

2021 ACF Regionals
Packet T (Tiebreakers)

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Note: DO NOT read a tiebreaker to a team that wrote that tiebreaker. Tossups with no team markings were written by the editors and can be read to any team.

Tossups

1. In the mean field theory of nematic liquid crystals, this property's Frank constants are proportional to the square of the order parameter. A "pseudo" form of this property occurs when martensite is heated above the austenite finish temperature in nickel–titanium and other memory alloys. While 21 constants are needed to describe this property generally, isotropic materials require only two, a role served by the Lamé ("lah-MAY") coefficients. This property is lost above the yield point. The slope of a stress–strain curve equals this property's "modulus," whose uniaxial ("uni-axial") type is named for Thomas Young. In materials with this property, the restoring force is equal to negative k times x . For 10 points, Hooke's law describes what property of materials that return to their rest shape after a deformation?

ANSWER: **elasticity** [accept Frank **elastic** constants or **elastic** limit or **elastic** modulus; accept pseudo**elasticity**; prompt on **deformation** or word forms; prompt on **shape memory** alloys; prompt on **springs** by asking "what property of springs?"; do not accept or prompt on "plastic" or "plasticity"]

<Physics> (UC Davis)

2. In a 1975 chamber piece from this country, the bass and tuba continuously assert a forte low E; that work is the third part of a series whose title translates as *Acoustic Spaces*. That piece was inspired by the spectrogram of a trombone recording and is titled *Partials*. A serialist composer from this country used a xylorimba and alto flute for the movements "Hangmen of Solitude" and "The Furious Craftsmanship" from his song cycle *The Hammer without a Master*. "Modes of limited transposition" were created by a composer from this country who included the movement "Dance of Fury, for the Seven Trumpets" in one work, and also wrote *Catalog of Birds* and the *Turangalila-Symphonie*. For 10 points, name this home of the composer of *Quartet for the End of Time*, Olivier Messiaen ("oh-leev-YAY mess-YAWN").

ANSWER: **France** (The first two composers clued are Gérard Grisey and Pierre Boulez.)

<Classical Music> (Harvard A)

3. In this novel, a boy who goes to a "ridge-track" to see a "city of light" that he thinks "would just suit me" is disappointed to realize that learning a language means memorizing individual words, not learning one translation rule. In this novel, a woman who meets her future husband by throwing a pig's penis at his head argues with him over how to slaughter a pig. This novel's title character drunkenly writes out Job 13:2 on the wall of Balliol ("BAY-lee-ul") College after getting a rejection letter from the College Master. In this novel, a dour ("DOW-ur") child kills himself and his half-siblings, leaving the note "Done because we are too menny." That child, Little Father Time, is the son of Arabella Donn. For 10 points, name this novel in which the title stonemason dreams of becoming a scholar, by Thomas Hardy.

ANSWER: ***Jude the Obscure***

<British Literature> (Glasgow A)

4. A president from this family jailed the poet of "Five Bandits," who had changed his name to a pseudonym meaning "underground" to signify his opposition. Lai Đại Hàn refers to half-Vietnamese people fathered by troops that were sent by that member of this family during the Vietnam War. Another president from this family, who

attempted to combat the “four social evils” plaguing her country, defended her father’s May 16th Coup. That president from this family was attacked by the documentary *In the Absence* for covering up the MV *Sewol* (“SEH-wull”) sinking. A president from this family was jailed in 2018 for her corrupt dealings with the Christian cult leader Choi Soon-sil (“ch’WAY soon-SHEEL”). For 10 points, name this political family of South Korea that includes former presidents Chung-hee and Geun-hye (“gun-heh”).

ANSWER: **Park** family [accept **Park** Chung-hee or **Park** Geun-hye; prompt on **Masao**]

<World History> (Waterloo A)

5. This author declared “let the hurricane swirl my heart to song” in a poem about an “aged tree,” titled “In Autumn.” A poem by this man describes a character who thinks “where you put your bullet / you put the future.” Giannina Braschi (“BRAH-skee”) used this man’s line “If Hamlet grieves, Sigismundo feels it” as an epigraph. Another poem by this author of “Rare Flowers” describes an “old sea dog” by “the sea like a coarse mirror of silver.” A poem by this author of “Symphony in Gray Major” says “It is with the voice of the Bible... that we should reach you” to a figure described as “a professor of Energy / as today’s madmen say” and an “Alexander-Nebuchadnezzar.” That poem ends “You may count it all, / missing one thing: God!” For 10 points, name this modernista poet of *Azul...* and “To Roosevelt.”

