Tossups

1. This character advises a woman to "give them their money's worth" and hangs herself while sharing a prison cell with the protagonist of a Maryse Condé ("ma-REEZ con-DAY") novel. Another stand-in for this character, known as La Negrita, is driven to murder one of her five children in a Suzan-Lori Parks play. In old age, this character acts as a nurse and sews clothes for her grandchildren after returning to her old home, as described by Surveyor Pue. This character's daughter observes her in the reflection of a suit of armor and washes off a kiss in a river. On Election Day, this woman's "elfish" child watches a meteor pass as this woman's lover dies on a scaffold. This character's daughter Pearl was born after an affair with the priest Arthur Dimmesdale. For 10 points, name this protagonist of *The Scarlet Letter*.
ANSWER: **Hester** Prynne [or Hester **Prynne**] (The Condé novel is *I, Tituba, Black Witch of Salem*, and the Suzan-Lori Parks play is *In the Blood*.)
<American Literature>

2. This state can be detected in distributed systems using the Chandy–Misra–Haas edge-chasing algorithm. The choice to ignore this state in UNIX is the best-known example of the facetiously-named ostrich algorithm. An algorithm developed by Edsger Dijkstra ("DIKE-stra") to avoid this state checks for the safety of maximum resource allocation; that is the Banker's algorithm. This state occurs when processes adhere to the Coffman conditions of hold-and-wait, no preemption, circular wait, and mutual exclusion. This state occurs when every person picks up the utensil on their left, and thus waits forever to get the utensil on their right, in the dining philosophers problem. For 10 points, name this state in which concurrent processes control resources needed by other processes, leading to no work being done.
ANSWER: **deadlock**
<Other Science (Computer Science)>

3. The slow movement of Johannes Brahms's Opus 1 in this genre is based on an Old German *Minnelied* ("MIN-uh-leed"). A piece in this genre starts soft and slow with two unusual scales ending on G, then explodes into loud G octaves leaping up, down to A-sharp, short B, D. Sviatoslav Richter took very slow tempos in several late Schubert pieces in this genre, the last of which features a mysterious trill on a low G-flat. Due to its novel structure of one continuous 30-minute-long movement, Franz Liszt's 1854 B minor work in this genre was initially received poorly. A piece of wood is used to play cluster chords in one of these works by Charles Ives nicknamed "Concord." For 10 points, name this genre of music that includes Beethoven's *Waldstein* and *Moonlight*.
ANSWER: **piano sonata** [prompt on sonata]
<Classical Music>

4. In this city, the death of labor organizer Albert Goodwin, who received the nickname "Ginger" due to his red hair, caused a general strike. In this city, Arthur "Slim" Evans mobilized the Relief Camp Workers' Union for a two-month demonstration, after which protesters began a "trek" in boxcars to the capital. After similar events in San Francisco and Bellingham, the Asiatic Exclusion League led the Anti-Oriental Riots in this city in 1907. Gassy Jack established a tavern in this city, which today is home to the "Gastown" district. This city was renamed from "Granville" in 1886 just before it became the western terminus of the Canadian Pacific transcontinental railway. For 10 points, what city with a namesake island is the largest city in British Columbia?
ANSWER: **Vancouver** [prompt on Gastown or Granville until read]

<Other History>

5. The name of a strongly rotation-dependent type of this property was coined by Motohisa Hirano. A 2004 paper by Martin Dienwiebel ("DEEN-vee-bull") attributed this property to incommensurate alignment between the sample and a contaminant on the FFM tip. Molybdenum ("muh-LIB-duh-num") disulfide and other van der Waals materials can exhibit a type of this property when eta is less than 1 in the Tomlinson model. Assumptions of uniform gravity and this property are made in the brachistochrone ("bra-KISS-tuh-crone") and tautochrone ("TOT-uh-crone") problems. Pairs of graphite sheets display an approximation to this property called superlubricity, though a true version of this property is unattainable because all surfaces have microscopic asperities. For 10 points, name this property often assumed of ideal planes and blocks that have no resistance to sliding past one another.
ANSWER: **frictionless**ness [or word forms like **frictionless**; or **no friction**; or **zero friction**; accept **superlubricity** until read; prompt on lubricants; do not accept or prompt on "friction"]
<Physics>

6. *Description acceptable.* Keith Basso describes how one must reflect on this act in relation to locations to attain the "smooth" mind of an Apache wise person in "Wisdom Sits in Places." Hannah Arendt argues that the "uncertain" private existence is transformed into public meaning by this act. Elaborate *parde* may aid Iranian *naqqāl*s in performing this act. Patients do this action while a therapist uses "externalizing conversation" to decenter traumatic episodes and emphasize agency in a form of PTSD therapy. Elders' performance of this act is a major part of indigenous knowledge production and pedagogy. Albert Lord suggested that "set phrases" like "the wine-dark sea" comprise 90 percent of the vocabulary of this oral practice. For 10 points, name this act of recounting performed by griots ("gree-OH") and bards.
ANSWER: **storytell**ing [or word forms like **stories**; or synonyms like **tale**s or **narrative**s; accept **acting** after "*parde*" is read; accept **oral literature** or **oral history** until "oral" is read; accept **narrative therapy**; prompt on answers like literature, mythology, or theater, which do not make clear that a story is being performed or told]
<Social Science>

