1. This woman is commemorated in a ritual called sa‘i [SAH-ee]. According to Islam, she was given a bucket of dates by her husband, who worked with her son to build the Ka’aba [KAH-bah]. While thirsty, this woman ran seven times between as-Safah and al-Marwah—two hills—before an angel created the (*) Well of Zamzam. Arabs traditionally claim descent from this handmaiden of the biblical Abraham. For 10 points—who was the mother of Ishmael?

   answer: Hagar [HAY-gar] (or Hajar)

2. The 3T3 [*three-T-three*] line of these cells, used as a feeder layer, comes from mouse embryos. Transcription factors such as Sox2 [*socks-two*] were used by Shinya Yamanaka [yah-mah-nah-kah] to reprogram these cells into induced pluripotent [pluh-“RIP-uh-tent”] stem cells. These cells, which synthesize (*) glycosaminoglycans [glye-KOH-suh-EN-oh-GLYE-kanz], are stimulated to divide by tissue damage. For 10 points—what primary connective tissue cells synthesize collagen [*CALL-uh-jin*] and cause fibrosis [yeh-BROH-siss] in wound healing?

   answer: fibroblasts (or fibrocytes)

3. A man with this position asks Seth Wright to work for him after entering a bathroom to vomit. Another man with this position murders Verna Thornton in a hospital. On one TV show, this position is held by (*) Mellie, the ex-wife of a man who also held it and who had an affair with Olivia Pope. For 10 points—what position held by Fitz Grant on Scandal is held by former Cabinet member Tom Kirkman on Designated Survivor?

   answer: president of the United States (accept POTUS; prompt on “designated survivor” before “Verna”)

4. In 2017 a leader of this party blamed his then-girlfriend for citing David Irving in a 1999 paper. In 2017 this party unveiled a logo consisting of a lion and the phrase “for the nation” in its colors of purple and yellow. Henry Bolton won a 2017 leadership election for this party, a year after it was the largest party to support the (*) “leave” option. For 10 points—what Eurosceptic [*euro-skeptic*] party was once led by Nigel Farage [*FAIR-azh]? Who was this party?

   answer: UK Independence Party (or UKIP)

5. One of these two countries launched a massive airstrike after the other one closed shipping in the Straits of Tiran [th-RAHN]. One of these countries used water cannons to cross the Bar Lev Line, which had been set up by the other to defend the (*) Sinai [SYE-nye] Peninsula following the Sinai’s capture in the Six-Day War. The Camp David Accords were signed between—for 10 points—what two Middle Eastern countries?

   answer: Egypt (or Arab Republic of Egypt or Gumhuriyat Mīsır al-Arabiyyah; accept UAR or United Arab Republic or Al-Jumhuriyyah al-‘Arabiyyah al-Muttaḥiда) Israel (or State of Israel or Medinaḥ Yisrā‘ēl) (accept answers in either order)
6. One of these entities delivers a summons to “the winding ancient stair” in a poem by William Butler Yeats [ˈjoʊts]. Another of these entities is repeatedly said to be “unmoved” in a poem in which it “shuts the door — to her divine Majority.” A (*) spiritual crisis was described by St. John of the Cross in a poem titled for the “dark night of” — for 10 points — what entity that, in an Emily Dickinson poem, “selects her own Society”? 
answer: souls (or alma; accept A Dialogue of Self and Soul or The Soul selects her own Society or Dark Night of the Soul or La noche oscura del alma)

7. The mouth of this country’s Chalumna River is where the coelacanth [ˌsɛələˈkaʊθ] was first rediscovered. In this country, great white sharks can be found off the coast of Gansbaai [ˈɡænsəˈbaɪ], which is also home to a colony of African penguins. Its sea bamboo kelp forests are fed by the upwelling of the (*) Agulhas [ˈæɡələs] Current. Whale-watching is popular off the coast of KwaZulu-Natal [ˈkuːzʊlʊ-ˈnætal] in— for 10 points — what country that contains the Cape of Good Hope? 
answer: South Africa (or Republic of South Africa; prompt on “RSA”)

