1. **These compounds, whose properties are affected by their tacticity** ["tack"-TISS-ih-tee]**, undergo a phase transition at the glass transition temperature.   Synthesis of these compounds, which often use Ziegler-Natta** [ZEEG-lur NAH-tah] **catalysts** ["CAT-uh-lists"]**, can occur by radicalization** [RAD-ih-kuh-lye-ZAY-shun] **or (*)** step-growth mechanisms. Examples of these compounds include proteins and DNA, as well as Kevlar and nylon.   For 10 points—name these compounds formed from repeating monomers [MAH-nuh-murz].

answer: polymers [PAH-lih-mur] (or polymeric materials; prompt on "macromolecules")

<559372>

1. This adjective precedes "England" in the name of an upper-class Tory group led by Benjamin Disraeli [diz-"RAIL"-ee]. For 10 points each—

A.   When applied to the word "Turks," what adjective identifies an early 20th-century reform movement in the Ottoman Empire?

answer: young (or jön; accept Young England or Young Turks or Jön Turkler)

B.   This man founded the Young Italy movement in 1831, and fomented many democratic revolts intended to promote Italian unification.

answer: Giuseppe Mazzini [joo-SEP-ee mat-ZEE-nee]

C.   The Young Bosnia [BAHZ-nee-uh] movement included Gavrilo Princip [GAHV-rih-loh "PRINT-sip"], who assassinated this Austrian archduke to ignite World War I.

answer: Archduke Franz Ferdinand (or Francis Ferdinand; prompt on partial answers)

<512480>

2. **This country promised to curtail interference in its client states in the "Sinatra** [suh-NAH-truh] **Doctrine." Congressman Larry McDonald died when this country mistook Korean Air Lines Flight 007** ["oh-oh-seven"] **for a spy plane and shot it down.   A general secretary of this country enacted policies of (*)** "reconstruction" and "openness" in the 1980s.   A nuclear meltdown at Chernobyl [chur-NOH-bul] hastened the collapse of—for 10 points—what country led by Mikhail Gorbachev [mih-KYLE GOR-buh-chawf]?

answer: Soviet Union (or USSR or Union of Soviet Socialist Republics or Sovietsky Soyuz or S.S.S.R. or Soyuz Sovietskikh Sotsialisticheskikh Respublik; prompt on "Russia" before "collapse") ["Reconstruction" and "openness" are the common translations of Gorbachev's policies of perestroika and glasnost.]

<559309>

2. Pencil and paper ready.   Consider a game in which players have a one-third chance of winning 10 dollars [pause] and a two-thirds chance of losing 4 dollars.   For 10 points each—

A.   If the game is played once, what is the expected value, in dollars, of the winnings?   You have 10 seconds.

answer: 2/3 dollar(s) [((1/3) × 10) - ((2/3) × 4) = (10/3) - (8/3) = 2/3]

B.   Given each turn has an expected profit of 2/3 of a dollar, what is the total expected profit after 15 games?

answer: 10 dollars [15 × (2/3) = 30/3 = 10]

C.   As the total amount of money depends only on the state after the previous game, the game can be described by models named for what Russian mathematician?

answer: Andrey (Andreyevich) Markov ["MARK-off"] (accept discrete-time Markov process(es) or Markov chains or Markov models; prompt on "Markovian (processes or chains or models)")

<559649>

3. **A woman with this first name was the model for the title figure of the 1849 painting *The Girlhood of Mary Virgin*, which was made by her brother, the Pre-Raphaelite** [pree RAF-ee-uh-"light"] **Dante** [DAHN-tay] **Gabriel. This name appears in the title of a 1948 painting that depicts the Olson** [OHL-sun] **House and a woman in a pink dress, whose (*)** muscular disorder causes her to crawl across a field. For 10 points—a painting by Andrew Wyeth ["WHY"-eth] is named after what woman's "world"?

answer: Christina (accept Christinas; accept Christina (Georgina) Rossetti or Christina's World; do not accept or prompt on "Anna (Christina Olson)")

<559115>

3. In 2018 accountant Scott Foster briefly became a celebrity for playing this position in a game. For 10 points each—

A. Name this sports position played by emergency fill-in David Ayres in a February 2020 game after two players for the Carolina Hurricanes were injured.

answer: goalie(s) (or hockey goalies or hockey goaltenders)

B. The Hurricanes were playing on the road in this team's Scotiabank [SKOH-shuh-bank] Arena. This hockey team's rivalry with the Canadiens [kuh-nay-dee-ENZ] is the oldest in NHL history.