ANSWER: Rubén **Darío** (“da-REE-oh”)

<World/Other Literature> (UC Davis)

6. A gigantic mural known as “The Sacred Grove” was painted in this institution’s amphitheater during a 1900s renovation of it. The phrase “under the cobblestones, the beach” was coined by activists attempting to “liberate” this institution. Gregory IX’s bull *Parens scientiarum* guaranteed this institution’s independence from secular and religious authorities following a 1229 strike at it. People at this institution divided themselves into four “nations” – Norman, Picard, English, or French – depending on where they came from. The occupation of this institution sparked the May 1968 protests, which led to it being split into 13 parts. This institution was founded by one of Louis IX’s chaplains, Robert de Sorbon. For 10 points, name this university located in the Latin Quarter of a capital city.

ANSWER: University of **Paris** [or Université de **Paris**; accept **Sorbonne** until “Sorbon” read, but prompt after by asking “what larger institution is it a part of?”]

<European History>

7. In this state, all conspirators to a felony can be held liable for further felonies committed by their co-conspirators according to the “Law of Parties.” A defendant in this state, who tried to use the Compulsory Process Clause of the Sixth Amendment to call his co-defendant as a witness, brought the 1967 case of *Washington v. [this state]*. In 1950, this state’s slapdash attempt to set up a separate law school for black students was struck down in *Sweatt v. Painter*. This state, which abolished last meals before lethal injections in 2011, has executed more than 560 people since 1982. In 2013, Abigail Fisher challenged the admissions process of this state’s flagship university. For 10 points, name this state where Norma McCorvey began the case of *Roe v. Wade* by trying to get an abortion in Dallas.

ANSWER: **Texas**

<American History>

8. This character prays for a man to “eat with the hogs” when that man almost starves to death after mocking him. In a work named for this man, the narrator meets Haukyn (“HAWK-in”) the Active Man, who claims that he is too busy to clean his filthy coat. This man angrily tears up a pardon after seven people work for him and promise to repent. This man gardens for the Tree of Charity in a work named for him divided into sections called *passus*, in which the narrator witnesses the Harrowing of Hell and seeks Do-Well. In a poem beginning “in summer season when soft was the sun,” Will sees this character between Heaven and Hell in a “fair field of folk” after falling asleep. For 10 points, name this farmer who allegorically represents Christ in a Middle English poem by William Langland.

ANSWER: **Piers** Plowman (The seven people are the seven deadly sins.)

<British Literature>

9. In a section of this novel formatted as “Q” and “A,” a man describes lost innocence as “giving off calories of virtue.” A man in a tulle-covered dressing room tells a woman “a sentimental person thinks things will last; a romantic person hopes they won’t” in a play-formatted part of this novel. In this novel, a man writes a poem that begins “When Vanity kissed Vanity” to an atheist who recites Verlaine in the rain. This novel’s protagonist receives an Irish lament ending “And he got into the fight,” before going to war between its first and second parts. That protagonist befriends the poet Thomas Parke D’Invilliers and declares “I know myself, but that is all.” This novel’s protagonist is mentored by Monsignor Darcy and dumped by Rosalind. For 10 points, name this novel about the wealthy Princeton student Amory Blaine, by F. Scott Fitzgerald.

ANSWER: ***This Side of Paradise***

<American Literature>

10. A March 2020 study corrected an apparent deficit of this substance in comets when the *Rosetta* probe observed salts containing this substance in a cometary nucleus. The bright color of Pluto’s Tombaugh Regio is mainly due to frozen deposits of this substance. Carl Sagan’s studies of one outer-Solar-System moon found that this substance interacts with methane and UV light to produce complex organic molecules called tholins. Near the south pole of Neptune’s moon Triton, geysers eject this substance, which is deposited on the surface as an annealed glaze. Unique among natural satellites in the Solar System, Saturn’s moon Titan has a dense atmosphere composed mainly of this element. For 10 points, name this element that also makes up more than three-quarters of Earth’s atmosphere.

