

1. One boycott organized by this man used the slogan "Don't Buy Gas Where You Can't Use the Restroom." He opened a public investigation into the death of Emmett Till. Months before the *Brown v Board* decision, he applied to the law school of the University of Mississippi. Phil Ochs's "Too Many Martyrs" and Bob Dylan's "Only a Pawn in Their Game" are about this man. In 1994, Byron De La Beckwith was convicted after bragging to Ku Klux Klan members about shooting this organizer of the Jackson Movement in 1963. For 10 points, name this first NAACP Field Secretary of Mississippi whose assassination caused a furor during the civil rights movement.

ANSWER: Medgar Wiley Evers

015-09-12-06102

2. One of this man's works shows an old woman clutching a bear mug with an owl on her shoulder. He also depicted a large-bosomed, smiling girl wearing lower-class clothing in his painting *Gypsy Girl*. This artist of *Maile Babbe* was an accomplished portraitist, among whose clientele was the wealthy Isaak Massa. He painted a life-size group portrait of men ostentatiously holding flags and posing at a dinner table in his *The Banquet of the Officers of the St. George Militia Company*. The upper right of another painting by this artist announces that its subject is twenty six years old. In that painting, this artist depicted a mustachioed gentleman with an enigmatic grin, with his mouth firmly closed, in contrast to the painting's title. For 10 points, name this artist of the Dutch Golden Age, the painter of *The Laughing Cavalier*.

ANSWER: Frans Hals

052-09-12-06103

3. The "Forbidden Toy" experiment demonstrated that this effect depends on the severity of punishment. Elliot Aronson earlier found that it was stronger when an individual expended more effort joining a group. The first theorists of this phenomenon used applied it to the results of an experiment in which subjects placed and removed spools from a tray and turned square pegs ninety degrees. This phenomenon arose when subjects were paid one or twenty dollars to enthusiastically describe boring tasks. For 10 points, name this phenomenon studied by James Carlsmith and Leon Festinger, in which an individual's actions and attitudes are at odds with each other.

ANSWER: cognitive dissonance

003-09-12-06104

4. Prior to this state's formation, John Carlile was accused of "triple treason." A month prior to this state's admission, it was invaded in the Jones-Imboden raid. Joseph Reynolds's victory at Cheat Mountain allowed this state to establish a government under governor Francis Pierpont. This state was founded after a convention that claimed to "restore" the government of another state. One city currently in this state changed hands eight times during the Civil War, and was also the site of John Brown's raid on a federal armory. For 10 points, name this state with cities Wheeling and Harpers Ferry that broke away from its southeastern neighbor in 1863.

ANSWER: West Virginia [do not accept "Virginia"]

026-09-12-06105

5. In a poem by this author, the speaker declares "I hate my epidermal dress" and wishes to "sleep immodestly" as "a most incarnadine and carnal ghost." This poet wrote "I measure time by how a body sways" in a poem whose first line describes the title character as "lovely in her bones." This author of "Epidermal Macabre" and "I Knew a Woman" used four-line stanzas and lines of three iambs to mimic the title dance of a poem beginning "the whiskey on your breath / Could make a small boy dizzy." This poet wrote "I feel my fate in what I cannot fear / I learn by going where I have to go" in a villanelle which begins with the line "I wake to sleep, and take my waking slow." For 10 points, name this poet from Michigan who wrote "My Papa's Waltz" and "The Waking."

ANSWER: Theodore **Roethke**

032-09-12-06106

6. Locally compact examples of these algebraic structures can be assigned Haar measures. All possible composition series of one of these objects are equivalent by the Jordan-Hölder theorem. One class of these has locally Euclidean structure and is named for Lie [LEE]. Another class of this type of object dictates the solvability of polynomials and is named for Galois [gal-WAH]. As with many algebraic structures, the set of commuting values in one of these is its center and one equal to its own center is Abelian. For 10 points, name these mathematical structures, each of which consists of a set endowed an associated operation for which there exist an identity and inverses.