7. In a novel by this author, a preacher asks whether God made the world just for the rich, convincing a woman to throw down her earrings. The reverend Mr. Tryan helps the alcoholic Janet in a story by this author. The Earl of Shaftesbury claimed that "the most pestilential book ever vomited out of the jaws of hell" was this author's translation of Strauss's *The Life of Jesus*. This author created a clergyman whose research is impaired because he does not know German and who spends his honeymoon at the Vatican Library. This author of *Scenes of Clerical Life* created the female preacher Dinah Morris and an elderly cleric who writes *The Key to All Mythologies*. For 10 points, name this author of *Adam Bede*, who wrote about Reverend Edward Casaubon marrying Dorothea Brooke in *Middlemarch*.
ANSWER: George **Eliot** [or Mary Ann **Evans**]
<British Literature>

8. A text from this tradition proclaims "Whoever does not dance does not know what happens" as part of a "Round Dance"; people in that text from this tradition alternately see a man standing on the shore as bald, short, handsome, or a child. The line "I am the wife and the virgin" appears in *Thunder, Perfect Mind*, a work from this movement, whose name was coined by an opponent, Irenaeus. Due to usage of the word *pleroma*, Paul was claimed to be a member of this movement. Elaine Pagels translated texts from this tradition at Nag Hammadi, including the Apocryphon of John and the Gospel of Thomas. This set of traditions posited a dualistic world ruled by a "Supreme Being" and a Demiurge. For 10 points, name this early Christian set of beliefs, named for the Greek word for "knowledge."
ANSWER: **Gnostic**ism [or word forms like **Gnostic**s; accept **Ophite**s, **Sethian**ism, **Simonian**s, **Menander**s, **Basilidean**s, **Valentinian**ism, or **Marcion**ism until "Irenaeus" is read]
<Religion>

9. This country's attempt to peg its currency to the US dollar, known as the Convertibility Plan, led to a crippling depression in the 2000s. In 2003, this country repealed its "due obedience" and "full stop" laws, which had prevented the prosecution of proponents of state-sponsored terror. This country's former president may have planned Alberto Nisman's murder to stop investigation into the 1994 bombing of the AMIA Jewish Community Center. In the 21st century, this country's presidency has been dominated by the Justicialist Party, which was formerly supported by the Montoneros. In 2012, this country's former dictator, Jorge ("HOR-hay") Videla, was sentenced for the kidnapping of the *desaparecidos*. For 10 points, what country is still recovering from the scars of the Falklands War?
ANSWER: **Argentina** [or **Argentine** Republic]
<World History>

10. This musical introduces a leitmotif with a descending minor seventh interval with the lyrics "Wait! What's your rush? / What's your hurry?" A character in this musical describes a "city on fire" and hits staccato D's with the lyrics "Smoke! Smoke!" in an Act 2 quartet that includes the recurring line "Alms for a miserable woman." A character in this musical wants a time "when it's just you and me and the English Channel" in the song "By the Sea." That character complains about the price of meat before urging "Have a little priest." "The Ballad" of this musical's title character states "he served a dark and a vengeful god" and exhorts him "Swing your razor wide." Angela Lansbury originated the role of Mrs. Lovett in, for 10 points, what Sondheim musical about a "Demon Barber of Fleet Street"?
ANSWER: ***Sweeney Todd*** [or ***Sweeney Todd**: The Demon Barber of Fleet Street*]
<Other Arts (Auditory)>

11. In SMILES ("smiles") notation, this property is indicated in a non-unique manner by suffixing a pair of characters with the same digit. In 1983, Christiane Dietrich-Buchecker et al. imparted this property to molecules after "templating" around a copper atom. Multidentate ligands ("LIG-unds") with this property have a lowered entropy barrier to chelation ("kee-LAY-shun"), according to an effect named for it. Jean-Pierre Sauvage won a Nobel Prize for synthesizing inseparable pairs of molecules with this structure called catenanes, while a molecule with this structure is paired with a dumbbell-shaped molecule in a rotaxane. Aromatic molecules covered by Hückel's rule have $4n$-plus-2 electrons, are planar, are conjugated, and have this structure. For 10 points, name this general structure shared by porphyrins, crown ethers, and benzene.
ANSWER: **cyclic** [or **ring**-shaped; accept **macrocyclic** or **polycyclic**; accept **catenane**s or **interlock**ed until "named for" is read; accept macro**cyclic** effect]
<Chemistry>