ANSWER: **nitrogen** [accept **dinitrogen**; accept **ammonium** until “Tombaugh Regio” is read]

<Other Science (Astronomy)> (Claremont Colleges A)

11. A long and thin industrial building in this country has a roof whose arch is broken into six line segments. The New State Gallery in this country has a postmodern design by James Stirling. An artist used randomly chosen colors for an abstract grid-shaped stained-glass window in this country. After a 300-year hiatus in construction, a huge twin-spired cathedral in this modern-day country was finished in 1880. Peter Eisenman designed a memorial in this country that consists of a grid of 2,711 concrete slabs. Norman Foster added a glass dome to this country’s parliament building, which was wrapped in fabric by a pair of artists. This country is home to the AEG Turbine Factory and the Fagus shoe-last factory. For 10 points, in what country did Walter Gropius establish the Bauhaus?

ANSWER: **Germany** [or Federal Republic of **Germany**] (The third and fourth sentences are about Cologne Cathedral.)

<Other Arts (Visual)>

12. Three days before this event, a copy of the Constitution was buried in front of the victory bell that was rung during this event. One group of people involved in this event was called “worse than the brown shirts and the communist element” and described as “the strongest, well trained, militant revolutionary group ever assembled in America” by Jim Rhodes. The Scranton commission found that “there was inadequate fire control discipline on Blanket Hill” at this event. A John Filo photograph of a woman kneeling beside the body of Jeffrey Miller was taken at this event, which occurred at a protest against the Cambodian Incursion. For 10 points, name this 1970 event where nine students were injured and four were killed by members of the Ohio National Guard.

ANSWER: **Kent State** University shootings [or the **Kent State** massacre]

<American History> (Waterloo B)

13. In a story by this author, two “conspicuous and cheap and charming” stenographers who “lunch on sugar” argue over whether silver-fox coats are “common.” Annabel and Midge ask for the price of a string of pearls as part of a game of “what-would-you-do-if-you-had-a-million-dollars” in that story by this author. This writer noted A. A. Milne’s use of the word “hummy” as “the first place at which Tonstant Weader Fwowed up.” Another poem by this author of “The Standard of Living” states that “the ladies men admire, I’ve heard / would shudder at a wicked

word.” Along with “Interview,” this author wrote that “Razors pain you; / Rivers are damp” in a poem that ends with the line “You might as well live.” For 10 points, name this Algonquin Round Table member, known for cynical poems such as “Resumé.”

ANSWER: Dorothy **Parker**

<American Literature> (Caltech)

14. *Description acceptable.* Stephen Hawking consoled people heartbroken by this event by suggesting that it never happened in another universe when “finally” asked about its cosmological effect. The hashtag “Where I was when [this happened]” led Twitter users to compare it to 9/11. The lyrics “I’d rather be anywhere, anywhere but here” shadily allude to the motivation for this event. Similarly shady is its perpetrator’s claim that he did this in order to “make real music,” like the album *Mind of Mine*, released exactly one year after this event. A Facebook post that begins “After five incredible years” announced this event, which conspiracy theorists explained as an attempt to save a relationship with Perrie Edwards. For 10 points, name this event on March 25, 2015, that left the world’s then-biggest boy band down one member.

ANSWER: **Zayn** Malik **leaving One Direction** [or Zayn **Malik leaving One Direction**; or equivalents; prompt on answers like **One Direction splitting up**]

<CE/Geo/Other/Pop Culture>

15. The lead actress of this movie accidentally mispronounced the word “Haitians,” which was kept in the final film. In a scene set at a diner, a character in this movie reminisces about a party that played the song “Rollin’ with the Homies.” In this movie, a father tells his daughter’s date that he “got a .45 and a shovel” and “doubts anyone would miss you.” Two teachers are set up by this movie’s protagonist, who is called a “virgin who can’t drive” by Tai Frasier and is best friends with Dionne Davenport. That girl in this movie wears a yellow checkered suit, ends up with the Paul Rudd-played Josh Lucas, and uses the phrase “as if!” For 10 points, name this 1995 Amy Heckerling movie based on *Emma*, which starred Alicia Silverstone as Beverly Hills high schooler Cher Horowitz.

