1. **To explain the formation of these things, Miles Hayes developed the transgressive-regressive interfluve hypothesis. Prograding examples of these things have the characteristic shape of a drumstick—in the sense of a chicken leg. Retrograding examples usually undergo "rollover," which creates a washover terrace and causes them to migrate. In New England, a majority of these things originated from the elongation of (*)** spits. These things occur in chains separated by tidal inlets and can shelter lagoons, marshes, and estuaries. These things are long and narrow accumulations of sediments, mostly sand, that lie parallel to and separate from the mainland. For 10 points, name these offshore environments whose examples include the Outer Banks.
ANSWER: **barrier** islands [*or:* **barrier** complexes; *prompt on:* "**island**s", "**bar**s"]

2. **The last-minute construction of a loading bay in this building made it impossible to replace the broken fuel cells that would have given it LEED gold certification. Five of its elevators are equipped with panoramic display screens that depict the evolution of the surrounding city. This building's original plan called for its shadow to craft a "wedge of light" which would illuminate Santiago Calatrava's neighboring transportation hub. Its shape is formed from eight isosceles (*)** triangles, which meet in a square at its base and another square at its roof. David Childs of Skidmore Owings and Merrill created the final design for this building, after developer Larry Silverstein nixed Daniel Libeskind's Statue of Liberty-inspired plan. For 10 points, name this 1,776 foot tower which was built on the site of Minoru Yamasaki's Twin Towers.
ANSWER: **One World Trade Center** [*or:* **Freedom Tower**; *prompt on:* "**World Trade Center**"]

3. **One side in this battle used a woodcut printer to produce their own ten-shilling banknotes. A failed Boxing Day raid during this battle targeted Game Tree Fort. The winning commander at this battle had his troops pretend to dodge barbed wire and placed fake mines throughout the battlefield. Sarah Wilson sent news of this battle to the *Daily Mail*, making her the first female war correspondent. The commander who won this battle adapted his training lessons into the bestselling handbook (*)** *Scouting for Boys*. This battle was fought at the same time as the shorter sieges of Kimberley and Ladysmith. For 10 points, name this protracted battle in which the future founder of the Boy Scouts, Robert Baden-Powell, successfully held off his Boer opponents.
ANSWER: Siege of **Mafeking**

4. **An author from this country wrote a novel about a history teacher with a personal dualistic "mythology" who returns to his hometown and falls in love with both Gerda Torp and Christie Malakite. This country was home to an intellectual circle called the Kardomah Gang, which included a poet who repeated the phrase "I am dumb to tell" in a poem about a phenomenon which (*)** "drives my green age." The speaker of a poem from this country was "green and carefree, famous among the barns" and "young and easy under the apple boughs" and declares "time held me green and dying, though I sang in my chains like the sea." The aforementioned poems are "The Force that Through the Green Fuse Drives the Flower" and "Fern Hill." For 10 points, name this country which produced John Cowper Powys and Dylan Thomas.
ANSWER: **Wales** [*prompt on:* "**United Kingdom**", "Great **Britain**"]

5. **Peter Sloterdijk's "Rules for the Human Zoo" was written as a response to an essay by this philosopher, which itself was a response to an essay by Sartre, arguing that Sartre had misread this philosopher. Derrida borrowed this philosopher's technique of** *sous rature*, **or erasure, which involves striking out a word but leaving it visible. He adapted the ancient Greek concept of** *aletheia*, **meaning "disclosure," and related it to his own notion of (*)** "world disclosure." His magnum opus argued that individual existences are "thrown" into the world and used the example of reaching for a hammer to illustrate the distinction between things which are present-at-hand and those which are ready-at-hand. This author of "The Origin of the Work of Art" coined a term which literally means "being there." For 10 points, name this philosopher who coined the term *Dasein* in his book *Being and Time*.
ANSWER: Martin **Heidegger**