ANSWER: **groups**

022-09-12-06107

7. Islands in this lake include bird sanctuaries named Hog Island and Fisherman Island. A man-made peninsula on this lake is Northerly Island, the site of an airport named Meigs Field. This lake contains islands which according to legend commemorate two drowned bear cubs. Located off the Sleeping Bear Dunes National Lakeshore, those islands are North and South Manitou Islands. The crazed Mormon "king" James Strang ruled an island in this lake called Beaver Island. Tourists cross this lake on the SS *Badger*, which takes people from Ludington to Manitowoc. For 10 points, name this only Great Lake located entirely within the United States, which has such cities as Chicago on its shores.

ANSWER: Lake **Michigan**

052-09-12-06108

8. The Troparion of this day sees an angel tell some "myrrh-bearing women" that myrrh is not good enough for Christ. One event on this day saw a speech in which crying women were told to "weep for yourselves and for your children," and that barren women would be blessed one day. Events during it can be represented by the Via Dolorosa, which honors the actions of Saint Veronica and Simon of Cyrene. This day immediately follows another holiday which contains the traditional washing of the feet and is given the adjective "Maundy." For 10 points, name this holiday which commemorates the day Jesus was crucified and takes place two days before Easter Sunday.

ANSWER: **Good Friday** [accept **Holy Friday** or **Great Friday**]

052-09-12-06109

9. In one story, this character breaks up with his girlfriend Marjorie after answering "No" to her question "Isn't love fun anymore?" In a subsequent story, this character reacts to that breakup by getting drunk with his friend Bill during the title period of strong winds. He arrives at the burned-out town of Seney and fishes for trout in a two-part story about his healing return to nature after World War I. In a story about his transition to adulthood, he warns former heavyweight prizefighter Ole Anderson about the gangsters Max and Al. This character is the protagonist of the stories "The End of Something," "The Three-Day Blow," "Big Two-Hearted River," and "The Killers." For 10 points, name this recurring character created by Ernest Hemingway.

ANSWER: **Nick** Adams [or Nick **Adams**]

063-09-12-06110

10. This husband of Ermengarde of Tours died and was buried at a monastery near Prum. He quarreled with his stepmother Judith after she planned to have Alemannia given to her son rather than to him. He allied with Pepin II of Aquitaine, but was nevertheless defeated at the Battle of Fontenay, prompting him to negotiate a treaty with two of his brothers that granted him Italy and a strip of land stretching northwards from that province. For 10 points, name this signatory of the Treaty of Verdun, the brother of Charles the Bald and Louis the German.

ANSWER: **Lothair I**

040-09-12-06111

11. The narrator of the novel is given some Christmas cookies and rosewater by a woman who returns his umbrella. The title character of this work secures an agreement from the leaders of a monastery to sell him some wood. In this novel, the young man Pavli drowns himself in the ocean after an unnamed Widow spends the night with the narrator, causing her to be stoned and decapitated by an angry funeral procession. The narrator is referred to as "the boss" by the passionate title character, who eventually marries the aging prostitute Madame Hortense and helps run a Cretan lignite mine. For 10 points, name this novel by Nikos Kazantzakis.

ANSWER: **Zorba the Greek** [or **Vios kai politela tou Alexe Zormpa**]

040-09-12-06112

12. A common inducible form of the Cre-Lox system fuses the Cre protein to a mutant T2 form of the receptor for this molecule. Raloxifene and Tamoxifen selectively inhibit the action of this compound in some organs, while with another hormone it increases the expression of steroid hormone binding globulin from the liver. This hormone, which is secreted by granulosa cells, is produced from precursors by aromatase, and a rise in this hormone results in the LH surge that triggers ovulation. Responsible for controlling the proliferation of the endometrium, its precursors include cholesterol and testosterone. Along with progesterone, its decline causes menopause. For 10 points, name this female sex hormone.