ANSWER: **Clueless**

<CE/Geo/Other/Pop Culture> (Harvard A)

16. This figure has a cooking spit that simultaneously holds raw meat, cooked meat, and butter that doesn’t melt. This figure’s son has three hearts with three snake impressions inside them, and she announces “Summer without blossoms... every man a betrayer” while prophesying (“PROFF-uh-sigh-ing”) the end of the world. This figure promises to remove a king’s blood and kidneys after a tryst with the Dagda. This figure attacks a hero as an eel, wolf, and a red cow; that hero is eventually tricked into healing this figure when she offers him three bottles of milk while disguised as an old woman. This figure, who is linked with the banshee because of her croaking cry, visits Cuchulainn during the Cattle Raid of Cooley in the form of a crow. For 10 points, name this shapeshifting goddess of war and death in Irish mythology.

ANSWER: the **Morrigan** [do not accept or prompt on “Morgan” or “Morgan le Fay”]

<Mythology> (NC State)

17. It’s not a speech, but one of these works, which describes the diary of a girl who wrote “All are dead. Only Tanya is left,” introduced a style of white scrolling text on a black background. One of these works describes a creature which “for some people... is easy to see” while “others don’t see it at all” and might be tame or vicious. An adaptation of one of these works punningly added a “U” to its title, while another was mocked for showing a Vancouver sunrise. One of these works shows a man confronting a “bear in the woods.” One of these works, which quotes “We must either love each other, or we must die,” features a little girl picking flowers, and then cuts to a nuclear countdown. For 10 points, name these works such as “Daisy,” which was aired by LBJ’s presidential campaign.

ANSWER: political **advertisements** [accept attack **ads**]

<American History> (WUSTL B)

18. Before one of these events, a man claimed he would “rather be hanged at home than starve abroad”; that man was Abacuk Pricket, who participated in one of these events with Henry Greene. Edward Hamilton led a “cutting out” after one of these events, in which Hugh Pigot (“PIG-it”) was killed. The United Irishmen were feared to have instigated a 1797 series of these events at Spithead and Nore. The first passage by Europeans through the Fiji Islands occurred because of one of these events. A group relocated to the Pitcairn (“PIT-kern”) Islands after one of these events, which Fletcher Christian led during a mission to obtain breadfruit from Tahiti. William Bligh (“bly”) was abandoned after, for 10 points, what sort of event aboard the *HMS Bounty*?

ANSWER: **mutiny** [or **mutinies**; accept more specific answers like Spithead and Nore **mutinies**, or **Mutiny** on the *Bounty*; or **Mutiny** on the *Hermione*; prompt on naval **rebellion** or **revolt** or synonyms]

<Other History> (Bowdoin)

19. A prominent species in these ecosystems releases biflagellate sperm in response to the pheromone lamoxerine. A keystone species in these ecosystems has been threatened by cat-feces-rich runoff containing *Toxoplasma gondii* parasites. They are not reefs, but California sheep-head feed in the rocky beds of these ecosystems that are usually dominated by *Laminaria*. A keystone species that frequents these ecosystems often wraps itself in them while sleeping and has the densest fur of any mammal. Gas-filled pneumatocysts help these ecosystems maintain verticality. Sea otters serve as a keystone species by eating sea urchins that graze on the stems of these ecosystems. For 10 points, name these productive aquatic ecosystems that contain a high density of a certain large seaweed.

ANSWER: **kelp** forest [or **kelp** bed] (The species in the first clue is Giant Kelp *Macrocystis*.)

<Other Science (Earth Science)> (Carleton College A)

20. In a Freudian parody article, festivals for this activity involve sun-worship and the appeasement of alligators. It’s not singing or washing clothes, but Parke H. Davis traced this activity’s origins to Book VI of the *Odyssey* just before Nausicaa and her companions discover Odysseus. Popular legend claims that a prominent participant in this activity exchanged Shakespearean lines with John Barrymore. Alan Dundes concluded that this activity demonstrates “ritual homosexuality,” while another essay cites skintight pants and physique-accentuating gear to argue that this “Great American” ritual is a “male preserve.” Johnny Blood, a storied participant in this activity, played for the Milwaukee Badgers and later the Packers and Steelers. For 10 points, name this sport celebrated in rituals like the Super Bowl.

ANSWER: American foot**ball** [accept **ballgame**; do not accept or prompt on other specific sports; accept gridiron foot**ball**; do not accept or prompt on “soccer” or other ball games that aren’t football] (The first clue refers to Thomas Hornsby Ferril’s “Freud and Football,” and the unnamed essay mentioned is William Arens’s “The Great American Football Ritual.”)