12. This author quips "since I cannot pay my mistresses in presents, I pay them in poetry" in a work in which he also muses "Gods are useful: as they're useful, let's think they're there." He's not Chaucer, but this author wrote "they come to see, they come so that they themselves may be seen" to describe the motivations of women going to the theater. This author declared "I am Cupid's teacher just as Chiron was Achilles'." This author claimed that "a poem and a mistake" caused him to be exiled to Tomi on the Black Sea. This author wrote a work whose first two books are intended for men, while the last is intended for women; that book by this author gives advice on seduction. For 10 points, what Roman author of the *Ars Amatoria* also wrote *Metamorphoses*?
ANSWER: **Ovid** [or Publius **Ovid**ius Naso]
<European Literature>

13. *Description acceptable.* In a work titled for this policy's "Victorian" proponents, Edward Royle argues that its most important architects were the founders of a "national society" dedicated to this policy, George Holyoake and Charles Bradlaugh. Walthère Frère-Orban's ("walt-AIR frair or-BAWN's") effort to enforce this policy led to the First School War in Belgium. This policy was antagonized by the Falloux ("fah-LOO") Law of 1850, which would

be replaced by a series of 1880s legislations introduced by Jules Ferry. In 1989, this policy was used to justify the expulsion of three Muslim girls from Gabriel Havez Middle School for wearing headscarves. Since 1905, France has officially pursued this policy, which it refers to as *laïcité* ("la-ee-see-TAY"). For 10 points, what policy calls for the separation between church and state?
ANSWER: **secular**ism [accept *laïcité* until read; accept **separation of church and state**, **separation of church and education**, **separation of religion and government**, or equivalents until read; accept **anti-clerical**ism; accept *Victorian Infidels: The Origins of the British **Secular**ist Movement*; prompt on atheism until "Walthère" is read; prompt on Islamophobia or anti-Catholicism]
<European History>

14. *Two answers required. A specific year is not needed*. After beating one of these teams, a star for the other of these teams sang "They suck? Yup. We here? Yup. They not? Nope." The coach of one of these teams joked that they don't "hand you the trophy for morality" after lying about his lineup for a game against the other. The only player to win NBA Finals MVP despite no starts in the regular season did so after a series between these teams. A game between these teams originated a meme in which a player extends his arms while looking painedly at his teammate, who had dribbled out the clock with the game tied. A chase-down block of Andre Iguodala helped secure a comeback from being down 3–1 in an NBA Finals between these teams. For 10 points, what teams faced off in the 2015 through 2018 NBA Finals, when they were led by Steph Curry and LeBron James?
ANSWER: Cleveland **Cavaliers** AND Golden State **Warriors** [accept **Cleveland** or **Cavs** in place of "Cavaliers"; accept **Golden State** in place of "Warriors"]
<CE/Geo/Other/Pop Culture>

15. A story by this author ends with the title character realizing "there was nowhere" for her to cry after leaving the flat of a "literary gentleman" to mourn her grandson's death. The protagonist is laughed at for requesting strawberries and cream while waiting for a buggy to arrive in a story featuring this author's recurring characters Aunt Beryl, Lottie, and Kezia. The sobbing protagonist apologizes for wearing a "black hat trimmed with gold daisies" in a story by this author of "Life of Ma Parker" and "Prelude." That story opens with the protagonist directing the placement of a marquee and ends with her repeating "isn't life–" after observing her neighbor's dead body while bringing over food from the Sheridan family's title celebration. For 10 points, name this New Zealand author of "The Garden Party."
ANSWER: Katherine **Mansfield** [or Katherine Mansfield **Beauchamp**; or Katherine Mansfield **Murry**]
<World/Other Literature>

16. In one version of this scene, artists work inside the forehead of an open-mouthed head in a Joos van Craesbeeck ("yohs fon CROSS-bake") painting. A "downright nauseous" version of this scene with a lobster-esque cloth won a contest to appear in *The Private Affairs of Bel Ami*. Michelangelo added a sailboat to his copy of this scene from a Martin Schongauer engraving. Red sores appear on a figure with ergotism slumped in the bottom left corner of this scene on the Isenheim Altarpiece. In another work, this scene's central figure kneels at a ruined tower as a city burns in the back and a pig-faced lute-player stands at a table to his left. A rearing horse leads a parade with a nude woman atop a spindly-legged elephant in Dalí's version of this scene. For 10 points, the central panel of a Bosch triptych depicts what scene of a saint's experience in the desert?
ANSWER: **temptation** of Saint **Anthony** [prompt on partial answer] (Ernst's *Temptation of St Anthony* won over Salvador Dalí's version with spindly-legged elephants to appear in *The Private Affairs of Bel Ami*.)
<Painting/Sculpture>