6. **In one of this author's stories, the narrator and his wife dress up as a football player and a bride for a party where most of the guests are football players and brides. The title character of that story scorns the way that ancient shingles and distressed doors have been used to make his family vacation house look venerable. The narrator of that story by this man hits his brother Lawrence with a root on the beach. The protagonist of another of his stories lives in (*)** Bullet Park and names an imaginary stream "Lucinda" after his wife. That story begins at a party thrown by the Westerhazys and ends seemingly the same day with the protagonist's discovery that his house is abandoned. For 10 points, name this author of "Goodbye, My Brother" who wrote about Ned Merrill's pool-hopping journey across suburbia in "The Swimmer."
ANSWER: John **Cheever**

7. **A letter written by a mayor to his daughter Veronica provides a detailed account of one of these events. Katharina Kepler, the mother of Johannes Kepler, was the subject of another of these events. During one of these events, the youngest son of the Pappenheimer family had to watch the rest of his family meet their ends. One of these events in Bamberg took the life of its mayor, Johannes Junius. The publication of** *Cautio Criminalis* **reversed the popularity of these events caused by the earlier publication of (*)** *Malleus Maleficarum*. Würzburg was the site of a large example of these events, which sometimes resulted in the accused being thrown into water to see whether or not they floated. For 10 points, identify these events in which those accused of sorcery were often executed.
ANSWER: **witch trial**s [*or:* **witch hunt**s, obvious equivalents]

8. **In the 3-dimensional scalar theory phi-super-four, this property imposes a continuum limit on the renormalization group trajectory when a flow joins the Gaussian and Wilson-Fisher fixed points. This property can be used to explain the OZI rule because OZI-suppressed processes involve hard particles and OZI-allowed processes involve soft particles. Bjorken scaling was explained by this property, which is unique to (*)** non-Abelian gauge theories. The critical parameter that's the origin of this property is minus twenty-one, meaning anti-screening dominates, and is calculated as twice the number of flavors minus eleven times the number of colors. This property results from a "running" coupling constant in QCD. For 10 points, according to what property does the strong force get weaker as distance decreases?
ANSWER: **asymptotic freedom**

9. **This god fathered a lioness-headed demon who killed unborn children by touching their mother's stomach seven times. The easily-flattered Tammuz and Gishzida guard the palace of this god, whose offer of the food of immortality is refused by the fisherman Adapa. In a Hittite myth that inspired the Greek story of Cronus, this god's semen creates Teshub when he is (*)** castrated by his monstrous son Kumarbi. In the *Epic of Gilgamesh*, Ishtar's threats to raise the dead intimidate this god into allowing her use of the bull Gugalanna. This consort of Ki is descended from Apsu and Tiamat, has his holiest city at Uruk, and gives up his supremacy to Marduk. For 10 points, name this Mesopotamian god of the heavens, part of a triad with Enlil and Ea.
ANSWER: **An**u

10. **In a painting by this artist, a policeman on horseback beats people back with a riding crop while a row of peasants block a crippled boy from reaching the main group of people. That painting was controversial because it showed an apparently drunk man carrying a religious icon. Dwight Macdonald's question about why peasants would prefer this artist to Picasso is discussed at length in Clement (*)** Greenberg's "Avant-Garde and Kitsch." This painter of *Religious Procession in Kursk Province* showed a raucous group drafting a response to an ultimatum sent by Mehmed IV. He also painted a line of exhausted men dragging a boat behind them. For 10 points, name this Russian painter of *Reply of the Zaporozhian Cossacks* and *Barge Haulers on the Volga*.
ANSWER: Ilya (Yefimovich) **Repin**