<CE/Geo/Other/Pop Culture>

Bonuses

1. *Description acceptable.* In a play, a man claims that he chose to name this building after a “Captain” rather than a “Chamberlain” because the former seems less pretentious. For 10 points each:

[10h] Name this building that the protagonist is convinced to leave uninsured, lest she seem doubtful of divine providence. It nonetheless burns down at the end of Act II.

ANSWER: the **orphanage** from *Ghosts* [or the **children’s home** from *Ghosts*; prompt on less specific answers that mention a **building from *Ghosts***; do not accept or prompt on the “brothel” or “Sailors’ Home” from *Ghosts*]

[10e] Mrs. Alving dedicates an orphanage in memory of her late husband in this Norwegian dramatist’s play *Ghosts*.

ANSWER: Henrik **Ibsen**

[10m] *Ghosts* courted controversy for its frank depiction of this condition, which afflicts Mrs. Alving’s son Oswald. Dr. Rank’s “tuberculosis of the spine” in *A Doll’s House* is generally considered to be a euphemism for this condition.

ANSWER: **syphilis**

<European Literature> (Rutgers C)

2. In a novel by this author, a woman talks to a man known as “the lie detector” after calling random phone numbers when she can’t sleep. For 10 points each:

[10h] Name this author who wrote about Sabina’s four affairs in *A Spy in the House of Love*. This author of *Delta of Venus* wrote about a pedophile buying the title animals to attract schoolgirls in *Little Birds*.

ANSWER: Anaïs **Nin** (“ah-nah-EES neen”)

[10m] Nin helped edit this book by Henry Miller, in which the misogynistic Van Norden, the Russian “princess” Macha, and the writer’s friend Carl all stay at the Villa Borghese (“bor-GAY-zay”), in which “we are all alone here and we are dead.”

ANSWER: ***Tropic of Cancer***

[10e] *Tropic of Cancer* is set in this city, where Miller and Nin lived. *The Autobiography of Alice B. Toklas* depicts Gertrude Stein and Toklas moving to this city.

ANSWER: **Paris**

<American Literature> (Oxford A)

3. For RigidBody objects, Unity can use the “sweep-based” or “speculative” type of this task, which was done by Ming C. Lin and John Canny by tracking pairs of closest vertices, edges, or faces. For 10 points each:

[10h] Name this task that often uses cuboids as bounding volumes for *a priori* pruning. The Gilbert–Johnson–Keerthi algorithm for this task computes minimum distance between convex objects.

ANSWER: **collision detection** [accept continuous **collision detection**; or equivalents]

[10e] The “oct” variant of this data structure can be used in collision detection, where each node has eight children to represent a bounding cube. This data structure, which has a “binary search” type, has root and leaf nodes.

ANSWER: **tree** [accept oct**tree** or binary search **tree**; prompt on **graph**]

[10m] Octrees are also commonly used for quantifying this attribute in an algorithm developed by Gervautz and Purgathofer. Banding of this feature can be minimized by dithering, and it can be represented with CMYK or HSV.

ANSWER: **color**

<Other Science (Computer Science)> (WUSTL A)

4. The narrator born in this country moves to Los Angeles and consults on a movie about a war in this country in the novel *The Sympathizer*. For 10 points each:

[10e] Name this country, the setting of Tim O’Brien’s *The Things They Carried*.

ANSWER: **Vietnam** [or Socialist Republic of **Vietnam**; or Cộng hòa xã hội chủ nghĩa **Việt Nam**]

[10h] Little Dog writes a letter to his mother, who has PTSD from the Vietnam War, in this novel by Ocean Vuong. In it, he describes his childhood in Hartford and his love for Trevor.

ANSWER: ***On Earth We're Briefly Gorgeous***

[10m] In addition to film consultant and cleric, this is the occupation of the protagonist of *The Sympathizer*. This is also the occupation of Alden Pyle, who goes to Vietnam in Graham Greene's *The Quiet American*.

ANSWER: **spy** [or **mole**; or CIA **agent**; or CIA **officer**; or secret **agent**; or intelligence **agent**; or double **agent**]
<American Literature> (UGA A)

5. Name some things about Swiss architects, for 10 points each.

[10m] The Swiss firm Herzog & de Meuron designed a Munich building of this type with an inflatable light-up exterior, as well as a building of this type whose framework of curved steel beams was inspired by Chinese pottery.