17. Daniel Okrent posits that one name for these places came from Joyce's *Ulysses* instead of from Kate Hester. A rotund man who disguised himself as a fisherman, a football player, and an opera singer was known for going to these places with the catchphrase "There's sad news here." Texas Guinan ("GUY-nan") often proclaimed "Hello, suckers!" while managing several of these places. Moe Smith and Izzy Einstein went to these places, whose

products often gave people "jake leg." Some of these places were known as "blind pigs" or "blind tigers" because of their ostensible animal attractions. Eliot Ness and his "Untouchables" shut down these public places owned by Al Capone to enforce the Volstead Act. For 10 points, name these 18th-Amendment-defying bars during Prohibition.
ANSWER: **speakeasies** [accept **blind pig** or **blind tiger** until read; prompt on illegal <u>bar</u>s or night<u>club</u>s or <u>restaurant</u>s or <u>café</u>s or <u>drugstore</u>s or any establishment that serves food or drink] (Guinan in *Star Trek* was named after Texas Guinan.)
<American History>

18. By suppressing these structures in eukaryotes, gentamicin or other aminoglycosides may alleviate symptoms of Duchenne muscular dystrophy. Karijolich and Yu used H/ACA RNPs to reprogram these structures, and another bioorthogonal reprogramming scheme for these structures uses azides and alkynes. While misincorporated versions of these structures activate the NMD pathway, hidden versions of these structures are positively selected, according to the ambush hypothesis. SECIS ("SESS-iss") elements modify the function of one of these structures, incorporating selenocysteine instead. Release factors recognize these sequences, bind them, and hydrolyze ester bonds between nascent peptides and tRNAs. Nonsense mutations prematurely introduce these sequences. For 10 points, what sequences like UGA or UAA terminate translation?
ANSWER: **stop codon**s [or **termination codon**s; accept **nonsense codon**s or **nonsense mutation**s until "nonsense" is read; prompt on <u>codon</u>s; prompt on any of <u>UAG</u>, <u>TAA</u>, <u>TGA</u>, <u>TAG</u>, <u>amber</u>, <u>ochre</u>, <u>opal</u>, or <u>umber</u>; prompt <u>UAA</u> or <u>UGA</u> until read; do not accept or prompt on "terminators" or "mutations"]
<Biology>

19. Aristotle justified his *Parts of Animals* with Heraclitus's quip that these entities are present "even in the kitchen." Protagoras's lost treatise on these entities begins by saying that their existence is unknown due to "the obscurity of the question and the shortness of life." The first entry in Peter Adamson's *Philosophy Without Any Gaps* is titled for Thales's claim that "everything is full of" these entities. Given hands, horses would draw these entities as horses, according to Xenophanes's argument against anthropomorphizing them. The question of whether things that are morally good are loved by these entities because they are good, or vice versa, is discussed in the dialogue *Euthyphro* ("YOO-thiff-ro"). In the *Apology*, Socrates defends himself from the accusation of not believing in, for 10 points, what figures such as Athena?
ANSWER: **god**s [or **goddess**es; or **deities**; or **divinities**; or *theoi*; or *theos*; accept Greek **god**s or the Greek **pantheon**]
<Philosophy>

20. This figure preferred sacrifices of people with two cowlicks in their hair. This figure, who had a face painted black with "liquid rubber," was originally identified with murals at Tepantitla that are now recognized as the Great Goddess of Teotihuacan. This leader of a namesake group of mountain-dwelling deities received the dead who were struck by leprosy. Forms of this fanged goggle-eyed deity corresponding to the cardinal directions loudly smashed his magical jars to release their contents. This deity's jade-skirted wife became the Fourth Sun after he scorched the earth, ending his own term as the sun. This deity, often depicted with a heron-feathered headdress, received sacrifices of crying children. For 10 points, Tezcatlipoca abducted Xochiquetzal ("sho-chee-KET-sull"), the first wife of what Aztec god of rain?
ANSWER: **Tlaloc** [accept **Tlaloque** or Little **Tlalocs**]
<Mythology>

Bonuses

1. Toriyama Sekien ("seh-kee-EN") parodied encyclopedias in a tetralogy of yōkai illustrations that begins with a volume titled for this idiomatic event, which Michael Dylan Foster identifies with pandemonium. For 10 points each:
[10h] Give the English or Japanese name for this event "of One Hundred Demons." This popular artistic motif refers to yōkai passing through a mountain or city streets.
ANSWER: **Night Parade** of One Hundred Demons [or **Night Procession** of One Hundred Demons or Hyakki **Yagyō**; accept *Hyakki **Yagyō** Emaki* or *Gazu Hyakki **Yagyō***; prompt on parade or procession]
[10m] Scrolls depicting night parades often feature processions of *tsukumogami* ("ts'koo-mo-GA-mee"), who, in one story, became angry during the Kōhō era after they are discarded from these places. Slavic *domovoi* and Roman *Penates* watch over these places.
ANSWER: **house**holds [or **homes**; accept **hearth**s] (The *tsukumogami* become angry after being thrown out by families cleaning before the New Year; players are recommended to look up these fun illustrations.)
[10e] In Japan, distant processions of lights might be blamed on the weddings of these creatures, which name a term for sunshowers. These nine-tailed messengers of Inari ("ee-nah-ree") may take the form of beautiful women.
ANSWER: **kitsune** ("kit-soo-nay") [accept **fox**es; accept **kitsune**-no-yomeiri]
<Mythology>