ANSWER: **Estrogen** [accept **Estradiol**, **Estriol**, or **Estrone**]

048-09-12-06113

13. This figure ordered his men to advance in spite of an omen in which a red snake bit an eagle. His enemy recounted that this warrior would not advance beyond an oak tree by the Scaean gate. He fulfilled a prophecy by killing Protesilaus and engaged in another fight in the form of his brother Deiphobus. This figure's bronze helmet inspired tears in his son Astyanax, whom he embraced before killing an enemy wearing someone else's armor. This man was dragged behind his opponent's chariot as vengeance for killing Patroclus. For 10 points, name this husband of Andromache, a Trojan brother of Paris and warrior who was killed by Achilles.

ANSWER: **Hector**

015-09-12-06114

14. The second waltz from this composer's second *Jazz Suite* is played at the beginning and ending of Stanley Kubrick's movie *Eyes Wide Shut*. This composer wrote a symphony whose eleven movements set poems by Garcia Lorca, Apollinaire, and Rilke to a string and percussion orchestra. In addition to composing his *Fourteenth* symphony, he compared the finale of his fifth symphony to a person beating people with a stick and insisting "your business is rejoicing," although he had earlier called it a "creative response to justified criticism." The first movement of his seventh symphony repeats a marchlike twenty-two bar ostinato representing the German invasion of his country during World War II. For 10 points, name this Soviet composer of the *Leningrad* symphony.

ANSWER: Dmitri Dmitriyevich **Shostakovich**

026-09-12-06115

15. Herbert Taylor used a radioactive tracer in *Vicia faba* to arrive at the same results that this experiment more conclusively showed. The year previously, a paper the experimenters co-authored with Vinograd explained density-gradient centrifugation using cesium chloride, which the experimenters used as the last step in this "most beautiful experiment in biology." In this pulse-chase experiment, *E. coli* was grown in a medium containing nitrogen-15, then transferred to a medium containing nitrogen-14; the experimenters then observed which strands of DNA contained the heavier isotope of nitrogen. For 10 points, name this experiment that proved that DNA replication was semiconservative.

ANSWER: **Meselson-Stahl** experiment

040-09-12-06116

16. One ruler of this dynasty sent his general Jawhar to conquer the Ikshidids. The general Badr al-Jamali took control of this dynasty during the reign of its ruler al-Mustansir. This dynasty founded the university al-Azhar during the reign of al-Mu'izz, and was supported by the Katana Berbers after being founded by Ubayd Allah. The Assassins were founded in opposition to this dynasty, which founded the modern city of Cairo and made that city its capital in 973. Druze worship this dynasty's caliph al-Hakim, and it lost power in Egypt after being overthrown by Saladin. For 10 points, identify this Isma'ili dynasty which ruled North Africa and Egypt from 909 to 1171, named for a daughter of Muhammad.

ANSWER: **Fatimid** Dynasty [or the **Fatimids**]

004-09-12-06117

17. One character in this play observes that women "don't seem to hold together like men" before remembering a girl who "spread" and exclaiming "Kaw!" That character shouts "One Lyons Red Label! One Smith's Crisps! One Eccles cake!" as well as "The larder's bare!" before another character apologizes more formally through a speaking tube. The main characters of this play are employees of the mysterious Wilson, and repeat instructions about taking out their weapons to corner a victim in silence. However, this play ends with one of its two characters stumbling onstage stripped of his clothes and gun, causing the audience to realize he is his partner's actual target. For 10 points, name this Harold Pinter play about the hitmen Gus and Ben, who receive orders from the title device.