8. A Lorenzo Lotto painting of this woman includes a cartouche [ˈkɑrtuʃ] showing her speech. This woman has a comb and a silk shawl at her feet as she sits in front of a rose trellis in a painting by Tintoretto [ˈtɪŋtərɛtto]. She sits on a ledge while two men behind her whisper to each other in a painting by (*) Artemisia Gentileschi [ˈɑrtekˌmeesə ˈdʒentɪlɛʃki]. For 10 points — name this woman from the Book of Daniel who is accosted by elders in a common artistic scene. 
answer: Susanna (or Shoshana; accept Susanna and the Elders or Susanna e i vecchioni)

9. This man replaced his nephew to personally lead troops at the siege of Mirandola [ˈmərəndələ]. Upon taking power, he declared the Borgias’ [ˈbɔrdʒiəs] tombs “must be opened” and their bodies sent back to Spain. This man formed the League of Cambrai [ˈkæmbrəi] to fight Venice. He was the first (*) pope to hire the Swiss Guard for protection. For 10 points — name this “Warrior Pope” who commissioned Michelangelo to paint the ceiling of the Sistine Chapel. 
answer: Pope Julius II (or Giuliano della Rovere; prompt on “Julius,” “Giuliano,” or “della Rovere”)

10. This short story includes a stream-of-consciousness sequence in which the protagonist remembers giving his morphine tablets to his partly-disemboweled comrade Williamson. The protagonist's wife Helen is awoken by a crying hyena at the end of this story, which opens with a passage describing a (*) frozen leopard carcass. For 10 points — name this Ernest Hemingway story about a writer dying of gangrene while on safari. 
answer: The Snows of Kilimanjaro

11. During a 1959 campaign to force these performances to charge paid admission, Robert Moses circulated an anonymous letter that accused their organizer of being a Communist. In 1987 Martin Sheen and Al Pacino [ˈpækənə] appeared in one of these performances that take place at the (*) Delacorte Theater. Joseph Papp arranged the first of—for 10 points — what free outdoor performances of Elizabethan drama in Central Park? 
answer: (Free) Shakespeare in the Park (accept New York Shakespeare Festival or answers indicating Shakespeare plays performed in Central Park; accept Shakespeare after “park”; prompt on broad answers such as “play(s)” before “Joseph”) [In 1987 Martin Sheen and Al Pacino appeared as Brutus and Mark Antony in Julius Caesar.]

12. A pair of circular coils named for this physicist enclose a nearly uniform magnetic field. His “decomposition” expresses a vector field as a divergence-free part plus a curl-free part. A function named for him is constant for a given canonical (*) ensemble, is denoted $A$, and equals the work an isochoric [ˈɪsoʊˌkɔrɪk], isothermal [ˈɪsoʊˌθɜːrˈmæl] system can do. For 10 points — identify this man who, like Josiah Gibbs, gave his name to a “free energy.” 
answer: Hermann von Helmholtz (accept Helmholtz coils or Helmholtz decomposition or Helmholtz free energy)
A complete English translation of this author for Grove Press was done by Austryn Wainhouse. One of this author’s books has five sections, titled for the months November through March, each of which describes “passions.” The title character recounts her “misfortunes” to Madame de Lorsagne [lor-SAN-yuh] in this man’s novel (*). Justine. The 120 Days of Sodom [SAH-dun] is a novel by—for 10 points—what French marquis [’mar-KEE] whose books depict violent sex?

answer: Marquis de Sade [sahd] (or Donatien Alphonse François de Sade)