answer: Toronto Maple Leafs (accept either underlined portion)

C. The Maple Leafs have won this NHL championship trophy 13 times, second only to the Canadiens.

answer: Stanley Cup (or La Coupe Stanley; accept Lord Stanley's Cup)

<510854>

4. **In this play, a man who is aware of a hidden observer lowers his voice when saying the name of the prostitute Bianca** [bee-AHNK-uh]**, who subsequently enters the scene and angrily refuses to copy the embroidery on a handkerchief. This play's protagonist claims he "loved not wisely but too well" after learning that (*)** Michael Cassio [KASS-ee-oh] did not have an affair with Desdemona [dez-duh-MOH-nuh]. For 10 points—in what Shakespeare play does Iago [ee-AH-goh] dupe the title Moor?

answer: Othello (or The Tragedy of Othello, the Moor of Venice)

<557117>

4. In 2014 this state elected its first female senator, the Republican Shelley Moore Capito ["CAP"-ih-"toe"]. For 10 points each—

A. Name this mountainous state with a politically influential coal industry.

answer: West Virginia (accept WV ["W-V"])

B. In his 2022 State of the State address, this West Virginia governor lifted up his pet bulldog, and told actress Bette [bet] Midler to "kiss" the dog's "hiney" ["HI"-nee].

answer: Jim Justice (or James Conley Justice II)

C. Midler had insulted West Virginia in a tweet criticizing this Democratic senator. Protesters have paddled kayaks [KYE-yaks] to the houseboat of this man, who opposes most of the Build Back Better legislation.

answer: Joe Manchin (or Joseph Manchin III)

<554583>

5. **A function-like concept denoted by this letter, which is the derivative of the Heaviside** ["HEAVY-side"] **step function, takes an infinite value at 0 and is 0 elsewhere. It denotes small variations in the *input* when formally defining continuity and limits. This (*)** Greek letter's capital form precedes y and x in the formula for a line's slope. For 10 points—what Greek letter's capital form represents change, and is shaped like a triangle?

answer: delta (accept answers that additionally specify case; accept Dirac delta function)

<558879>

5. This codeword indicated a successful ambush, but is frequently mistranslated as "tiger."   For 10 points each—

A. Give this Japanese word repeated three times in the title of a 1970 film about the attack on Pearl Harbor.

answer: tora [toh-rah] (accept Tora! Tora! Tora!) ["Tora" is a homophone for the Japanese word for tiger.]

B. In the film *Tora! Tora! Tora!*, this leader of the Japanese Imperial Navy says that Japan has "awakened a sleeping giant," a quote invented for the film.

answer: Isoroku Yamamoto [ee-soh-roh-koo yah-mah-moh-toh] (or Isoroku Takano; accept names in either order; accept Admiral Yamamoto or Admiral Takano)

C. *Tora! Tora! Tora!* includes anachronistic [uh-nak-ruh-NISS-tik] shots of a Pearl Harbor memorial on this Hawaiian island, where the attack took place.

answer: Oahu [oh-AH-hoo]

<513803>

6. **This man's frequent collaborator Oscar Wisting** [VISS-ting] **was chief officer on this man's ship *Maud*** ["mode"]**. This man disappeared while leading a rescue mission for the downed airship *Italia*** [ee-TAHL-yuh]**.   He captained the *Gjøa*** [YOH-uh] **during the first transit of the (*)** Northwest Passage.   This man's team used sled dogs in an expedition that beat Robert Scott by a month.   For 10 points—in 1911 what Norwegian explorer's team became the first to reach the South Pole?

answer: Roald Amundsen [ROH-ahl AH-mun-sun] (or Roald Engelbregt Gravning Amundsen)

<558226>

6. Characters in this "Super Soul Musical" sing "Ease On Down the Road" while traveling to the Emerald City.   For 10 points each—

A. Wicked witches are given the names "Evamean" [EH-vuh-"mean"] and "Evillene" ["EVIL"-leen] in what 1974 musical based on a novel by L. Frank Baum?

answer: The Wiz(: The Super Soul Musical "Wonderful Wizard of Oz") (do not accept or prompt on "The (Wonderful) Wizard of Oz")

B. In a 1978 film version of *The Wiz*, the Scarecrow was played by this singer, who would later release the album *Thriller*.