2. This pope issued the bull *Dudum siquidem* ("DOO-dum see-KEE-dem"), which automatically granted "discovered" territories to Spain and Portugal. For 10 points each:
[10m] Name this pope who issued three Bulls of Donation, granting Spain and Portugal rights to colonize the New World. Exaggerated accounts of the Banquet of Chestnuts were likely intended to attack this pope.
ANSWER: **Alexander VI** [or **Rodrigo de Borgia**; prompt on Alexander; prompt on Borgia]
[10h] To remedy the effects of Spanish colonization, Paul III issued this bull, which forbade the enslavement of Native Americans and gave them rights to freedom and private property.
ANSWER: ***Sublimis deus*** [or ***Sic dilexit***]
[10e] *Sublimis deus* hugely influenced this Holy Roman Emperor in his drafting of the New Laws, which sought to limit the extent of the *encomienda* system. He was the father of Philip II.
ANSWER: **Charles V** [or Holy Roman Emperor **Charles V**; accept **Charles I of Spain**; prompt on Charles]
<European History>

3. Answer the following about the U1 snRNP ("snurp"), for 10 points each.
[10m] One explanation for U1's overabundance is that it suppresses cryptic sites that trigger the addition of one of these structures to pre-mRNA. A polymerase that recognizes the sequence AAUAAA synthesizes these structures.
ANSWER: **poly-A** tail [accept **polyadenylate** polymerase]
[10e] Recently, the U1 snRNP has also been shown to tether long noncoding RNAs like XIST ("exist") to this nuclear substance, which consists of DNA condensed around histones.
ANSWER: **chromatin** [accept specific types like **euchromatin** or **heterochromatin**]
[10h] More famously, the U1 snRNP is involved in RNA splicing. In order to carry out splicing, pre-U1 must mature in these structures, to which Gemin-containing SMN complexes localize.
ANSWER: **Cajal** ("ka-HALL") bodies [or **coiled bodies**; prompt on nuclear bodies]
<Biology>

4. A ring of drama students plans to assassinate a leader who [emphasize] *collaborates with* this country in the novel *Lust, Caution*. For 10 points each:

[10m] Name this country. In a novel from this country, a soldier reminisces about being left to die in a well, which inspires the protagonist to sit in a dried-out well shown to him by the teenager May.
ANSWER: **Japan** [or **Nippon**-koku or **Nihon**-koku]
[10e] The Japanese army lieutenant Mamiya tells Toru Okada about his experiences during World War II in this author's novel *The Wind-Up Bird Chronicle*.
ANSWER: Haruki **Murakami**
[10h] This is the last name of the "Grandma-ster" Eileen, who wrote *Lust, Caution* and *Love in a Fallen City*. This is also the last name of a historian whose book *The Rape of Nanking* recorded World War II atrocities.
ANSWER: **Chang** [accept Eileen **Chang** or Iris **Chang**; accept **Zhang** Ailing]
<World/Other Literature>

5. Sister Parish and Lady Mendl were pioneers of this artistic field. For 10 points each:
[10m] Name this artistic field. A man who worked in this artistic field, Thomas Jeckyll, created a sunflower motif in a work sponsored by Frederick Leyland, which also featured two fighting peacocks in blue and gold.
ANSWER: **interior design** [or **interior decorating** or **room design**; prompt on design; do not accept or prompt on "architecture"; anti-prompt (ask "can you be less specific?") on designing furniture or wallpaper or any individual element of a room]
[10h] *Two answers required.* Sister Parish and Stéphane Boudin ("stay-FAHN boo-DAN") were interior designers for a project directed by *what* woman in *what* building, which involved adding landscape-painted wallpaper to a curved room and moving the Resolute desk?
ANSWER: Jacqueline **Kennedy** restoring the **White House** [accept **Jacqueline** or **Jackie** in place of "Kennedy"; accept word forms or synonyms of "restoring," like "renovating" or "redecorating" or "redesigning"; prompt on restoration or renovation or redecoration of the White House by asking "by whom?"]
[10e] This artist of *Arrangement in Gray and Black No. 1* worked with Thomas Jeckyll on the Peacock Room, which contains this man's *The Princess from the Land of Porcelain*.
ANSWER: James McNeill **Whistler**
<Other Arts (Visual)>

6. *Description acceptable.* After [emphasize] *unrest sparked by* this sort of event, one politician's plea to "increase the peace" was countered by Al Sharpton's retort that "you don't want peace, you want quiet." For 10 points each:
[10h] Give this type of event that involved Yosef Lifsh and the 7-year-old Gavin Cato. The Hatzalah ("hot-sa-LA") service was criticized for their inadequate response to this type of event.
ANSWER: **car** accident [or vehicle–pedestrian **collision** or **crash**; or **hit**ting someone with a **car** and killing them; accept Cato being hit or crushed by Lifsh's **car** or similar]
[10e] The death of Gavin Cato sparked the Crown Heights riots, which led to violence between African-Americans and Hasidic Jews in this city.
ANSWER: **New York** City [or **NYC**]
[10m] This then-mayor of New York City called for "increasing the peace" at Cato's funeral. This only Black mayor in New York's history, who died in November 2020, was a member of the "Gang of Four."
ANSWER: David **Dinkins**
<American History>