This film’s characters include Judge Mettrick, who tells a story about an Athenian tyrant, and Harvey Pell, who gives up his deputy’s badge after being passed over for a promotion. Toward the end of this film, Amy Fowler—played by (*) Grace Kelly—shoots a man in the back, despite being a pacifist Quaker. For 10 points—name this Western in which outlaw Frank Miller is faced by Gary Cooper’s Will Kane at the title time.

answer: High Noon

A legal scholar with this surname wrote Impeachment: A Handbook. A justice with this surname, who often cited the English Leveller John Lilburne, argued in a dissent to Adamson v. California that the Fourteenth Amendment incorporated the whole Bill of Rights at the state level. The most prominent American law (*) dictionary bears—for 10 points—what surname of a long-serving Supreme Court justice from Alabama named Hugo?

answer: Black (accept Blacks; accept Charles Lund Black or Hugo (Lafayette) Black or Henry Campbell Black or Black’s Law Dictionary)

This president appointed Robert Byrnes, who served less than a year and a half on the Supreme Court, leading this president to replace Byrnes with Wiley Rutledge. This president appointed the last justice to not have a law degree, Robert Jackson. The (*) “switch in time that saved nine” was when Owen Roberts supported this president against the “Four Horsemen.” For 10 points—what president tried to “pack” the Supreme Court?

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

Hemispherical analyzers sort particles based on this quantity, which is equalized for the ions during time-of-flight mass spectrometry [spek-TRAH-muh-tree]. The equipartition [ek-weep-’partition’] theorem predicts that this quantity’s average value for a monatomic [mahn-’atomic’] ideal gas equals (*) three-halves times Boltzmann’s constant times temperature. Classically, momentum squared over twice mass equals—for 10 points—what quantity, which also equals “one-half m v squared?”

answer: (translational) kinetic energy (prompt on “energy”)

Hermes takes the guise of Polyctor’s [pah-’LUCK’-torz] son to guide one of these two men, who tells the other to “remember your own father.” In Book 24 of the Iliad, these two members of the opposing sides arrange a twelve-day truce after the return of a (*) body that one of them had dragged behind a chariot. For 10 points—name these two Homeric characters, a Greek hero and the Trojan king whose son he killed.

answer: Achilles [uh-KIL-ez] and Priam [PRI-um] (accept answers in either order; accept Akhilleus in place of “Achilles”; accept Priamos or Podarces in place of “Priam”)

This person invented a man-carrying kite, and deployed an unmanned version of it to conduct photographic reconnaissance at the Modder River. This man’s troops pretended to bury landmines to deceive Boer forces during the siege of (*) Mafeking [MAF-uh-’king’]. The Girl Guides were an offshoot of an organization this man founded in 1907 to aid military intelligence. For 10 points—name this British founder of the scouting movement.

answer: Robert Baden-Powell (or Robert Stephenson Smyth Baden-Powell, 1st Baron Baden-Powell)
20. The inverse function theorem is used to prove a theorem on when the level sets of these expressions can be represented as the graph of some function. Differentiation of these relations is equivalent to the chain rule, and is often followed by rearranging for (*) $dy/dx \rightarrow D-Y-D-X$. Writing the unit circle as $x$ squared plus $y$ squared equals 1 uses—for 10 points—what so-called “functions” that aren't written in “$y$-equals,” or “explicit” form? answer: implicit functions (or implicit equations; accept implicit differentiation or implicit function theorem)

21. On this day, Ayyub's ["eye'-YOOb's"] suffering was ended, and Nuh [noo] left the Ark. The day of judgement is expected to occur on this day, which is when both Isa [ee-suh] and Adam were born. On this day, the forces of caliph [KAY-iff] Yazid [YAH-zeed] killed the grandson of (*) Muhammad, who was trying to reach Kufa [KOO-fah]. For 10 points—name this tenth day after the Islamic New Year, when Shi'ites commemorate the death of Hussein [hoo-SAYN].
answer: Ashura [ah-SHOOR-ah] (or the 10th of Muharram)