11. **One organization involved in this event was compelled to participate after gradually being weakened by the Cleveland "purge convention" and the failure of Operation Dixie. This event, which followed a high profile "no-raiding agreement" signed a year before, was largely orchestrated by future Supreme Court Justice Arthur Goldberg. It was made possible by the nearly simultaneous deaths of bitter enemies William Green and Philip Murray. This event ended a twenty-year-old civil war between those in favor of organizing by (*)** craft and those in favor of organizing by industry. The organization created by this event was led by Walter Reuther and George Meany. For 10 points, name this 1955 event in which the two largest labor federations in the United States joined together.
ANSWER: **AFL-CIO merger** [accept equivalents for "merger"]

12. **In a short story whose title comes from this poem, the Jewish George Bland kills himself after being informed he's not good enough to be a concert pianist. The speaker of this poem wishes to forget "where palsy shakes a few, sad last gray hairs" and "where youth grows pale, and spectre-thin, and dies." The speaker of this poem mentions "faery lands (*)** forlorn," prompting him to exclaim that the word "forlorn" is like a bell "to toll me back from thee to my sole self." W. Somerset Maugham's story "Alien Corn" gets its title from this poem's line about "the sad heart of Ruth." This poem's speaker has "been half in love with easeful Death" and asks "Was it a vision, or a waking dream?" For 10 points, name this Keats poem about an "immortal Bird."
ANSWER: "**Ode to a Nightingale**"

13. **One episode of this show discusses the opening of a Vermont health-food store called All Good Things. One of the questions raised in this show is why a person would shoplift a hoagie from Wegmans when he has tens of thousands of dollars in his car. A key moment in this show involves two notes which both contain the same misspelling of the name (*)** "Beverly" written in the same block lettering. The final episode of this show fades to black after its subject leaves an interview to go to the bathroom, and apparently not realizing his microphone is still on, says "What the hell did I do? Killed them all, of course." For 10 points, name this Andrew Jarecki produced six part documentary on HBO which broke open the investigation into the murders of Robert Durst.
ANSWER: *The **Jinx***

14. The largest of these places in Europe contains busts of Decebalus and Trajan, is divided into sections called Unirea and Mihai, and is found in Romania. One of these places in the Asse hills was converted into a storage facility for radioactive waste. A sculpture of the Creation of Man engulfed by blue light is found at a cathedral inside one of these places in Zipaquirá, Colombia. Years before Tabasco sauce was made, Louisiana's Avery Island was home to one of these places. Examples of these facilities at Merkers and (*) Altaussee were used to store paintings looted by the Nazis. Workers carved underground cathedrals into these facilities at Bochnia and Wieliczka in Poland. For 10 points, identify these facilities that produce a common mineral used for seasoning.
ANSWER: __salt mine__s [*prompt on:* "__mine__s"]

15. A 20-some-year debate over the relative importance of this process involved Tilman's R-star model and Grime's triangular model of this process, stress, and ruderal. Foundational experiments about this process were performed by Tom Park with *Tribolium* beetles. Overlaying phase-plane diagrams on which zero isoclines are plotted allows one to study one of four possible outcomes of this process. Its two "real" types are interference, which is direct, and exploitation, which is indirect. The logistic and Lotka-Volterra growth curves are possessed by populations undergoing its (*) intraspecific and interspecific examples, respectively. Gause's exclusion principle of this process states that two species cannot coexist in identical ecological niches. It can be defined as an interaction between organisms that causes a decrease in fitness for one party. For 10 points, identify this conflict between organisms over common resources.
ANSWER: resource __competition__

16. In one ritual on this holiday, an unleavened piece of bread called an "opatek" is broken by the oldest family member before being passed around. In Lithuania, the meal eaten on this holiday is called "kucios" and is left out all night to appease the spirits of the dead. In Ireland, the bells rung on this holiday are called the Devil's Funeral. The Italian tradition of eating twelve different types of seafood on this holiday spawned the Italian-American (*) Feast of the Seven Fishes. The Polish feast of Wigilia is held on this holiday, It is commonly celebrated with church services in which each member of the congregation holds a candle and passes the flame to his neighbor, often while singing "Silent Night." For 10 points, name this last day of Advent, the day before the birth of Jesus Christ.
ANSWER: __Christmas Eve__ [*do not accept:* "Christmas"]