answer: Michael (Joseph) Jackson

C. A 2015 live TV adaptation of *The Wiz* featured this rapper and actress as the title character.   This co-star of *Girls Trip* received an Oscar nomination for playing Mama Morton in *Chicago*.

answer: Queen Latifah [lah-TEE-fuh] (or Dana Elaine Owens)

<471983>

7. **This author wrote about a boastful man who hides from dinner guests within the title vehicle in his story "The Carriage."   A disloyal son named Andriy** [AHN-dray] **is killed by the title Cossack** [KAH-"sack"] **in this author's historical novella *Taras Bulba*** [TAH-rahss BOOL-buh]**.   In a novel by this author, the former government official (*)** Pavel Chichikov [PAH-vul CHEE-chee-kawf] schemes to buy the rights to deceased peasants.   For 10 points—what Russian-language author wrote the novel *Dead Souls*?

answer: Nikolai (Vasilievich) Gogol [GOH-gul]

<491455>

7. Miguel Alcubierre [mee-GHEL ahl-koo-bee-"AIR-ray"] proposed a device that would achieve this kind of motion.   For 10 points each—

A. Some relativistic ["relative"-ISS-tik] jets appear to move in what manner that exceeds a "universal limit"?

answer: faster-than-light or superluminal motion (accept FTL ["F-T-L"] motion or answers indicating above the speed of light; prompt on "warp (speed or motion)" or "(Alcubierre) warp (drive)")

B. A superluminal ["super"-loo-muh-nul] jet is produced by M87 ["M-eighty-seven"], one of these galaxies found on the left side of Hubble's tuning fork diagram.

answer: elliptical [uh-LIP-tih-kul] galaxies (or ellipticals; accept supergiant elliptical galaxies or ellipticals; prompt on "radio (galaxies)")

C. Apparent superluminal motion can also occur with this phenomenon, in which a delayed light signal arrives after being reflected.   A similar phenomenon occurs when sound reflects off a wall or distant mountain.

answer: light echo(s)

<559478>

8. **In this state, restaurant entrepreneur Fred Harvey built the El Tovar** [el toh-VAR] **Hotel near a popular national park.   In 1968 London Bridge was bought and rebuilt in this state near Lake Havasu** [HAV-uh-soo]**.   Tourists can visit Boothill** ["boot-hill"] **Graveyard, which includes the graves of three men killed during the (*)** gunfight at the O.K. Corral, in this state's town of Tombstone.   For 10 points—what Southwestern state contains Grand Canyon National Park?

answer: Arizona (accept AZ ["A-Z"])

<559418>

8. For 10 points each—answer the following about detention of prisoners during the U.S. War on Terror:

A. Many detainees were held at a camp on this naval base in Cuba, which the U.S. has leased since 1903.

answer: Guantánamo [gwahn-TAH-nah-moh] Bay (accept GTMO or Gitmo; accept Guantanamo Bay Naval Base or Naval Station Guantanamo Bay)

B. This British international spy agency aided the CIA in performing "extraordinary renditions" of detainees to "black sites," where the detainees were interrogated and tortured.

answer: MI6 ["M-I-six"] (accept Secret Intelligence Service or SIS)

C. One suspected CIA black site was on Diego Garcia [dee-AY-goh gar-SEE-uh], an isolated atoll [AT-tohl] in the middle of this ocean.   U.S. forces buried Osama bin Laden [oh-SAH-muh bin LAH-den] at sea in this ocean.

answer: Indian Ocean

<539886>

9. **During this dynasty, female historian Ban Zhao** [bahn jao] **described proper women's behavior in the** *Lessons for Women***.   The** *Records of the Grand Historian* **were written during this dynasty by Sima Qian** [sih-mah chee-en]**. The reign of Wang Mang** [wahng mahng] **interrupted this dynasty, which was founded by former (*)** peasant Liu Bang [lee-oh bahng].   This dynasty that arose in 202 BC followed the Qin [chin].   For 10 points—what dynasty lends its name to China's majority ethnic group?

answer: Han [hahn] dynasty (or Hàn cháo)

<559027>

9. For 10 points each—answer the following about Johann Wolfgang von Goethe [GUR-tuh]:

A. Goethe's magnum opus [OH-puss] is a tragedy about this scholar, who wagers his soul with the demon Mephistopheles [MEH-fih-STAH-fuh-leez].