ANSWER: The **Dumb Waiter**

052-09-12-06118

18. One scene in this film demonstrates the protagonist's unstable marriage with a series of shots showing the couple sitting farther apart at their dinner table. Chorus girls in this film sing that the protagonist "loves to smoke" and "enjoys a joke." At one point in this film, the protagonist shrieks at Boss Jim Gettys that he will send him to Sing Sing. This movie's title character drafts a "Declaration of Principles," which is kept by his friend Jedediah Leland. This film's title character attempts to make his second wife, Susan Alexander, into an opera star, by using his influence as *Inquirer* publisher. This film aroused the ire of William Randolph Hearst, upon whom its title character was based. For 10 points, name this 1941 movie directed by and starring Orson Welles as the title newspaperman, who says "Rosebud" as he dies.

ANSWER: **Citizen Kane**

052-09-12-06119

19. Cacodylic acid contains a central atom of this element. One drug that contains this element has a central ring of this element with phenamine groups hanging off, while its trioxide is used alongside ATRA to treat some leukemias. Besides being the central atom of Fowler's solution, it was used to treat syphilis and trypanosomiasis as part of Salversan. When combined with chlorine, it forms the chemical weapon lewisite, while when combined with gallium it can be used as a semiconductor. For 10 points, name this element with atomic number 33, a notable poison.

ANSWER: **arsenic** [or **As**]

040-09-12-06120

20. One character in this work explains that freshly woven cloaks continue to exist after their maker's death. As this work opens, the title character is told that his master composed music based on Aesop's Fables in a dream. After the central character uses the hot-cold and asleep-awake dichotomies to expound the notion of opposites, Cebes introduces that character's "Theory of Recollection" argument. This work, which argues that the soul is immortal, opens in a prison with Simmias and Xanthippe. For 10 points, name this Platonic dialogue that depicts the death of Socrates.

ANSWER: *Phaedo*

020-09-12-06121

21. The protagonist of this novel becomes impoverished after Macalister unwisely convinces him to invest in a South African mine during the Boer War. A female character in this novel gives birth to the baby of Emil Miller and cheats on the protagonist with Harry Griffiths before destroying the protagonist's possessions in a fit of rage. Its protagonist studies art with Frederick Lawson in Paris, and studies to become a doctor at St. Luke's Hospital, where he meets the father of his future wife Sally, Thorpe Athelney. The second half of this novel describes the protagonist's destructive relationship with the waitress Mildred Pierce. For 10 points, name this novel about the club-footed Philip Carey, written by William Somerset Maugham.

ANSWER: *Of Human Bondage*

040-09-12-06122

22. In the WKB approximation, the probability of this process is given by e to the minus integral of the wave number between turning points, all over the square of one plus one-fourth the same exponential. The preformation probability times the rebound frequency times the probability of this process gives the rate of alpha decay in the Gamow [GAM-off] model. Because the wavefunction decays exponentially in regions of high potential, the wave function amplitude is in general non-zero outside of finite potential barriers, which explains this process. The transmission coefficient gives the probability of this process. For 10 points, name this phenomenon in which a particle crosses a potential barrier of energy greater than its own energy, a process that is not classically allowed.

ANSWER: quantum tunneling

001-09-12-06123

23. Juliet Barker argues that the victors of this battle were outnumbered at least four to one. Davy Gam allegedly died saving the life of the winning commander at this battle. The losing side was led by Charles d'Albret [doll-BRAY]. It led to the Treaty of Troyes, which ensured that the French throne would be inherited by the victor, Henry V. For 10 points, name this 1415 battle, a victory for the English longbowmen during the Hundred Years' War.

ANSWER: Battle of Agincourt

024-09-12-06124

1. It's produced via the Hall-Héroult process from its oxide, which is produced by the Bayer process. For 10 points each:

[10] Name this metal refined from the ore bauxite.

ANSWER: **aluminum** [or **Al**]

[10] During the Hall-Héroult process, alumina is dissolved in the molten variety of this crystal.

ANSWER: **cryolite**

[10] Cryolite is made up of sodium, aluminum, and this element which forms an acid used to etch glass. Six atoms of this element bonded with uranium form a compound used in the uranium enrichment process.