17. Exterior to a thin homoeoid, this quantity is equal along spheroids confocal with the homoeoid, while it is constant for the interior. Using the Plummer model, the denominator of this quantity is the square root of the radius squared plus the Plummer scale length squared. The partial derivative of this quantity appears in the definition of the Chandrasekhar tensor, which is a subtractive term in the tensor formulation of the virial equation. When modeling galaxies with the collisionless Boltzmann equation, its gradient is dotted with the partial derivative, with respect to velocity, of the phase space density. Poisson's equation for this scalar gives the Laplacian of it as equal to four pi times (*) big G times density. At a distance R from a point with mass M, it's equal to minus big G times M over R. For 10 points, name this quantity that, for a given location, equals the work per unit mass done by gravity to bring a body from infinity to that point.
ANSWER: __gravitational potential__ [*or:* __big phi__, __capital phi__; *after "gravity" is read, accept:* gravitational __potential__; *accept:* word forms of "gravitational"; *prompt on:* "__potential__", "__phi__", "__V__"; *do not accept:* "U", "(gravitational) potential energy"]

18. **At the beginning of a novel, this character is told about the death of his country's leader, but assumes that the man who died was either a chemist's messenger who once drank a bottle of hair oil, or a man who collects dog manure. This character meets Hitler while lost in a snowstorm in a play by Bertolt Brecht. He is the title character of a novel whose volumes include the excellently-titled "The Glorious Licking" and "The Glorious Licking Continued." He initially works for Otto (*)** Katz, who loses him to Lukáš in a poker game. This character, who sells stolen dogs, uses a wheelchair because he pretends to have rheumatism, but nonetheless serves in the Austro-Hungarian Army in World War I. For 10 points, name this "good soldier" from a novel by Jaroslav Hašek.
ANSWER: Josef **Švejk** [accept either name; or Josef **Schweik**]

19. **This leader's Parthian adviser, Amminapes, may have influenced the Persian character of institutions he made, such as the "royal pages." This man annexed Crenides, which he renamed after himself, to access the silver mines of Mount Pangaeon. He agreed with Athens to give up Amphipolis for the port of Pydna, but actually took both. A tomb probably built for this king contains a** *larnax* **with a sixteen-rayed (*)** sun that became part of his country's flag. This king grew up as a hostage in Thebes to a friend of Epaminondas, whose phalanx tactics he adopted and improved by adding the long *sarissa* spear. For 10 points, name this king who created the Macedonian kingdom expanded by his son Alexander the Great.
ANSWER: **Philip II**

20. **John Rutter "rediscovered" an early version of this composer's most famous work, popularizing it with a 1984 recording. The lyric "Verbe, égal au Très-Haut" begins this composer's setting of a French translation of the Ambrosian hymn "Consors paterni luminis". The optional choral parts to this composer's** *Pavane* **were written by Robert de Montesquiou. In his most famous work, this composer set** *Pie Jesu* **in a separate movement for the first time in history and concluded that work with the antiphon (*)** *In paradisum*. This composer of *Cantique de Jean Racine* omitted violins and woodwinds from the original orchestration of that most famous work, which was continuously revised over 23 years and only included a reference to the *Dies Irae* in the *Libera Me* section. For 10 points, name this French organist and composer of an unusual *Requiem*.
ANSWER: Gabriel **Fauré** [*or:* Gabriel Urbain **Fauré**]