ANSWER: **stadium** [or **arena**; accept Olympic **stadium**; accept sports **stadium** or athletics **stadium** or soccer **stadium**] (The buildings are the Allianz Arena and the Beijing National Stadium known as the "Bird's Nest.")

[10e] This Swiss-born French architect was a major figure in the International Style, using columns known as *pilotis* in the Villa Savoye ("vee-lah sav-WAH"). He later designed the Notre Dame du Haut ("no-truh DOM doo oh") chapel.

ANSWER: Le **Corbusier** [or Charles-Édouard **Jeanneret**-Gris]

[10h] This Swiss architect designed the Therme Vals spa, a minimalist building of thin horizontal grey stone layers. He also designed the Kolumba museum in Cologne and the new LACMA museum building.

ANSWER: Peter **Zumthor**

<Other Arts (Visual)>

6. A novel by this author named for a mistranslation of the Kikongo word for "most precious and dear" features the tomboy Leah and the hemiplegic mathematical genius Adah. For 10 points each:

[10h] Name this author of *The Bean Trees* and *The Lacuna* who wrote about the Price daughters moving to the Congo with their minister father in one novel.

ANSWER: Barbara **Kingsolver** (The novel is *The Poisonwood Bible*.)

[10e] *Description acceptable*. The five-year-old Ruth May Price narrates the last chapter of *The Poisonwood Bible* in this condition. Emily Webb relives her 12th birthday at the end of *Our Town* while in this state.

ANSWER: she is **dead** [accept answers indicating she is a **ghost** or **not alive**]

[10m] In *The Poisonwood Bible*, the Prices escape to the river during a yearly attack of these animals. A pig-tailed child is eaten by these animals in *One Hundred Years of Solitude*.

ANSWER: **ants**

<American Literature> (NC State)

7. Within this construct, both the R-pentomino and the "acorn" are types of "methuselahs" that require over 1000 generations to stabilize. For 10 points each:

[10m] Name this zero-player "game." Bill Gosper won a 50-dollar prize for discovering the infinitely growing "glider gun" pattern within this construct.

ANSWER: Conway's Game of **Life** [prompt on **cellular automaton** or **cellular automata** or **CA**]

[10e] Many cellular automata such as the Game of Life are computationally universal, which means that they can simulate these theoretical "machines" named for a British mathematician.

ANSWER: **Turing** machines

[10h] The only known one-dimensional cellular automaton shown to be Turing complete is Rule 110, which exhibits Class IV behavior under this theoretical physicist and computer scientist's namesake classification system.

ANSWER: Stephen **Wolfram**

<Other Science (Computer Science)> (Vanderbilt A)

8. In the Kolbe–Schmitt reaction, this compound is heated with carbon dioxide under pressure, and the product is treated with sulfuric acid to form salicylic acid. For 10 points each:

[10m] Identify this compound that reacts with phthalic (“THAL-ik”) anhydride to produce a pink pH indicator. This aromatic weak acid is synthesized in the cumene process.

ANSWER: **phenol** [or **carbolic acid**; or **benzenol**; or **C₆H₅OH**]

[10e] The aforementioned cumene or Hock process synthesizes phenol and this other compound from benzene and propylene. This simplest ketone is the active ingredient in nail polish remover.

ANSWER: **acetone** [or **propanone**; or **(CH₃)₂CO**]

[10h] Phenol can also be synthesized via the hydrolysis of chlorobenzene (“kloro-benzene”) in a process named for this scientist. This Canadian-American scientist also names a method for electrolytically extracting bromine from brine.

ANSWER: Herbert Henry **Dow** [accept **Dow** process]

<Chemistry> (Columbia B)

9. The credits for this album list “backing barks” provided by four dogs, two of which are owned by the actress Cara Delevingne (“DEL-uh-VEEN”). For 10 points each:

[10m] Name this 2020 Fiona Apple album, whose title is sung before the lyrics “I’ve been in here too long.”

ANSWER: ***Fetch the Bolt Cutters***

[10e] In the chorus of a song from *Fetch the Bolt Cutters*, Apple sings “you and I will be like a couple of” people of this profession. Major Tom has this profession in a David Bowie (“BOH-ee”) song in which he talks with Ground Control.