22. In a March 2018 ad a spokeswoman for this organization holds an hourglass and states “time is running out.” This organization created the children's mascot Eddie the Eagle. In 2018 Delta Air Lines announced it would no longer sell discounted tickets to members of this group traveling to its annual conference. Spokeswoman (*) Dana Loesch [lesh] and executive VP Wayne LaPierre [lah-pee-AIR] represent—for 10 points—what gun lobby organization?
answer: NRA or National Rifle Association

23. This man proposed a secular "clerisy" [KLER-uh-see] tasked with preserving literary tradition. He discussed his "obligations to Schelling" in a work that distinguishes between primary and secondary imagination. The phrase "willing suspension of disbelief" was coined in Biographia Literaria [bih-tuh-RAH-ree-uh] by this poet, who never finished his supernatural poem (*) Christabel. For 10 points—name this poet who described a "stately pleasure-dome" in “Kubla Khan.”
answer: Samuel Taylor Coleridge

24. These devices may use a "superheterodyne" ["super-heter-o-dine"] component devised by Edwin Armstrong. This device is told “I’d sit alone and watch your light” in a song by the band Queen that notes “you've yet to have your finest hour.” 24 performers manipulate 12 of these devices in a performance of John Cage's Imaginary Landscape No. 4. (*) Frequency modulation is used by—for 10 points—what devices invented by Guglielmo Marconi [goog-lee-EL-moh "mar'-KOH-nee]? answer: radios (accept radio receiver(s) or Radio Ga Ga)
1. For 10 points each—name these politicians whose careers intersected with plane crashes:
   A. Twelve years after Mozambican President Samora Machel [suh-MOH-ruh muh-SHEL] died in a plane crash, this man married his widow Graça [GRAH-sah]. This man was released from Robben Island in 1990.
   answer: Nelson (Rolihlahla) Mandela
   B. This Rwandan president was killed in a plane crash in 1994, fueling the tensions that led to that year’s genocide.
   answer: Juvénal Habyarimana [zhoo-veh-NAHL habb-yah-ree-MAH-nah]
   C. On his way to meet Katangan leader Moïse Tshombe [moh-EE-say tuh-SHAHM-bay] in an attempt to end the Congo Crisis, this Swedish U.N. Secretary General died in a mysterious plane crash.
   answer: Dag Hammarskjöld [HAH-mur-“hold”] (or Dag Hjalmar Agne Carl Hammarskjöld)

2. Lennart von Post developed the first technique to use this substance's distribution to date various layers of sediment. For 10 points each—
   A. Name this substance produced by plants. Palynologists [PAL-uh-NAH-jists] use it and spores as index fossils.
   answer: pollen
   B. A flower whose pollen is abundant during three stadials [STAY-dee-ulz] of this geologic period gives its name to those stadials. This is the current geologic period.
   answer: Quaternary Period
   C. The three stadials are named after this national flower of Iceland.
   answer: Dryas [“DRY-us”] octopetala (accept white dryas)

3. In the 1970s this university was forced to sell its Bronx campus, which became Bronx Community College. For 10 points each—
   A. Name this school based around Washington Square in downtown Manhattan, the alma mater of Martin Scorsese [skor-SAY-see] and Elihu [EL-uh-“hue”] Root.
   answer: New York University or NYU (prompt on “New York”)
   B. One of NYU’s founders in 1831 was this Swiss-American politician, who served as secretary of the treasury under both Thomas Jefferson and James Madison.
   answer: Albert Gallatin (or Abraham Alfonse Albert Gallatin)
   C. Among the college’s other notable alumni is this graduate of NYU’s medical school, who developed a landmark vaccine for polio.
   answer: Jonas (Edward) Salk
4. Contemporary British playwright Patrick Marber wrote a recent adaptation of this play, which shares its name with a novel by J. L. Carr.  For 10 points each—