answer: Heinrich Faust [fowst] (accept either underlined portion; accept Doctor Faust or Faustus; accept Henry Faust; accept Faust: The First Part of the Tragedy or Faust. Der Tragödie erster Teil or Faust: The Second Part of the Tragedy or Faust. Der Tragödie zweiter Teil in fünf Akten)

B. Goethe rose to fame with a 1774 novel about the "sorrows" of this young man, which are caused by his unrequited love for his friend Charlotte [shar-LOH-teh].

answer: (Young) Werther [VAIR-tair] (accept The Sorrows of Young Werther or Die Leiden des jungen Werthers)

C. Goethe's poetry collection *West-Eastern Divan* [dih-VAN] was inspired by the works of Hafez [HAH-fiz], who wrote many poems called *ghazals* [GAH-zahlz] in this language also used by the poet Rumi [ROO-mee].

answer: Persian language (or Farsi)

<559834>

10. **One of this company's board members, the Moroccan-born Moncef Slaoui** [MAHN-sif SLAO-ee]**, divested from it to become head of a government program that awarded this company over 1.5 billion dollars.   This company worked with BARDA** ["BAR"-duh] **and NIAID** ["NYE-ad"] **to produce a product sold under the brand name (*)** "Spikevax" ["spike-vax"].   Operation Warp Speed funded mRNA ["M-R-N-A"] research by—for 10 points—what U.S. company that, like Pfizer [FYE-zur] and Johnson & Johnson, makes a COVID vaccine?

answer: Moderna [muh-DUR-nuh] (or Moderna, Inc.)

<559597>

10. In circuit diagrams, this point is represented by three parallel lines of decreasing length.   For 10 points each—

A.   Name this point in a circuit that serves as an infinite charge sink.

answer: ground (accept answers indicating where the circuit is grounded)

B.   Some antennae [an-TEN-ee] that transmit these waves need to be grounded to prevent a buildup of charge.   These waves are often AM ["A-M"] or FM ["F-M"].

answer: radio waves (prompt on "electromagnetic (waves)" or "EM (waves)")

C.   The ground node is typically defined to have a value of zero for this quantity.   The sum of this quantity across all circuit elements in a loop equals zero by Kirchhoff's [KEER-kawf's] loop law.

answer: voltage (or electric potential; accept volts; do not accept or prompt on "(electric) potential energy")

<556838>

11. **In the Sun, a "zone" named for this process undergoes differential rotation and is found right below the photosphere ["photo-sphere"].   A form of this process may occur in two layers, and involves downward-moving "slabs" and upward-moving "plumes."   This process in Earth's (*)** mantle drives the motion of tectonic [tek-TAH-nik] plates.   For 10 points—what type of heat transfer requires the movement of a fluid medium, unlike radiation and conduction?

answer: convection (accept convective zone or convection layer(s) or mantle convection or convective heat transfer)

<549460>

11. For 10 points each—answer these questions about intervals:

A.   What interval exists between a given note and the next higher note with the same letter name, such as C to C?

answer: octave(s) [AHK-tiv]

B.   What term describes intervals such as octaves, fourths, and fifths, whose pitches have small whole-number frequency ratios?

answer: perfect intervals (accept consonant ["CON"-suh-nunt] intervals or consonance)

C.   This adjective describes intervals such as C to F-sharp, or D to G-sharp, that are one half-step larger than a perfect interval.

answer: augmented intervals (accept augmented fourths)

<558759>

12. **This country's town of Tarxien ["TAR-shin"] contains several ancient megalithic [meg-uh-LITH-ik] temples, including a noted underground hypogeum ["HYPE"-oh-JEE-um] from the Saflieni [sahf-lee-AIN-ee] era.   From 1530 to 1798 this country was the base of the (*)** Knights Hospitaller [HAH-spit-uh-lur].   Only two people live on this country's third-largest island, Comino [koh-MEE-noh], which is south of its island of Gozo [GOH-zoh].   A Semitic [seh-MIT-ik] language is spoken in—for 10 points—what Mediterranean island country south of Sicily?

answer: Malta (or Republic of Malta or Repubblika ta' Malta)

<559525>

12. For 10 points each—name these people who contracted polio [POH-lee-oh]:

A.   This future president was paralyzed from the waist down in 1921 from what doctors believed to be polio.

answer: Franklin D(elano) Roosevelt (or FDR; prompt on "Roosevelt")

B.   Because of polio, this artist's right leg was shorter than her left.   Her works include a *Self-portrait on the Borderline Between Mexico and the United States*.