ANSWER: **astronaut** [or **cosmonaut**]

[10h] On the title track, Apple sings that she grew up in “shoes that were not made for” doing this specific action. That lyric references an earlier song titled for this action, whose chorus opens: “If I only could / I’d make a deal with God.”

ANSWER: **running up that hill** [accept answers that mention both **running** and **up a hill**; prompt on partial answers like **running** or **going up a hill**] (The second song is “Running Up That Hill” by Kate Bush.)

<CE/Geo/Other/Pop Culture>

10. The 20th work in this artist’s “American People” Series, subtitled “Die,” places a huddled white boy and black girl in the center of a bloody mess of cocktail dresses, suits, guns, and chaos. For 10 points each:

[10h] Name this artist who painted that series in response to the United States’s 1967 race riots.

ANSWER: Faith **Ringgold**

[10m] Ringgold adorned these objects with garments in her *Family of Women* series. In one painting, grapes and a crescent-shaped melon slice appear next to a nude who crouches under a standing woman, both wearing these objects.

ANSWER: **masks**

[10e] Ringgold showed Willa Marie Simone posing for the aforementioned *Les Demoiselles d’Avignon* in this artist’s *Studio*. Ringgold’s “American People” was inspired by the depictions of chaos in this artist’s *Guernica*.

ANSWER: Pablo **Picasso**

<Painting/Sculpture> (Duke B)

11. You are browsing the Facebook page “Subtle Mallu (“MULL-loo”) Traits” to find out the best of Kerala’s (“CARE-uh-luh’s”) cuisine. For 10 points each:

[10e] You find that a popular dish in Kerala is a stew made from this meat eaten with *appam* rice cakes. Many Kerala Hindus do not observe the taboo on eating this meat.

ANSWER: **beef**

[10h] You find that in Kerala and in other parts of South India, food is often served on these objects. These objects are used to fry coconut-flavored sticky rice in the Thai-Lao dish *khao tom*, which is often served during New Years celebrations.

ANSWER: **banana leaves** [do not accept or prompt on “bananas” or “plantain leaves”; prompt on **leaves** by asking “of what plant?”]

[10m] Much to this question writer’s chagrin, many Keralites also eat a jam made from this fruit known as *chakka varathi*. This largest tree-borne fruit in the world is often used as a meat substitute and resembles the durian.

ANSWER: **jackfruit** [or **jack tree**]

<CE/Geo/Other/Pop Culture>

12. In 1962, Harvey Littleton led the first seminar for practicing this artistic technique in studio settings. For 10 points each:

[10m] Name this technique whose methods are outlined in Littleton’s 1971 manual subtitled a “search for form.” It was used by another artist to create “Fiori di Como” for the ceiling of the Bellagio and a Seattle sculpture garden.

ANSWER: **glassblowing** [or **blowing glass**; or word forms]

[10h] The artist of “Fiori di Como,” Dale Chihuly (“chih-HOO-lee”), created a series of glass cylinders with protruding ores based on a trip to this city. Another artist created 12 stained-glass windows depicting Jacob’s life for a synagogue in this city.

ANSWER: **Jerusalem**

[10e] This creator of the Hadassah Medical Center windows frequently dabbled in stained-glass projects, many of which reflect the Cubist style seen in his paintings, such as *I and the Village*.

ANSWER: Marc **Chagall** [or Moïse **Shagal**]

<Other Arts (Visual)>

13. Answer the following about the *muqatta’āt*, which enigmatically open 29 surahs of the Qur’an and name the surahs *Tā-Hā*, *Yā-Sīn*, *Sād*, and *Qāf*. For 10 points each:

[10m] They consist of anywhere from one to five of these “disconnected” things. Some interpretations of the *muqatta’āt* involve assigning these things numerological significance.

ANSWER: Arabic **letters** [accept disjointed **letters**, disconnected **letters**, or mysterious **letters**, or isolated **letters**]

[10e] While few scholars agree on the true meaning of the *muqatta’āt*, Hamiduddin Farāhi’s interpretation relates them to the content of surahs. For example, the letter *nūn* may represent the fish that swallowed this prophet.

ANSWER: **Jonah** [or **Yunus**]

[10h] The most commonly appearing *muqatta’āt* is *Alif Lām Mīm*, which opens both Surah al-Baqarah and this following surah. This Medinan surah is named for the father of Maryam and recounts the Annunciation.

