:
[10] Name this kind of reaction in which activating groups act as ortho/para directors, and deactivating groups act as meta-directors. Aluminum trichloride catalyzes two reactions of this type, the Friedel-Crafts acylation and alkylation.
ANSWER: **electrophilic aromatic substitution** [or **EAS**; prompt on partial answers]
[10] This aromatic compound, with formula C_6H_6 , and three double bonds, undergoes tons of electrophilic aromatic substitutions.
ANSWER: **benzene** [or **benzol**; or **phene**; or **cyclohexa-1,3,5-triene**]
[10] Salicylic acid turns into picric acid in an electrophilic aromatic substitution of this type, in which hydrogen is not the leaving group, and the intermediate includes two substituents sharing the same namesake ring position.
ANSWER: **ipso** substitution
9. Paul Valéry wrote an essay defending this artist's inclusion in a 1941 exhibition at the Musée de l'Orangerie. For 10 points each:
[10] Name this Impressionist who depicted the light reflecting off two ducks in the painting *Summer's Day (The Lake in the Bois de Boulogne)*. This artist unusually painted a clothed woman with a neckband in *Woman at her Toilette*.
ANSWER: Berthe **Morisot**
[10] Morisot was the sister-in-law of this famous painter of *Olympia*, *Luncheon on the Grass*, and *A Bar at the Folies-Bergère*.
ANSWER: Edouard **Manet**
[10] Morisot practiced, and inspired Manet to take up, this practice of painting outdoors, which had been popularized by the Barbizon school in the mid-19th century.
ANSWER: en **plein air** [or **peinture sur le motif**]
10. This nation was once ruled by the Chakri dynasty. For 10 points each:
[10] Name this Southeast Asian kingdom, one of whose rulers had his children tutored by Anna Leonowens. This country was never formally controlled by a European colonial power, unlike Burma and Indochina.
ANSWER: Kingdom of **Thailand** [or Kingdom of **Siam**; or Ratcha Anachak **Thai**; or Prathet **Thai**]
[10] This monarch was the one whose children were tutored by Anna Leonowens. While he was a monk, this man advocated changing the Buddhist calendar and promulgated the notion of a round Earth.
ANSWER: **Rama IV** [or **Mongkut**]
[10] This 1855 treaty between the United Kingdom and Siam was signed by Rama IV. This treaty abolished high import duties and allowed Englishmen to own land in Siam.
ANSWER: **Bowring** treaty
11. This essay outlines its author's view of the individual in history by stating that "men make their own history, but do not make it as they please." For 10 points each:
[10] Name this Karl Marx essay, which claimed that the French coup of 1851 represented the phenomenon of history repeating itself first as tragedy, then as farce.
ANSWER: *The **Eighteenth Brumaire of Louis Napoleon*** [or *Der **18te Brumaire des Louis Napoleon***; or *The **Eighteenth Brumaire of Louis Bonaparte***]
[10] *The Eighteenth Brumaire* claims that this class has come to categorize as "socialistic" that which was previously called "liberal." In Marxist discourse, this class is frequently contrasted with the proletariat.
ANSWER: **bourgeoisie**
[10] In Marxism, the essential characteristic of the bourgeoisie is that they own this, the non-human resources that are essential in the creation of wealth and economic goods.
ANSWER: **means of production** [prompt on "(factors of) production"; do NOT accept "productive forces", "productive powers", or "forces of production"]

12. This group's first leader was retired general Hugh Johnson. For 10 points each:
[10] Name this group symbolized by a blue eagle and established by Franklin Roosevelt in 1933 to bring together industries to follow "fair labor practices." The act that created this group was ruled unconstitutional in the 1935 *Schechter Poultry* case.
ANSWER: NRA [or National Recovery Administration; prompt on "NIRA" or "National Industrial Recovery Act"]
[10] The NRA was part of this broad FDR relief program that was meant to alleviate the devastation caused by the Great Depression.
ANSWER: the New Deal [prompt on "alphabet soup"]
[10] This curmudgeon served as Secretary of the Interior for the entire FDR administration. Also the director of the Public Works Administration, he was a civil rights supporter and backed African-American singer Marian Anderson in her fight with the Daughters of the American Revolution.
ANSWER: Harold LeClair Ickes
13. This writer was responsible for the reversal of the definitions of "objective" and "subjective" to their current English meanings. For 10 points each:
[10] Name this English writer, whose major work of non-fiction focuses on the distinction between "fancy" and "imagination" and who introduced the German Idealist ideas of Fichte and Schelling to English literary criticism.
ANSWER: Samuel Taylor Coleridge
[10] The title sailor tells of the cruel fate that befell him and his crewmates after he shoots an albatross with a cross-bow in this poem by Coleridge.
ANSWER: "The Rime of the Ancient Mariner"
[10] Coleridge recalls his schooldays in this conversation poem, which describes the title meteorological phenomenon performing its "secret ministry".
ANSWER: "Frost at Midnight"
14. The anti-hairy cell leukemia drug cladribine mimics this compound and inhibits its namesake deaminase enzyme. For 10 points each:
[10] Name this vasodilator that is used to treat some tachycardias and is a nucleoside whose "triphosphate" derivative is the unit of energy for metabolic processes.
ANSWER: adenosine [or ADO]
[10] This alkaloid drug antagonizes adenosine receptors by mimicking the nucleoside's purine structure, much like the similar xanthine derivatives theophylline and theobromine.
ANSWER: caffeine
[10] Adenosine deaminase irreversibly converts adenosine into this other nucleoside, which is very common in tRNA. This promiscuous compound can indiscriminately base pair to adenine, cytosine, thymine, or uracil.
ANSWER: inosine [or I]
15. One of these dances is performed at Maxim's at the beginning of Act Three of *The Merry Widow*. For 10 points each:
[10] Name this dance that is often performed to the *Infernal Galop* from *Orpheus in the Underworld*.
ANSWER: can-can
[10] *Orpheus in the Underworld* is by this French composer whose opera *The Tales of Hoffmann* was completed by Ernest Guiraud.
ANSWER: Jacques Offenbach
[10] Guiraud also posthumously arranged the second suite of Bizet's incidental music to this play; that suite from this play begins with a "Carillon" and ends with a "Farandole".
ANSWER: *L'Arlesienne* [or *The Girl from Arles*]