answer: Frida Kahlo [FREE-dah KAH-loh] de Rivera (or Magdalena Carmen Frieda Kahlo y Calderón)

C.   This Israeli-American violinist plays sitting down because he contracted polio at age four.   He recorded the theme for the film *Schindler's List*.

answer: Itzhak Perlman [EET-zahk "PEARL-man"]

<536531>

13. **This man considered humanity's "propensity [pruh-PEN-suh-tee] to evil" in his book *Religion Within the Boundaries of Mere Reason*.   In response to a critique from Benjamin Constant [ben-zhuh-MEEN kawn-STAHNT], he argued that everyone has a "duty" to be (*)** truthful, and thus one should not lie even to a murderer.   His *Groundwork of the Metaphysics of Morals* discusses the categorical imperative [kat-uh-GOR-ih-kul im-PER-uh-tiv].   For 10 points—what 18th-century German philosopher wrote *Critique of Pure Reason*?

answer: Immanuel Kant [kahnt]

<559347>

13. For 10 points each—answer the following about Solway [SUL-way] Firth:

A. Like the Dee and the Ribble estuaries [ESS-choo-air-eez], Solway Firth is an inlet of this sea.

answer: <u>Irish</u> Sea

B. To the north of Solway Firth is Dumfries [dum-"freeze"] and Galloway, a region of this constituent [kun-"STITCH"-oo-ent] country of the U.K.

answer: <u>Scotland</u> (or Kingdom of <u>Scotland</u> or Rioghachd na h-<u>Alba</u>)

C. Solway Firth is near this self-governing island.   A breed of cat named after this island's residents has an unusually short tail.

answer: Isle of <u>Man</u> (or <u>Mann</u> or <u>Mannin</u> or Ellan <u>Vannin</u>; prompt on "Manx (cat)")

<505324>

14. **In a 2021 film by this director, Scott Ward is hired to break into a casino vault right before a nuclear strike will destroy Las Vegas.   This director of *Army of the Dead* intended to feature characters such as Ryan Choi and Darkseid** ["dark-side"] **in a 2017 film on which he was replaced by (*)** Joss Whedon [jahss WEE-dun].   For 10 points—in 2021 a four-hour director's cut version was released of what man's original vision for the film *Justice League*?

answer: Zack <u>Snyder</u> (or Zachary Edward <u>Snyder</u>; accept the <u>Snyder</u> Cut or Zack <u>Snyder</u>'s Justice League)

<558187>

14. This story is set during a period when an "elf-queen" danced "in many a green meadow."   For 10 points each—

A. Name this story about a man who avoids execution by discovering what women most desire.

answer: The <u>Wife of Bath</u>'s Tale (or The Tale of the <u>Wyf of Bathe</u>; prompt on "(The) Canterbury Tales")

B. "The Wife of Bath's Tale" is one of the *Canterbury Tales* written in Middle English by this author.

answer: Geoffrey <u>Chaucer</u> [CHAW-sur]

C. A digression in "The Wife of Bath's Tale" recounts a story about a tattletale wife from this Roman author's *Metamorphoses* [met-uh-MOR-fuh-seez].

answer: <u>Ovid</u> [AH-vid] (or Publius <u>Ovidius</u> Naso)

<552585>

15. **These particles interacted with the protons** [PROH-tahnz] **of water in the Cowan-Reines** [KOH-en "rains"] **experiment, which was the first experimental detection of them.   These particles may shift between flavor eigenstates** ["EYE-gun-states"] **in their namesake (*)** "oscillations" [AH-suh-lay-shunz].   In one second, about 100 trillion of these particles pass unimpeded through each person.   For 10 points—identify these nearly massless particles whose name is Italian for "little neutral one."

answer: <u>neutrino</u>s ["new-TREE-no"] (accept <u>neutrino</u> flavor oscillations)

<537302>

15. In 2020 protesters in the U.K. city of Bristol [BRISS-tul] tore down a statue of Edward Colston ["COAL-stun"] because of Colston's connection to this practice.   For 10 points each—

A. Name this practice, which often involved taking Africans across the Middle Passage.

answer: <u>slavery</u> (accept any answer indicating the holding of <u>slaves</u> or <u>enslavement</u> or <u>human chattel</u> or treating <u>humans as property</u>; accept the <u>slave</u> trade)

B. After the statue was toppled, white supremacists in Bristol vandalized the grave of an enslaved man with this name, which was shared by the Roman general who defeated Hannibal [HAN-uh-bul] at Zama [ZAH-muh].