ANSWER: **fluorine** [or **F**]

059-09-12-06201

2. One commander in this battle placed the Saxon forces of Johann Georg on his left flank and decided not use the immobile "tercio" formation. For 10 points each:

[10] Name this 1631 battle of the Thirty Years War, a decisive victory for the Protestants.

ANSWER: Battle of **Breitenfeld**

[10] During the battle, Swedish forces were commanded by this "Lion of the North" who transformed his country into a European power and was killed at the Battle of Lutzen.

ANSWER: **Gustavus** Adolphus

[10] This man commanded the forces of the Holy Roman Empire during the battle. During the battle, cannons belonging to this man's forces were captured by the Swedes and started firing on his troops.

ANSWER: Count of **Tilly** [accept Johann **Tserclaes**]

064-09-12-06202

3. "The Life of the Bee" and "The Intelligence of Flowers" are two essays by this author of *The Princess Maleine*. For 10 points each:

[10] Name this Belgian author of *The Intruder*, who included the jealous Golaud in a play set in Arkël's kingdom of Allemonde.

ANSWER: Maurice **Maeterlinck**

[10] Maurice Maeterlinck is the author of this play, in which the two title characters are children of Genevieve. Although the elfin second title character is married to Golaud, she falls in love with her half-brother.

ANSWER: **Pelléas and Mélisande** [or **Pelléas et Mélisande**]

[10] Maeterlinck also wrote a play about Mytyl and Tytyl's search for a blue type of this creature. In an Aristophanes play, a bunch of them help Pisthetairos and Euelpides create Cloudcuckooland.

ANSWER: **birds**

034-09-12-06203

4. Though it is not yet a national holiday, many inhabitants of this country celebrate National Sorry Day in late May. For 10 points each:

[10] Name this country whose first Sorry Day celebration in 1998 marked the one-year anniversary of the presentation of the *Bringing Them Home* report to its parliament.

ANSWER: Commonwealth of **Australia**

[10] National Sorry Day is a day of remembrance of poor treatment of these indigenous Australians.

ANSWER: **aborigines**

[10] The *Bringing Them Home* report investigated the state-sponsored practices in which Aboriginal children were forcibly removed from their homes and raised by missions and government institutions; those children were referred to by this name.

ANSWER: **Stolen Generations** [or **Stolen Children**]

003-09-12-06204

5. Similar themes are explored in one of this works companion pieces, *Spiral Expansion of Speeding Muscles*. For 10 points each:

[10] Name this 1913 sculpture of a marching man under the influence of wind.

ANSWER: **Unique Forms of Continuity in Space** [or **Forme uniche della continuità nello spazio**]

[10] *Unique Forms of Continuity in Space* is by this Italian Futurist artist of *States of Mind* and *The City Rises*.

ANSWER: Umberto **Boccioni**

[10] The pose and flowing lines of *Unique Forms of Continuity in Space* are reminiscent of this headless statue of antiquity, which Marinetti declared inferior to a roaring motorcar in the *Futurist Manifesto*. This depiction of Nike now resides in the Louvre.

ANSWER: *Winged* **Victory of Samothrace** [or **Nike of Samothrace**; or **Winged Victory**]

001-09-12-06205

6. Donald Keene is an avid translator of literature from this country. For 10 points each:

[10] Identify this nation, whose medieval works of literature include "Essays in Idleness" and a book in which an emperor burns an elixir of immortality after a beautiful princess returns to her home on the Moon.

ANSWER: **Japan** [or **Nippon**-koku; or **Nihon**-koku]

[10] The blind Kakuichi compiled this epic about the Genpei War in which the hate-filled Taira no Kiyomori is spared by Kumagae Naozane and his widow and their son Antoku drown at the Battle of Dan-no-ura.

ANSWER: *The* **Tale of the Heike** [or **Heike Monogatari**]

[10] Another work of medieval Japanese literature is this one that has chapters like "The Floating Bridge of Dreams" and focuses on an amorous Heian ruler's pursuit of women like Fujitsubo and Aoi. It was written by Lady Murasaki Shikubu.