1. This painter was inspired by Hans Prinzhorn's book *Artistry of the Mentally Ill* to coin the term "art brut," which was translated into English as "outsider art." For 10 points each:
[10] Name this French painter who created the cover for Jasun Martz's avant-garde symphony *The Pillory*. He sculpted Chicago's *Monument with Standing Beast*, and painted *The Cow with the Subtle Nose*.
ANSWER: Jean **Dubuffet**
[10] The art of the mentally ill was a major inspiration for this Swiss-born artist of *Viaducts Break Ranks* and *Twittering Machine*.
ANSWER: Paul **Klee**
[10] Some psychiatrists have argued that Louis Wain, who is best known for painting these animals, suffered from schizophrenia, which influenced his work. Paul Klee painted one of these animals with a bird on its forehead.
ANSWER: **cat**s

2. During a scandal at this king's court, Nicholas de la Reynie headed a tribunal that sentenced 36 people to death for using illicit poisons acquired from fortune-tellers. For 10 points each:
[10] Name this 17ᵗʰ century French king whose mistress, the Madame de Montespan, was implicated in the Affair of the Poisons. He opposed King William III of England during the War of the League of Augsburg.
ANSWER: **Louis XIV**
[10] In 1613, this English poet caused an uproar at James I's court by writing "A Wife," often interpreted as an enjoinder for his friend Robert Carr not to marry Frances Howard. To get him out of the way, Frances Howard had him served sulfuric acid.
ANSWER: Thomas **Overbury**
[10] In 1978, the Bulgarian dissident Georgi Markov, residing in London, was assassinated with a ricin pellet fired out of one of these unusual devices.
ANSWER: an **umbrella**

3. When Achilles knelt at an altar of Apollo at this woman's request, he was shot in the heel with a poisoned arrow by Paris. For 10 points each:
[10] Name this Trojan princess loved by Achilles. At the end of the Trojan War, Achilles' ghost demands that the Greeks sacrifice her at his tomb.
ANSWER: **Polyxena**
[10] After the events of the *Iliad*, Achilles also fell in love with the corpse of Penthesilea, a queen of these people. For one of his labors, Heracles had to acquire the girdle of their queen Hippolyta.
ANSWER: **Amazon**s
[10] Previously, Achilles fell in love with this young Trojan prince, the son of Apollo with Hecuba. Apollo said that Troy would not fall if this prince reached age 20, but Achilles murdered him first.
ANSWER: **Troilus**

4. The island that this religion comes from is "not down in any map; true places never are." For 10 points each:
[10] Name this religion from the island of Kokovoko which teaches fasting and the worship of a small idol named Yojo. Description acceptable.
ANSWER: **Queequeg's** religion [*or:* obvious equivalents]
[10] This narrator of *Moby Dick* describes Queequeg's ritualistic fasting as his Ramadan.
ANSWER: **Ishmael**
[10] In the opening paragraph of *Moby Dick,* Ishmael claims that he goes to sea "whenever it is a damp, drizzly" *this* in his soul.
ANSWER: **November**

5. This function reduces to the hyperbolic cotangent of x minus one over x, that is—Langevin's function, in the classical limit of J goes to infinity. . For 10 points each:
[10] Name this used to find the paramagnetic magnetization.
ANSWER: **Brillouin** ("bree-oyn") function
[10] This constant multiplies the Brillouin function for J in the paramagnetic magnetization. The magnetic moment of the electron is expressed in units of this constant.
ANSWER: **Bohr magneton** [*or:* **mu**-sub-**b**]
[10] The Brillouin zone is the Wigner-Seitz primitive cell in the reciprocal one of these structures. In three dimensions, there are fourteen Bravais examples of these structures, which consist of infinitely repeated unit cells.
ANSWER: **lattice**s [*do not accept:* "crystals"]

6. According to legend, this man obtained a sword inscribed with the words "The Will of Heaven," but returned it to a lake after having it stolen from him. For 10 points each:
[10] Name this emperor who led the Lam Son uprising to free his people from the Ming Dynasty.
ANSWER: **Le Loi** [*or:* **Le Thai To**; *prompt on:* **Le**]
[10] Le Loi is said to have received his magical sword from one of these animals. Parts of this reptilian animal were often used to produce oracle bones.
ANSWER: **turtle**s [*or:* **tortoise**s]
[10] This country's national heroes include Le Loi and the Trung Sisters, who also rebelled against China. It has been led at different times from Hue and Hanoi.
ANSWER: **Vietnam**