answer: <u>Scipio</u> Africanus [SKIH-pee-oh af-rih-KAHN-uss]

C. This Whig who represented Bristol in Parliament introduced a bill to ban slaveowners from sitting in the House of Commons.   He criticized revolutionaries in *Reflections on the Revolution in France*.

answer: Edmund <u>Burke</u>

<554814>

16. **In this decade, the Hart-Celler Act ended the National Origins Formula that had restricted immigration to the U.S. from Asia.   The Office of Economic Opportunity was created in this decade as part of the "War on Poverty," which also included the early childhood program (*)** Head Start.   Both Medicaid [MED-uh-kayd] and Medicare [MED-uh-"care"] were created in this decade.   For 10 points—in what decade was the Great Society initiative begun by Lyndon Johnson?

answer: <u>1960</u>s (prompt on "Sixties")

<558773>

16. For 10 points each—answer the following about brown algae [AL-jee]:

A. Brown algae get their color from fucoxanthin ["FEW"-koh-ZAN-thin], a pigment also found in these tiny algae whose cell walls are made of silica [SIL-ih-kuh].

answer: diatoms [DYE-uh-tahm] (or Bacillariophyceae or Diatomea or Diatomophyceae or Bacillariae or Bacillariophyta)

B. In brown algae, this organelle ["organ"-EL] has four membranes instead of two.   The Calvin Cycle occurs in the fluid-filled stroma [STROH-muh] of this organelle.

answer: chloroplast(s) [KLOR-oh-plast] (prompt on "plastid(s)")

C. This group of brown algae seaweeds are densely concentrated in underwater "forests."

answer: kelp(s) (or Laminariales; accept giant kelps or kelp forests)

<559653>

17. **This deity created three goddesses after chewing and spitting out her brother's sword.   After a brother of this goddess killed a food god, she split from him to separate the night from the day.   A mirror was used to lure this goddess out of the Heavenly Rock Cave, where she hid after a dead horse was thrown at her by her brother (*)** Susanoo [soo-sah-noh-oh].   The emperors of Japan are descended from—for 10 points—what Shinto sun goddess?

answer: Amaterasu(-omikami) [ah-mah-teh-rah-soo]

<558751>

17. Floods in this country's KwaZulu-Natal [kwah-ZOO-loo nuh-TAHL] province killed over 400 people in 2022.   For 10 points each—

A. Name this country that has been governed by the African National Congress since 1994.

answer: South Africa (or Republic of South Africa; prompt on "RSA")

B. KwaZulu-Natal is the birthplace of this former South African president, who left office in 2018 and is facing an upcoming corruption trial.

answer: Jacob (Gedleyihlekisa) Zuma [ZOO-mah]

C. Zuma's trial is connected to a 1990s contract that supplied South Africa with these weapons.   The Saab JAS 39 Gripen [sahb "J-A-S thirty-nine" GRIP-en] and the BAE ["B-A-E"] Hawk are examples of these weapons.

answer: fighter jets (or fighters or military aircraft or airplanes; accept any underlined portion)

<559696>

18. **The narrator of this novel dreams about going with his grandfather to the circus, where he opens envelopes and finds a message indicating that he will be kept "running."   Boys in this novel pick up fake coins on an electrified rug after fighting a (*)** "battle royal."   This novel's narrator lives in an underground room filled with lights.   Ralph Ellison wrote—for 10 points—what novel whose African-American narrator feels unseen?

answer: Invisible Man (do not accept or prompt on "The Invisible Man")

<557069>

18. During the 1950s this man worked as a motivational speaker for General Electric.   For 10 points each—

A. Name this man who first made a political impression by giving the 1964 speech "A Time for Choosing" in support of Barry Goldwater.

answer: Ronald (Wilson) Reagan

B. In 1966 Reagan was elected governor of this West Coast state.

answer: California (or CA ["C-A"])

C. In the California governor's race, Reagan defeated Pat, a man with this surname.   Pat's son, who also had this surname, was governor of California in both the 1970s and 2010s.

answer: Brown (accept Browns; accept Pat Brown or Edmund Gerald Brown Sr. or Jerry Brown or Edmund Gerald Brown Jr.)