ANSWER: *The* **Tale of Genji** [or **Genji Monogatari**]

020-09-12-06206

7. This monarch ruled one kingdom with her husband Philip the Handsome, and later another with her son Charles V, the Holy Roman Emperor. For 10 points each:

[10] Name this Spanish queen who faced the Revolt of the Comuneros.

ANSWER: **Juana the Mad** [or **Joanna I** of Castile]

[10] Juana co-ruled this kingdom with Philip. Some time later, its king Henry IV had to pass power to his half-brother Alfonso instead of to his bastard daughter; after Alfonso died, he signed the Treaty of the Bulls of Guisando to determine a successor.

ANSWER: **Castile**

[10] As a consequence of those bulls, these two monarchs united the kingdoms of Castile and Aragon.

ANSWER: **Ferdinand and Isabella** [accept either order; accept **Ferdinand II** of Aragon and **Isabella I** of Castile]

022-09-12-06207

8. This operetta begins with Gabriel von Eisenstein convicted to serve eight days in jail for insulting an official. For 10 points each:

[10] Name this comic operetta in which Falke attempts to take revenge on Eisenstein for being abandoned in the center of town in a ridiculous costume.

ANSWER: *Die Fledermaus* [or *The Bat*]

[10] This waltz king of *The Beautiful Blue Danube* composed *Die Fledermaus*.

ANSWER: **Johan Strauss II** [prompt on **Strauss**; accept clear equivalents for "II" like **Junior** or **the Younger**]

[10] *Die Fledermaus* contains a famed *csardas*, a traditional dance from this nation, whose national opera was founded by Ferenc Erkel.

ANSWER: **Hungary** [accept **Magyarország**; or **Magyar Köztársaság**]

026-09-12-06208

9. The developer of this test also co-developed the HERP index, which measures the potential carcinogenic hazard of man-made and naturally occurring compounds. For 10 points each:

[10] Name this test that uses mutated *Salmonella typhimurium* to determine the mutagenic power of a chemical.

ANSWER: **Ames** test

[10] The *S. typhimurium* mutants in the Ames test cannot synthesize this essential amino acid, which contains an imidazole side chain. This amino acid is bound to zinc in proteins such as carbonic anhydrase.

ANSWER: **histidine** [prompt on **H** or **His**; do not accept or prompt on "histamine"]

[10] Mutants that have lost the ability to synthesize essential nutrients, such as the mutant *S. typhimurium* used in the Ames test, are known by this name. Beadle and Tatum used them to develop the one gene-one enzyme hypothesis.

ANSWER: **auxotrophs** [accept **auxotrophy**]

003-09-12-06209

10. He possessed the Tablet of Destinies before it was stolen by Tiamat and Kingu. For 10 points each:
[10] Identify this chief of the Sumerian pantheon, who granted Utnapishtim immortality for surviving a flood that this god had sent because mankind became too loud.

ANSWER: **Enlil** [or **Ellil**; or **Kirgal**]

[10] Enlil was the mediator between the rest of the gods and this ruler of heaven, a flat dome who covered the earth, consorted with Ki, Nammu, and Uras, and was part of a triad with Ea and Enlil.

ANSWER: **Anu**

[10] This popular god of the city of Babylon recovered the Tablet of Destinies for Enlil and Anu after slaying Kingu and Tiamat.

ANSWER: **Marduk**

019-09-12-06210

11. A February 2010 article in *Nature* announcing the complete genome sequence of this organism misspelled its scientific name as *Ailuropoda melanoleura*. For 10 points each:

[10] Name this bamboo-loving organism that is probably, but by no means certainly, a bear.

ANSWER: giant **panda**

[10] The researchers discovered a gene coding for a non-functional beta-subunit in the panda version of this hormone, which acts in concert with luteinizing hormone to regulate the activity of the gonads.