7. This country's state-owned nuclear energy firm Areva spun off its subsidiaries as Framatome and Orano to avoid insolvency in 2017. For 10 points each:
[10h] Name this country where protesters and neighboring countries have demanded the closure of the Cattenom nuclear power plant. In June 2020, this country decommissioned the similarly controversial Fessenheim plant.
ANSWER: **France** [or the **French Republic**; or **République française**]
[10e] The 2011 nuclear disaster at this Japanese site sparked protests in France and led Angela Merkel to announce a German nuclear phaseout by 2022.

ANSWER: **Fukushima** Daiichi [or **Fukushima** Daiichi Nuclear Power Plant]
[10m] On the heels of both Fukushima and a domestic scandal involving falsified nuclear safety certificates, this president announced a phaseout of South Korea's nuclear power generation shortly after taking office in 2017.
ANSWER: **Moon** Jae-in
<CE/Geo/Other/Pop Culture>

8. The inclusion of this interaction in the Heisenberg model allows it to reproduce the singlet–triplet energy splitting of the hydrogen molecule. For 10 points each:
[10h] Name this spin-dependent interaction that arises between identical particles. Its exact nonlocal treatment in Hartree–Fock theory is incorporated into density functional theory using hybrid functionals.
ANSWER: **exchange** interaction [or **exchange** energy; or **exchange** force; accept direct **exchange** or exact **exchange**; prompt on exchange–correlation functional or XC functional]
[10e] Exchange interactions provide the energetic reason for the appearance of this property. This property appears below the Curie temperature in materials like iron and nickel.
ANSWER: **ferromagnetism** [or word forms like **ferromagnet**; prompt on magnetism or magnet]
[10m] The Heisenberg model is built from a basis of orbitals that have this property, such as orbitals on the same atom with different quantum numbers. Two orbitals with this property have an overlap integral of zero.
ANSWER: **orthogonal**ity [or word forms like **orthogonal**; accept **orthonormal**]
<Physics>

9. A poem that begins with the word for this color is addressed to a girl "with eyes of cold silver" and describes "the ship out on the sea" and "the horse on the mountain." For 10 points each:
[10h] Name this color repeated throughout a poem that declares "Let me climb up!" In a play, Adela wears a dress of this color to defy her mother's eight-year mourning period.
ANSWER: **green** [or **verde**]
[10m] This woman makes her five daughters go into mourning after her husband's death. This title character of a 1936 play with no on-stage male characters claims to have killed Pepe el Romano, leading Adela to commit suicide.
ANSWER: **Bernarda** Alba [or **Alba**; accept The House of **Bernarda Alba**; accept La casa de **Bernarda Alba**]
[10e] This Spanish playwright wrote The House of Bernarda Alba, which is often grouped with Yerma and Blood Wedding in his "rural trilogy." He also wrote "green, how I want you green" in "Romance Sonámbulo."
ANSWER: Federico García **Lorca**
<European Literature>

10. A super-fan of this school of thought had quotes from it inscribed on the long rafters of his tower study in Dordogne ("dor-DOHN"). For 10 points each:
[10m] Name this tradition that influenced Michel de Montaigne's essay "Apology for Raymond Sebond." Montaigne's version of this philosophy was particularly inspired by Sextus Empiricus's Outlines of Pyrrhonism.
ANSWER: **skeptic**ism [accept Pyrrhonian **skept**icism or Academic **skeptic**ism; accept **Pyrrho**nism until "Pyrrhonism" is read]
[10e] Roderick Chisholm traced the "Problem of the Criterion" of knowledge through Montaigne's version of a skeptical argument named for this shape. This shape names a type of reasoning that assumes its own premises.
ANSWER: **circle** [accept *diallelus*, the **wheel**, or vicious **circle**; accept **circular** reasoning or **circular** argument or **circular** logic]
[10h] Montaigne's personal medal had the motto "what do I know?" on one side and this Greek word central to ancient skepticism on the other. Edmund Husserl used this Greek word to refer to phenomenological "bracketing."
ANSWER: **epoché** [or **epocho**] (The skeptics used "epoché" to refer to suspension of judgement.)
<Philosophy>

11. This is the first name of an artist who placed found objects in namesake "Cells," as well as an artist who spray-painted boxes gold in *An American Tribute to the British People*. For 10 points each:
[10h] Give this first name of a sculptor who covered wooden crates and scraps in black paint for *Sky Cathedral*, one of her assemblies of found objects painted in uniform colors.
ANSWER: **Louise** [accept **Louise** Nevelson or **Louise** Bourgeois]
[10m] Louise Bourgeois ("boorzh-WAH") created *Maman*, a giant steel spider, and three bell-jar topped towers for visitors to climb at this art gallery. Ai Weiwei filled an exhibition hall at this museum with sunflower seeds.
ANSWER: **Tate Modern** [accept **Turbine Hall**; prompt on Tate; do not accept or prompt on "Tate Britain" or "Tate Liverpool" or "Tate St. Ives"] (The Bourgeois towers are *I Do, I Undo, and I Redo*.)
[10e] Two of Bourgeois's "Cells" are named for a "Child" and "Parents" in a "Room" of this color. This primary color is the main color of Robert Indiana's *LOVE* statue in Philadelphia.
ANSWER: **red** [accept **Red** Room]
<Painting/Sculpture>