<526874>

19. **An essay named for this sensation describes a boy throwing a cotton reel out of a crib, and saying versions of the words "fort" and "da." The same essay posits** [PAH-zitz] **that the "principle" of this sensation is balanced with a "death drive" in motivation. According to Sigmund Freud** [froyd]**, the (*)** id is governed by the pursuit of this sensation. Anhedonia [an-hee-DOH-nee-uh] is a reduced ability to experience—for 10 points—what sensation contrasted with pain?

answer: pleasure (accept lust; accept pleasure principle or Lustprinzip; accept Beyond the Pleasure Principle or Jenseits des Lustprinzips)

<558979>

19. This island contains the city of Hagåtña [huh-GAHT-n'yuh], whose name derives from a Chamorro [chuh-MOR-oh] word for "blood." For 10 points each—

A.   Andersen Air Force Base is on what Micronesian ["micro"-NEE-zhun] island controlled by the U.S.?

answer: Guam [gwahm] (or Guåhan)

B.   Guam is part of these islands, which form the Philippine [FIL-uh-peen] Sea's eastern border with the greater Pacific Ocean.

answer: Mariana ["marry"-AH-nuh] Islands (or Marianas)

C.   The "brown tree" variety of these reptiles is an invasive species that has devastated Guam's birdlife. The "sea" types of these animals are sometimes mistaken for eels.

answer: snakes (or Serpentes; accept serpents; accept brown tree snakes or sea snakes or sea serpents)

<559310>

20. **This is the number of "smokes" in the name of a valley filled with volcanic ash in the Katmai** ["cat-my"] **National Park of Alaska. This number of ancient Greek mercenaries made up a group that fought for Cyrus** ["SIGH"-russ] **the Younger during the (*)** Anabasis [uh-"NAB"-uh-suss]. A 2019 collaboration between the musicians Dan + Shay ["dan and shay"] and Justin Bieber [BEE-bur] is named for this number of "hours." For 10 points—give this number equal to ten to the fourth power, or 100 squared.

answer: 10,000 (accept Valley of Ten Thousand Smokes or 10,000 Hours)

<558513>

20. This title character feels "elephantishly" ["elephant"-ish-lee] uneasy" while listening to the marital woes of Paul Riesling [REESS-ling]. For 10 points each—

A.   What realtor from the city of Zenith [ZEE-nith] briefly becomes a rebel, and supports the socialist Seneca Doane [SEN-uh-kuh DOHN]?

answer: George F(ollansbee) Babbitt (accept either underlined portion)

B.   This American author of Main Street parodied mindless "boosterism" ["BOOSTER"-ih-zum] in his 1922 novel Babbitt.

answer: (Harry) Sinclair Lewis

C.   Lewis also wrote this novel about the fascist Buzz Windrip, who is elected president of the U.S. Sales of this novel surged after the election of Donald Trump.

answer: It Can't Happen Here

<558197>

21. **In this novel, a man interrupts his own discussion of Zeno's** [ZEE-noh'z] **paradox to play a Swedish hip-hop song. This novel's protagonist discusses "infinities" of different sizes at a "prefuneral"** ["pre-funeral"]**. The ambiguous ending of a book titled An (*)** Imperial Affliction drives this novel's protagonist to visit the reclusive author Peter Van Houten [HOW-ten] in Amsterdam. The teenagers Gus and Hazel battle cancer in—for 10 points—what novel by John Green?

answer: The Fault in Our Stars

<553477>

21. For 10 points each—answer these questions about theoretical "shells":

A. What structures have a "shell model" that predicts "magic numbers" of component particles—such as 2 and 82—that make these structures especially stable?

answer: atomic <u>nuclei</u> [NOO-klee-"eye"] (or atomic <u>nucleus</u>; accept <u>nuclear</u> shell model; do not accept or prompt on "atom(s)")

B. For volumes of revolution, the shell method and disk method are two ways of setting up what operation to calculate those volumes?

answer: volume <u>integration</u> (or volume <u>integral</u>s [IN-tug-rulz]; accept definite <u>integral</u>s or definite <u>integration</u>; accept answers indicating a function is <u>integrated</u>)

C. Isaac Newton proved that a spherically symmetric [sim-"metric"] shell exerts zero of what force on objects inside of it?   Newton derived this force's inverse-square law.

answer: <u>gravity</u> or <u>gravitational</u> force (accept (Newton's) law of universal <u>gravitation</u>)

<554807>

22. **In a *Futurama* ["future"-AH-muh] episode that is partly named for this place, Fry becomes his own grandpa.   An "incident" named for this place occurs after Quark causes a time warp on *Star Trek: Deep Space Nine*.   Roger on *American Dad!* visited this place in (*)** 1947.   Liz is shot at the Crashdown Cafe and healed by the alien Max in a CW show named for this city.   For 10 points—name this New Mexico city linked to conspiracy theories about UFOs.