ANSWER: **FSH** [or **follicle stimulating hormone**]

[10] The researchers also discovered two frameshift mutations in the panda T1R1 gene, which led them to hypothesize that a panda's herbivorous diet is due to the lack of a functional receptor for this taste.

ANSWER: **umami**

003-09-12-06211

12. Believers in this religion practiced extreme asceticism in order to free the soul from the body, which they believed was inherently evil because it was made of matter. For 10 points each:

[10] Name this dualistic religion which combined elements of Buddhism, Christianity, and Zoroastrianism. It was founded in the third century CE by a namesake Iranian prophet.

ANSWER: **Manichaeism**

[10] The Manichean belief that matter is evil was adapted from this religious tradition, which believed that the world was created by a flawed demiurge and that salvation can be achieved through knowledge of the supreme God.

ANSWER: **Gnosticism**

[10] In 1945, Muhammad 'Alí discovered over fifty Gnostic texts, such as the Gospel of Thomas and the Gospel of Truth, at this town in Upper Egypt.

ANSWER: **Nag Hammadi** [or **Naj 'Hammádi**]

004-09-12-06212

13. It covers much of the southwest of Ireland. For 10 points each:

[10] Name this province whose flag's three crowns represent the kingdoms of Thormond, Desmond, and Ormond.

ANSWER: **Munster**

[10] This most populous city in Munster, located on the River Lee, earned a reputation for rebelliousness with its support of Perkin Warbeck during the 15th Century.

ANSWER: **Cork**

[10] The second most populous city in Munster is this city found on the estuary of the River Shannon.

ANSWER: **Limerick**

040-09-12-06213

14. Integrating this distribution gives the probability of finding a classical equilibrium gas molecule between two speeds. For 10 points each:

[10] Name this distribution that has the form v -squared times e to the minus $m v$ squared over two $k T$, where v is the speed, m is the particle mass, and $k T$ is the kinetic temperature.

ANSWER: the **Maxwell**-Boltzmann distribution [accept **Boltzmann** distribution; accept **Maxwellian**]

[10] According to the equipartition theorem, the amount of this associated with each degree of freedom in a Maxwellian gas is equal, which allows us to transform the speed distribution to a distribution for this quantity directly and compute specific heats.

ANSWER: **energy** [prompt on **E**]

[10] The Maxwell-Boltzmann distribution can be derived directly from Boltzmann factors without knowledge of this quantity, symbolized Z and equal to the sum over states of all Boltzmann factors or, equivalently, to the total amplitude of microstates accessible to the gas.

ANSWER: the **partition function**

003-09-12-06214

15. This novel imagines an alternate history in which the state of Israel collapsed and Jews have a temporary homeland in Sitka, Alaska. For 10 points each:

[10] Name this novel in which Meyer Landsman investigates the death of a fellow lodger at the Hotel Zamenhof.

ANSWER: *The **Yiddish Policeman's Union***

[10] *The Yiddish Policeman's Union* was written by this author, who also penned *The Amazing Adventures of Kavalier and Clay*.

ANSWER: Michael **Chabon**

[10] In *The Yiddish Policeman's Union*, a clue to the murder of the pseudonymously-named Emmanuel Lasker is the arrangement of pieces used to play this board game. It titles the second section of "The Waste Land."

ANSWER: **chess**

003-09-12-06215

16. The independence of this state was secured at the Battle of Rio San Gabriel and the Battle of La Mesa. For 10 points each,

[10] What American state declared its independence from Mexico at Sonoma through the Bear Flag Rebellion?

ANSWER: **California**

[10] This man, who first came to California with Kit Carson while trying to map the American West, was arrested for trying to claim governorship of California.

ANSWER: John Charles **Frémont**

[10] This general, who combined his forces with Robert Stockton to conquer California at the aforementioned battles, was the man who arrested Frémont.