12. A paper titled for this framework cites asparagus-flavored ice cream as an example of how informed preferences can decrease decision costs. For 10 points each:
[10h] Give this two-word name for a concept that the aforementioned paper claims "is not an oxymoron." Opt-out organ donation is a commonly-cited example of a policy based on this idea, which was outlined in the book *Nudge*.
ANSWER: **libertarian paternalism** [prompt on partial answer; accept "**Libertarian Paternalism** Is Not An Oxymoron"]
[10m] This other seminal book of behavioral economics outlines the difference between the rapid, instinctual "System 1" and the deliberative "System 2."
ANSWER: ***Thinking, Fast and Slow***
[10e] In *Thinking, Fast and Slow*, Daniel Kahneman uses experiments relating to bets of various sizes to illustrate that people are more "averse" to this concept for loss than for gain. This concept is often contrasted with reward.
ANSWER: **risk**
<Social Science>

13. This book describes the "sun of the old world" setting in a "dying blaze of splendor" at Edward VII's funeral, which it calls the largest ever royal gathering. For 10 points each:
[10m] Name this work of narrative history that primarily describes the opening month of World War I. This work's author followed it with *The Proud Tower*, a collection of essays describing the two decades before the war.
ANSWER: The ***Guns of August*** (by Barbara Tuchman)
[10e] An essay in *The Proud Tower* recounts the furor that surrounded the 1894 conviction of this French-Jewish officer, who was subsequently defended in Émile Zola's pamphlet "*J'Accuse…!*."
ANSWER: Alfred **Dreyfus**
[10h] A recent book by Christopher Clark compares European powers to people doing this action. That work titled for this action argues that Europe's great powers together, rather than Germany alone, were at fault for World War I.
ANSWER: **sleepwalk**ing [or **somnambulism**; prompt on partial answer; accept *The **Sleepwalk**ers: How Europe Went to War in 1914*]
<Other History>

14. In this compound's main natural source, it is synthesized by the action of *S*-adenosyl methionine on theobromine. For 10 points each:
[10m] Name this alkaloid compound composed of two fused heterocycles. This compound is chemically equivalent to trimethylated xanthine, and it is extracted using supercritical carbon dioxide.
ANSWER: **caffeine** [or **methyltheobromine** or **guaraine** or **theine** or **mateine**; prompt on 1,3,7-**trimethylxanthine**]
[10e] The first total synthesis of caffeine was performed by this German chemist in 1895, the same year that he developed an acid-catalyzed esterification reaction that uses a carboxylic acid and an alcohol.

ANSWER: Emil **Fischer** [or Hermann Emil Louis **Fischer**; accept **Fischer** esterification]
[10h] Direct *N*-methylation overshoots less-substituted amines ("uh-MEENS"), so they are formed via reductive amination. That reaction forms an imine ("IM-een") and immediately treats it with a weak reducing agent, such as this six-atom anion.
ANSWER: **cyanoborohydride** [or **BH3CN-minus**; accept sodium **cyanoborohydride** or Na**BH3CN**; do not accept or prompt on "borohydride"]
<Chemistry>

15. Ambrose Paré created a military one of these objects known as "La Petite Lorraine," and Marcus Sergius famously fought with one of these objects. For 10 points each:
[10h] Name these objects. One of the earliest examples of these objects was found in Capua, and one of them found in Turpan, China, was decorated with a horse's hoof.
ANSWER: **prosthetic**s [or **prosthetic hand**s or **prosthetic arm**s or **prosthetic leg**s or **prosthetic body part**s or **prosthetic limb**s; accept **artificial** or synonyms in place of "prosthetic"; prompt on hands or arms or legs or limbs or body parts]
[10m] An excavation of a grave of these people in Northern Italy uncovered a man who had replaced his amputated right arm with a knife. These people founded the Duchies of Spoleto and Benevento and were ruled by Desiderius.
ANSWER: **Lombard**s [or **Langobard**i or **Langobard**s or **Longobard**s]
[10e] The earliest known prosthetic is a toe found on one of these objects. These objects were created by extracting the brain through the nose and moving organs into canopic jars.
ANSWER: **mummy** [or **mummies**]
<World History>