ANSWER: Surah al-**Imran** [or The Family of **Imran**]

<Religion>

14. Many hippies shaved their facial hair in an effort to go “clean for” this man. For 10 points each:

[10m] Name this anti-war Minnesota Senator who galvanized the youth vote in the 1968 Democratic primaries, but still lost to RFK.

ANSWER: Eugene **McCarthy** [prompt on Clean for **Gene**]

[10e] McCarthy’s surprisingly good results in New Hampshire resulted in this incumbent dropping out of the race. This president was unpopular among young voters due to the escalation of the Vietnam War.

ANSWER: Lyndon B. **Johnson** [or Lyndon Baines **Johnson** or **LBJ**]

[10h] This law professor started the “Dump Johnson” movement and encouraged McCarthy to run for the Democratic nomination. He was killed by Dennis Sweeney, who believed that this man implanted him with a teeth-removing device.

ANSWER: Allard **Lowenstein** [or Allard Kenneth **Lowenstein**]

<American History> (Texas A)

15. In a novel, the 10-year-old girl Darling moves from this country to Detroit, which she calls “Destroyedmichygen” (“destroyed-michigan”). For 10 points each:

[10m] Name this setting of NoViolet Bulawayo’s novel *We Need New Names*. An author who lived in this country before moving to England wrote a novel in which Anna Wulf records her life in four differently-colored journals.

ANSWER: **Zimbabwe** [or Southern **Rhodesia**]

[10e] The aforementioned novel, *The Golden Notebook*, is by this British-Zimbabwean author of *The Grass is Singing*.

ANSWER: Doris **Lessing** [or Doris May **Taylor**]

[10h] In 2020, Zimbabwean author Tsitsi Dangarembga (“DAH-NA-ga-REM-gah”) wrote the second-person novel *This Mournable Body*, a sequel to this novel about Tambu, who is only able to go to school after her brother’s death.

ANSWER: **Nervous Conditions**

<World/Other Literature>

16. A man with this occupation used his catchphrase “And that’s the way it is” in a speech after the death of John F. Kennedy. For 10 points each:

[10e] Name this occupation of “the most trusted man in America,” Walter Cronkite.

ANSWER: **newscaster** [or news **anchor**; **broadcast** or **television journalist**; prompt on **journalist** or **reporter** by asking “in what medium?”; accept any answer indicating **TV** or **film** or **live**]

[10m] This British CNN newscaster covered the Persian Gulf War and reported from Sarajevo during the Bosnian War. Her namesake show replaced Charlie Rose’s in 2018, and Yasser Arafat hung up on her in a notable interview.

ANSWER: Christiane **Amanpour** [or Christiane Maria Heideh **Amanpour**]

[10h] This ABC reporter arranged a historic joint interview with Anwar Sadat and Menachem Begin (“meh-NAH-khem BAY-gin”), and flustered Jiang Zemin (“jyong dzuh-meen”) by asking him what happened to Tiananmen Square’s “tank man.”

ANSWER: Barbara **Walters**

<American History>

17. Georg Nagel described a protein of this type with seven transmembrane alpha-helices derived from *Chlamydomonas reinhardtii*. For 10 points each:

[10h] Name these light-gated ion channels that control phototaxis in green algae.

ANSWER: **channelrhodopsin**

[10m] Channelrhodopsin is commonly used as an actuator in this technique, in which light is used to control neurons to affect animal behavior, such as making a fruit fly flap its wings when a light is turned on.

ANSWER: **optogenetics**

[10e] Optogenetic techniques often use the GFP-derived GCaMPs to record the movement of this second messenger ion with a plus-2 charge, which is released to trigger muscle contraction.

ANSWER: **calcium** ion [or **Ca²⁺**]

<Biology>

18. Kenneth Ryan chaired the commission that created this report. For 10 points each:

[10m] Name this document written in response to the Tuskegee Syphilis Study. It outlined three fundamental principles for human subject research.

ANSWER: **Belmont** Report

[10e] The Belmont Report established principles in this field of philosophy that examines problems such as cloning and genetic engineering. This term was coined by Fritz Jahr.

ANSWER: **bioethics** [prompt on **ethics**]

[10h] This bioethicist co-founded The Hastings Center with Willard Gaylin. He argued to limit the spending on expensive healthcare treatments for elderly Americans in *Setting Limits: Medical Goals in an Aging Society*.

ANSWER: Daniel Callahan
<Social Science> (Duke A)