ANSWER: Stephen Watts **Kearny**

034-09-12-06216

17. This poem ends with its speaker looking at "a four foot box, a foot for every year." For 10 points each:
[10] Name this poem from the collection *Death of a Naturalist*, which describes the death of its author's four year old brother Christopher. It begins with the speaker sitting in a "college sick bay" and "Counting bells knelling classes to a close."

ANSWER: "**Mid-Term Break**"

[10] "Mid-Term Break" was written by this contemporary Irish poet, whose other poems include "Digging." In 1999, he published a verse translation of *Beowulf*.

ANSWER: Seamus **Heaney**

[10] Heaney's poems often criticize English rule over Ireland, which is also a target of this Irish novel, whose title character voyages to Glubbdubdrib, Laputa, and Brobdingnag.

ANSWER: ***Gulliver's Travels***

064-09-12-06217

18. Identify these aspects of Alaska politics that became flashpoints of political debate in 2008, for 10 points each.

[10] Sarah Palin endorsed drilling for oil in this development-free zone in northeastern Alaska, despite reports about the impact on caribou herds.

ANSWER: **ANWR** (AN-war) [or the **Arctic National Wildlife Refuge**]

[10] Both Senator Ted Stevens and Congressman Don Young of Alaska were implicated in the earmarking of two hundred million dollars for the Gravina Island bridge, which would have kept the town of Ketchikan from taking a ferry to an airstrip and was popularly known by this name,

ANSWER: the **bridge to nowhere**

[10] This sole Congressman from Alaska was re-elected to a nineteenth term in 2008 despite ethical questions, defeating primary challenger Sean Parnell by 304 votes.

ANSWER: Donald Edward "Don" **Young**

019-09-12-06218

19. This data type can use push-back and pop-back commands. For 10 points each:

[10] Name these dynamic linear data structures from C++ and related languages. Unlike otherwise-similar arrays, they can dynamically add and remove elements.

ANSWER: **vectors**

[10] This fly contains the genetically tiny endosymbiont *Wigglesworthia*. It is the major vector for the trypanosomes that can cause African sleeping sickness.

ANSWER: the **tsetse** fly (or **Glossina**)

[10] This term from linear algebra denotes a set of linearly independent vectors that span a space.

ANSWER: **basis**

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20. For 10 points each, name these painters from the Netherlands.

[10] This painter depicted sinners being tortured in Hell in the rightmost panels of his triptychs *The Haywain* and *The Garden of Earthly Delights*.

ANSWER: Hieronymus **Bosch** [or Jeroen Anthoniszoon van **Aken**]

[10] This artist of the *Seven Sacraments Altarpiece* is most celebrated for his version of the *Deposition from the Cross* for the Archers' Guild of Louvain. He also painted a portrait of Francesco d'Este and a portrait of a pensive woman wearing a gauze headdress located in the National Gallery.

ANSWER: Rogier van der **Weyden**

[10] This student of Rogier van der Weyden painted the St. Ursula Shrine for the St. John's Hospital in his home town, Bruges. In the central panel of his *Last Judgment* triptych, Jesus sits on a circular rainbow next to a lily and a flaming sword.

ANSWER: Hans **Memling** [or Hans **Memlinc**]

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21. John Edgar Wideman fictionalized this city's 1985 bombing of the Afrocentric cult Move in a novel named for this city's fire. For 10 points each:

[10] Name this city whose 1793 yellow fever epidemic forms the background for Charles Brockden Brown's novel *Arthur Mervyn*.

ANSWER: **Philadelphia**

[10] This author created the fictional Pennsylvania town of Gibbsville in his novel about the self-destruction of Julian English, *Appointment in Samarra*. He also wrote *Butterfield 8*.

ANSWER: John **O'Hara**

[10] This 19th century author was born in Pennsylvania, and wrote about the four March sisters in her novel *Little Women*.

ANSWER: Louisa May **Alcott**

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