16. During one of these events, a baby rabbit comes inside a house, but is unnoticed because everyone is staring at the door "questioning God." For 10 points each:
[10m] Name this type of event, during which a man is bitten by a rabid dog in a novel. In another novel, the pit bull China and her puppies are lost in one of these events.
ANSWER: **hurricane** [or **storm**; accept **Hurricane** Katrina; accept the 1928 Okeechobee **hurricane**; prompt on flood or rain by asking "what event caused that?"]
[10h] A novel by this author depicts a 14-year-old girl who loves Greek mythology surviving a hurricane. In another work by this author, Jojo sees the ghost of Richie while driving to prison to pick up his father.
ANSWER: Jesmyn **Ward** ("JEZ-min ward") (The novels are *Salvage the Bones* and *Sing, Unburied, Sing*.)
[10e] Tea Cake and Janie Crawford escape a hurricane whose aftermath is described as death "with-the-square-toes" in this novel by Zora Neale Hurston.
ANSWER: ***Their Eyes Were Watching God***
<American Literature>

17. *Description acceptable.* This process was spearheaded by a council held under the authority of Pope Damasus I. For 10 points each:
[10h] Name this process that was accomplished at the Council of Rome through the Damasine List.
ANSWER: **choosing** the list of books to go in the Catholic **Bible** [or equivalents like **compiling** or **putting together** the **Bible**; accept, but DO NOT REVEAL, **choosing** the Catholic **Bible's canon** or the **canonization** of the **Bible**; accept **New Testament** or **Vulgate** in place of "Bible"; do not accept or prompt on "translating the Bible" or "writing the Bible"]
[10e] The books chosen during the Council of Rome would later form the basis of the Vulgate Bible, which was affirmed as the official Latin Bible during this council that started the Counter-Reformation.
ANSWER: Council of **Trent** [or Council of **Trento**; or **Concilium Tridentinum**]
[10m] The Council of Trent chose the Vulgate Bible as the official Latin Bible in order to justify the legitimacy of these books found in Catholic and Orthodox Old Testaments, which are considered apocryphal by Protestants.

ANSWER: **deuterocanonical** books [prompt on Apocrypha or apocryphal until read]
<Religion>

18. The melody of this song in 3/4 time begins [read slowly] "G, G, up to C, C, B-flat, A, G." For 10 points each:
[10h] Name this medieval song whose lyrics state that its title personage "should be feared," and whose melody was used as a *cantus firmus* in many settings of religious texts.
ANSWER: "L'**Homme Armé**" ("LUM ar-MAY") [or "The **Armed Man**"]
[10m] This man's two masses based on "L'Homme Armé" include one subtitled "*super voces musicales*." This man wrote *Missa Pange Lingua*, and was influenced by Johannes Ockeghem ("OCK-uh-ghem") as part of the Franco-Flemish School.
ANSWER: **Josquin** des Prez ("joe-SCAN deh PRAY") [or Josquin **des Prez**]
[10e] Seventy years after Josquin, this composer wrote his own "L'Homme Armé" mass. This man is most famous for his "Pope Marcellus" Mass, which, according to legend, saved polyphonic music from being banned.
ANSWER: Giovanni Pierluigi da **Palestrina**
<Classical Music>

19. In 2019, Katie Bouman's CHIRP algorithm extracted the data for the first image of these objects. For 10 points each:
[10e] Identify these astronomical objects. Sagittarius A* ("A-star"), a supermassive one of these objects at the center of the Milky Way, is studied by the Event Horizon Telescope.
ANSWER: **black hole**s [accept supermassive **black hole**s]
[10h] This woman shared part of the 2020 Nobel Prize in Physics with Reinhard Genzel for discovering Sagittarius A*, which she studied at the Keck Observatory on Mauna Kea in Hawaii.
ANSWER: Andrea Mia **Ghez**
[10m] Ghez pioneered Keck's use of this kind of "optics" to reduce aberrations due to atmospheric turbulence. Contrasted with active optics, this technique deforms a mirror's surface in response to wavefront measurements.
ANSWER: **adaptive** optics [prompt on AO]
<Other Science (Astronomy)>

20. John Berendt's *Midnight in the Garden of Good and Evil* depicts this author's grave, which is in the form of a bench, allegedly so that onlookers could sit and have a drink. For 10 points each:
[10h] Name this author of the *roman-à-clef* ("ro-MAWN ah CLAY") autobiography *Ushant*, who wrote a story in which Paul screams "I hate you!" at his mother due to his obsession with the title substance, which muffles the footsteps of the postman.
ANSWER: Conrad **Aiken** (The story is "Silent Snow, Secret Snow.")
[10m] In *Ushant*, Aiken recalls how he semi-adopted this super-fan of his. This alcoholic author of *Ultramarine* wrote a novel about the consul Geoffrey Firmin, which is set in Mexico on the Day of the Dead.
ANSWER: Malcolm **Lowry** (The novel is *Under the Volcano*.)
[10e] Aiken co-edited a Harvard literary journal with this poet of "The Love Song of J. Alfred Prufrock," whom Aiken refers to as "Tsetse" throughout *Ushant*.
ANSWER: T. S. **Eliot** [or Thomas Stearns **Eliot**]
<British Literature>