answer: <u>Roswell</u> [RAHZ-wel] (accept <u>Roswell</u> (UFO) incident; accept <u>Roswell That Ends Well</u> or <u>Roswell, New Mexico</u>)

<528192>

22. For 10 points each—answer the following about Mexico in World War II:

A. Mexico entered the war in 1942, after two Mexican tankers were sunk by this type of German ship.

answer: <u>U-boat</u>s (accept <u>submarine</u>s or <u>Unterseeboote</u>)

B. A Mexican flying squadron that saw action in the Philippines [FIL-uh-peenz] was named after the Eagle warriors of this empire, which fought Hernán Cortés ["air"-NAHN kor-TEZ] in the early 16th century.

answer: <u>Aztec</u> Empire or <u>Aztec</u>s (or <u>aztecas</u> or <u>Aztec</u> Triple Alliance; accept <u>Aztec</u> Eagles or Águilas <u>Aztecas</u>; accept <u>Tenochcas</u> [teh-NOHCH-kuz] or <u>Excan Tlahtoloyan</u>)

C. During World War II Mexico was governed by a predecessor to this political party.   This party and its predecessors held national power between 1929 and 2000.

answer: <u>PRI</u> [pree or "P-R-I"] (or Institutional <u>Revolutionary</u> Party or Partido <u>Revolucionario Institucional</u>) [The PRI's predecessors were the National Revolutionary Party, which existed from 1929 to 1938, and the Party of the Mexican Revolution, which was replaced by the PRI in 1946.]

<559732>

23. **This structure is overriding and lies over a septal defect in one of the symptoms in Tetralogy of Fallot** [teh-TRAH-luh-jee "of" fuh-LOH]. ** Marfan syndrome is a risk factor for the dilatation** [dil-uh-TAY-shun] **of this structure, whose upper section is called "thoracic"** [thuh-RASS-ik]. ** It ascends in an arch, then descends to the (*)** abdomen from its origin at the left ventricle [VEN-trih-kul]   It carries oxygen-rich blood away from the heart.   For 10 points—in the human body, what is the largest artery ["ART"-uh-ree]?

answer: <u>aorta</u> [ay-ORT-uh]

<538487>

23. This author wrote "old time is still a-flying" in a poem that warns "having lost but once your prime / you may forever tarry."   For 10 points each—

A. Name this 17th-century British poet who advised "gather ye rosebuds while ye may" in "To the Virgins, to Make Much of Time."

answer: Robert <u>Herrick</u>

B. "To the Virgins, to Make Much of Time" is a poem in this genre [ZHAHN-ruh], whose two-word Latin name means "seize the day."

answer: <u>carpe diem</u> ["CAR-pay" DEE-um]

C. Herrick's contemporary Andrew Marvell ["mar"-VEL] wrote this *carpe diem* poem that describes "Time's wingèd chariot hurrying near."

answer: <u>To His Coy Mistress</u>

<544636>

24. **This composer's third symphony concludes with bells playing fading minor triads** ["TRY-ads"] **in a movement titled "Communion."   The Alcotts are represented in the third movement of this man's second piano sonata** [suh-NAH-tuh]**.   A work by this composer depicts the (*)** Housatonic [HOO-suh-TAH-nik], Putnam's Camp, and the Robert Gould [goold] Shaw Memorial.   For 10 points—name this modernist composer of the *Concord* ["CONK"-urd] *Sonata* and *Three Places in New England*.

answer: Charles (Edward) <u>Ives</u> [rhymes with "hives"]

<531556>

24. For water, this point occurs at about 600 pascals [pass-KALZ], or about 0.6 percent of atmospheric pressure.   For 10 points each—

A.   Name this "point" at which solid, liquid, and gaseous phases can co-exist at equilibrium.

answer: <u>triple</u> point

B.   According to this American chemist's "phase rule," pure water—like all pure substances—has zero degrees of freedom at the triple point.

answer: Josiah Willard <u>Gibbs</u> (Jr.) (accept <u>Gibbs</u>'s phase rule)

C.   Prior to the 2019 redefinition of SI ["S-I"] units, the triple point of water was fixed and was used to define this base unit of temperature.

answer: <u>kelvin</u>(s) (prompt on "K")

<558805>