7. This protein was isolated after the observation that fibroblasts in culture do not proliferate when provided with plasma, but do when provided with serum. For 10 points each:
[10] Name this mitogen that, like EGF, has very broad specificity. It's released by platelets.
ANSWER: **PDGF** [*or:* **platelet-derived growth factor**]
[10] PDGF, EGF, and many, many other growth factors and hormones act through cell-surface receptors named for this amino acid. Like phenylalanine and tryptophan, it's an aromatic amino acid with a namesake hydroxylase.
ANSWER: **tyrosine** [*or:* **tyr**]
[10] The receptor named for this hormone is a receptor tyrosine kinase. This hormone is produced by beta cells in the islets of Langerhans in the pancreas.
ANSWER: **insulin**

8. Although this event is traditionally held to have occurred three to four hundred years after the Hijra, Wael Hallaq and other scholars argued that it never happened. For 10 points each:
[10] Give this metaphorical term for the decline of analogical reasoning and personal judgment among Sunni scholars.
ANSWER: **closing of the gates of ijtihad** [*or:* **closing of the doors of ijtihad**, answers which mention ijtihad, doors or gates, and the concept of closing or shutting]
[10] Ijtihad is one of the traditional Sunni sources of this religious law of Islam. Jurisprudence, or human understanding of this system, is called fiqh.
ANSWER: **sharia**
[10] Another source of sharia law is ijma, or the consensus of Muhammad and this group of close followers whose name is Arabic for "companions."
ANSWER: **sahaba**

9. Answer the following about extended vocal techniques, for 10 points each.
[10] A type of overtone singing named after this part of the vocal apparatus is popular in the region of Tuva and among the Inuit.
ANSWER: **throat** singing
[10] George Crumb's *Ancient Voices of Children* requires a soprano to sing nonsense syllables directly into one of these objects.
ANSWER: an amplified **piano**
[10] The *Sprechgesang* technique is used in this Arnold Schoenberg piece based on poems by Albert Giraud.
ANSWER: *Dreimal sieben Gedichte aus Albert Girauds **Pierrot Lunaire*** [*or: Three Times Seven Poems from Albert Giraud's **Pierrot Lunaire**, **Pierrot in the Moonlight** or similar translations*]

10. Virginia Woolf called it "one of the few English novels written for grown-up people." For 10 points each:
[10] Name this novel whose secondary characters include John Raffles, who knows about Bulstrode's sordid financial past.
ANSWER: ***Middlemarch**, A Study in Provincial Life*
[10] *Middlemarch* is the masterpiece of this author of *Silas Marner*.
ANSWER: George **Eliot** [*or:* Mary Ann **Evans**]
[10] On his deathbed, Edward Casaubon implies that he doesn't want Dorothea Brooke to do this. Dorothea later discovers that Casaubon's will stipulates that she will lose her inheritance if she does this.
ANSWER: **marries** Will **Ladislaw** [*or:* **marries Will** Ladislaw, obvious equivalents; *prompt on:* gets **remarried**]

11. The newspaper founded by Karl Kraus was named after one of these objects. For 10 points each:
[10] Name these objects, one of which also titles a volume of memoirs which appeared between *The Tongue Set Free* and *The Play of the Eyes*.
ANSWER: a **torch** [*or: Die **Fackel***]
[10] The aforementioned memoir, *The Torch in My Ear*, was written by this Nobel laureate who also wrote *Crowds and Power* and a novel about the Sinologist Peter Kien.
ANSWER: Elias **Canetti**
[10] Karl Kraus wrote an anti-fascist tract called *The Third Walpurgis Night*. Another literary Walpurgis Night takes place in Part One of this Goethe play about a deal with Mephistopheles.
ANSWER: ***Faust***

12. The creator of *Colossal Cave Adventure* denied that he came up with this sequence from a mnemonic for performing cross products. For 10 points each:

[10] Identify this sequence of five letters that was often used as a "magic word" in early video games. For example, typing it into *Minesweeper* produces a white pixel that indicates whether or not your mouse pointer is hovering over a mine.