16. This concept was fully developed by de Broglie and is intimately tied to his relation which states that wavelength is inversely proportional to momentum. For 10 points each:
[10] Name this concept, proven by the Davisson-Germer experiment, according to which matter – and light – exhibit the properties of the two namesake things.
ANSWER: **wave-particle duality** [or obvious equivalents]
[10] This deterministic, hidden-variable interpretation of quantum mechanics is allowed by Bell's theorem because it is nonlocal. Its roots lie with de Broglie attempting to develop a causal explanation for wave mechanics.
ANSWER: de Broglie-**Bohmian** mechanics [or **pilot-wave** theory; or obvious equivalents]
[10] The foundation of Bell's theorem is this quantum phenomenon in which two physical systems – and their variables – are correlated despite separation, thus affecting measurement of the system.
ANSWER: quantum **entanglement**
17. The Sheva Brachot are seven blessings that are delivered during this ceremony. For 10 points each:
[10] Name this ceremony that usually includes an exchange of rings and which is governed by the Talmud.
ANSWER: **Jewish wedding** [or obvious equivalents; prompt on "wedding"]
[10] It is customary at Jewish weddings for the groom to complete this destructive act. An explanation for this custom is that it's in remembrance of the destruction of the Temple.
ANSWER: **breaking a glass** [or obvious equivalents, such as **stomping** on a glass]
[10] During a Jewish wedding, the bride and groom generally stand under a canopy given this Hebrew name.
ANSWER: **chuppah**
18. This man founded a state-run glass company to supplant Venetian glass, whose importation he eventually banned. For 10 points each:
[10] Name this former intendant who, as finance minister, based his economic policies around the accumulation of gold. He also maintained the *Maison du Roi* as Superintendent of Buildings.
ANSWER: Jean-Baptiste **Colbert**
[10] Colbert served under this French King, who endured the Fronde rebellion during his youth. This absolutist king was advised by Cardinal Mazarin until the cardinal's death in 1661.
ANSWER: **Louis XIV** [or Louis the **Sun King**; or **Louis le Grand**; prompt on "Louis"]
[10] This earlier head of finance under Louis XIV fell out of favor because of his extravagant displays of wealth. He expected to become head of government after Cardinal Mazarin's death, but in a reversal of fortune, was imprisoned instead.
ANSWER: Nicolas **Fouquet**
19. This action is preceded by a description of the narrator's mother reading him George Sand for the first time. For 10 points each:
[10] Name this action that first summons the sense memory of the narrator's Aunt Léonie eating breakfast in bed on a Sunday morning in Combray.
ANSWER: **eating** a tea-soaked **madeleine** [prompt on "cookie" or "cake" for "madeleine"]
[10] Eating a tea-soaked madeleine brings about the chain of memories that makes up this French author's massive seven-volume novel *In Search of Lost Time*.
ANSWER: Marcel **Proust** [or Valentin Louis Georges Eugène Marcel **Proust**]
[10] The sixth volume of *In Search of Lost Time*, *The Fugitive*, is titled for this character who dies in a riding accident near the beginning of the volume. In earlier scenes, the narrator suspects this lover of his of having an affair with Mademoiselle Vinteuil.
ANSWER: **Albertine**

20. A namesake “Perceptions Index” for this phenomenon, published yearly by Transparency International, lists Somalia, North Korea, and Afghanistan at the bottom, with Denmark and New Zealand at the top. For 10 points each:
- [10] Name this phenomenon studied by political scientist Colin Nye, which the World Bank defines as “abuse of public power for private benefit.” Its forms can include bribery, regulatory capture, and embezzlement.
ANSWER: corruption
- [10] This Harvard Law professor argued that “improper dependencies” of legislators upon fundraisers have caused large-scale corruption in American politics in his book *Republic, Lost*.
ANSWER: Lawrence “Larry” Lessig
- [10] Lessig set aside his advocacy for looser standards in this area of law to focus on his anti-corruption work. Lessig argued against a strict law in this field named for pop singer Sonny Bono in *Eldred v. Ashcroft*.
ANSWER: copyright law [or copyrights; or intellectual property law; or IP law; do NOT accept “patent law”]