ANSWER: **xyzzy**

[10] The website *Pretend You're Xyzzy* is a popular online simulator of this Apples to Apples-like "party game for horrible people." Its developers' Black Friday antics include raising its price by five dollars and offering boxes of literal bullshit.

ANSWER: ***Cards Against Humanity***

[10] Typing "xyzzy" into this text-based game only leads to the unhelpful response "A hollow voice says 'Fool.'" This game warns that in total darkness, "you are likely to be eaten by a grue."

ANSWER: ***Zork***

13. Paul Offit explored the disastrous presence of a live form of this virus in vaccines produced by Cutter Laboratories in *The Cutter Incident*. For 10 points each:

[10] Name this virus whose first successful vaccine was developed by Jonas Salk.

ANSWER: **polio**virus [*do not accept:* "poliomyelitis"]

[10] The distribution of vaccines with live poliovirus could've been avoided if NIH director William Sebrell had just listened to Bernice Eddy, who noticed that the vaccine was causing paralysis in monkeys. Bernice Eddy also discovered that this virus, present in the Salk and Sabin polio vaccines, caused tumors in hamsters.

ANSWER: **SV40** [*or:* **simian vacuolating virus 40**, **simian virus 40**]

[10] Maurice Hilleman discovered SV40 in the Salk and Sabin polio vaccines while at this drug company, where he developed all the vaccines. It's known for developing the first statin, lovastatin, and the catastrophic Vioxx incident.

ANSWER: **Merck** & Co., Inc. [*or:* **MRK**, **Merck** Sharp & Dohme, **MSD**]

14. Polymerizations described by this term occur best when each monomer contains at least one strong electron withdrawing group. For 10 points each:

[10] Name this type of polymerization that proceeds via a chain that carries a negative charge.

ANSWER: **anion**ic

[10] Condensation polymerization is contrasted with this type of polymerization, which includes cationic and anionic subtypes. The chain growth step of an anionic polymerization is the Michael type of this reaction, in which two compounds are combined.

ANSWER: **addition**

[10] A use for anionic polymers is in strong adhesives like Super Glue, which are commonly made from derivatives of this monomer. This anion is stabilized by its ester and nitrile groups.

ANSWER: alpha-**cyanoacrylate** [*or:* 2-**cyanoacrylate**]

15. Answer the following about Joseph Stalin literally taking people and objects out of the picture, for 10 points each.
[10] The Great Purge is sometimes named for this man, who headed the NKVD as the People's Commissar for Internal Affairs from 1936 to 1938. After his 1940 execution, he himself was purged from a picture taken at the Moscow Canal.
ANSWER: Nikolai **Yezhov**
[10] With his brother-in-law, Lev Kamenev, this man was edited out of a photograph of Lenin giving a 1920 speech. The reach of the USSR finally caught up to him when he was murdered, most likely with an axe, in Mexico City.
ANSWER: Leon **Trotsky** [or Lev Davidovich **Bronshtein**]
[10] A very slight change removed Abdulkhakim Ismailov's wristwatch from a picture of this action. Stalin pressured troops to fight harder so that a picture of this action could be taken on International Workers' Day, 1945. They were one day late.
ANSWER: raising a **flag** over the **Reichstag** [*prompt on:* "Battle of **Berlin**", "**fall of Germany**", similar answers]

16. Answer the following about Chinese erotic novels, for 10 points each.
[10] This novel by Wei Hui, which was banned in China, is about a writer named Nikki, also called Coco after Coco Chanel, who writes a collection of erotic short stories called *The Shriek of the Butterfly*.
ANSWER: ***Shanghai Baby***
[10] The classic novel *The Plum in the Golden Vase* is about people like Ximen Qing and Pan Jinlian, who are minor characters from this other novel about Song Jian and his band of 108 criminals.
ANSWER: The **Water Margin** [*or:* **Outlaws of the Marsh**, **All Men Are Brothers**, The **Marshes of Mount Liang**, **Tale of the Marshes**, **Men of the Marshes**, **Shui Hu** Zhuan]
[10] The Qing author Li Yu wrote a novel named after a "carnal" one of these objects. Its title comes from a comparison the protagonist makes between his carnal desires and the loftier desires of a monk he meets.
ANSWER: prayer **mat** [*or:* **zafu**]

17. This model essentially reverses the traditional lecture–homework model and usually integrates instructional scaffolding. For 10 points each:
[10] Name this model of primary and secondary teaching in which students first gain exposure to new material outside of class, then use class time to assimilate knowledge via exercises and discussion with the help of a teacher.
ANSWER: **flipped** classroom [*or:* **backwards** classroom, **inverted** classroom, **Thayer** method; *prompt on:* "**reverse** teaching"]
[10] This Russian psychologist's research into the zone of proximal development was the basis for the concepts of constructivism and scaffolding widely used in educational frameworks.
ANSWER: Lev **Vygotsky** [*or:* Lev Semyonovich **Vygotsky**]
[10] Vygotsky's theory of cognitive development differs from that of this Swiss psychologist, who proposed that children progress through sensorimotor, preoperational, concrete operational, and formal operational stages.
ANSWER: Jean **Piaget**

18. According to John Hubbard, "something like half of mathematics consists of showing that some space" has this property. For 10 points each:
[10] Name this property possessed by a subset of the reals that is closed and bounded. Sets with this property are of great import in part because they're guaranteed to have a convergent subsequence whose limit is in the set.
ANSWER: **compact**ness
[10] The existence of a convergent subsequence can be used to be prove this theorem, which states that a symmetric matrix can be diagonalized with an orthonormal matrix. Equivalently, a symmetric matrix times an orthonormal basis is equal to the eigenvector times the orthonormal basis.
ANSWER: **spectral** theorem [*or:* **principal axis** theorem, **Sylvester's principle of inertia**, **Sylvester's law of inertia**]
[10] The existence of a convergent subsequence can also be used to prove this theorem. This theorem guarantees that every polynomial of degree one or greater one has at least one complex root.
ANSWER: **fundamental theorem of algebra**

19. The trio this man formed with Israel Crosby and Vernel Fournier released a wildly popular rendition of the standard "Poinciana" on the album *At the Pershing: But Not for Me*. For 10 points each:
[10] Name this bandleader who was born Frederick Russell Jones but who changed his name upon converting to Islam.
ANSWER: Ahmad **Jamal**
[10] Jamal brought a minimalist style to this instrument that was also played by Duke Ellington.
ANSWER: **piano**
[10] Ahmad Jamal's "I Love Music" is sampled on this artist's "The World is Yours." His song "It Ain't Hard to Tell" samples Stanley Clarke's "Slow Dance."
ANSWER: **Nas** [*or:* Nasir bin Olu Dara **Jones**]

20. While imprisoned under the Sedition Act for his pamphlet *The Prospect Before Us*, this man titled one of the chapters of a second volume "more sedition." For 10 points each:
[10] Name this pamphleteer who later turned on Thomas Jefferson by exposing his affair with Sally Hemings.
ANSWER: James **Callender**
[10] Callender also exposed this man's affair with Maria Reynolds. This author of the Report on Manufactures was the first Secretary of the Treasury.
ANSWER: Alexander **Hamilton**
[10] This Supreme Court Justice presided over James Callender's trial. His politically slanted handling of it would provide fodder for his own impeachment in 1804.
ANSWER: Samuel **Chase**