A. Name this 19th-century Russian play, in which Natalya Petrovna and her ward Vera both fall in love with the same man.

answer: *A Month in the Country* (or *Mesiats v derevne*; accept *The Student* or *Two Women*)

B. *A Month in the Country* is a play by this author, who created the nihilist Bazarov [BAZ-uh-rawl] in his novel *Fathers and Sons*.

answer: Ivan (Sergeyevich) Turgenev [tir-'GAH'-yn]

C. “Forest and Steppe” and “Hamlet of the Shchigrovsky [shee-GRAHF-skee] District” are among the stories included in this Turgenev collection.

answer: *A Sportsman’s Sketches* (or *Zapiski okhotnika*; or *The Hunting Sketches*; or *Sketches from a Hunter’s Album*)

5. This country established an American colony in what is now Delaware.  For 10 points each—

A. Name this country, which was ably represented at Westphalia [west-FAIL-yuh] by Axel Oxenstierna during the rule of Queen Christina.

answer: *Sweden* (or *Kingdom of Sweden* or *Konungariket Sverige*)

B. Sweden, along with Norway, was made part of this Danish-dominated single monarchy engineered by Queen Margaret in 1397. It lasted until 1523, when Gustavus Vasa re-established Swedish independence.

answer: *Kalmar Union* (or *Union of Kalmar* or *Kalmarunionen*)

C. Gustavus Vasa capitalized on the anger of the Swedish partisans toward the Danish, who in 1520 executed dozens of Sten Sture the Younger’s supporters in this anti-independence incident.

answer: *Stockholm Bloodbath* (or *Stockholms Blodbad*)

6. Margaret Farrar was this daily puzzle’s first editor.  For 10 points each—

A. Name this puzzle whose Sunday version consists of a 21-by-21 grid.  Its weekday and Saturday variant is only 15-by-15.

answer: *New York Times crossword* puzzle (or *NYT crossword* puzzle; prompt on answers that mention only “crossword(s) (puzzle(s))”)

B. The *New York Times* crossword has been edited since 1993 by this man, who has a college degree in "enigmatology" ['enigma'-TAH-luh-jee], or the study of puzzles.

answer: Will Shortz

C. A classic 1996 *New York Times* crossword by Jeremiah Farrell was constructed so that either of these two men—the 1996 Democratic and Republican candidates for president—could be a correct answer.

answer: Bill Clinton (or William Jefferson Clinton or William Jefferson Blythe III)  
Bob Dole (or Robert Joseph Dole)

7. Dihalo-cyclopropanes are converted to these compounds through reaction with organolithium bases in the Skattebøl rearrangement.  For 10 points each—

A. Name these dienes [DYE-eenz] containing adjacent double bonds.  One of these compounds exists in equilibrium with propyne ['PRO-pine'] in MAPP ['map'] gas.

answer: *allenes* (accept *cumulated dienes*)

B. Both MAPP gas and this simplest alkyne can serve as welding fuels.

answer: *acetylene* (or *ethyne*; accept C2H2)

C. The central carbon atom of an allene has this orbital hybridization seen in linear molecules.

answer: *sp* (do not accept or prompt on “sp2” or “sp3”)
8. This group's second incarnation was founded in 1915 at Stone Mountain. For 10 points each—
   A. Name this secret society lionized in The Birth of a Nation.
      answer: Ku Klux Klan (or KKK)
   B. The Klan's 1920s resurgence was curtailed by a 1925 scandal in which this Grand Dragon from Indiana was convicted of rape and murder.
      answer: D. C. Stephenson (or David Curtiss Stephenson; prompt on "Steve")
   C. The Black Legion, which protected many high-ranking Klan officers, was particularly prominent in this Midwestern city, where a 1967 race riot occurred under mayor Jerome Cavanagh.
      answer: Detroit, Michigan

9. In a 2013 game, this NBA player was filmed trying to cheer up his teammate Alexey Shved by telling him to "change this face." For 10 points each—
   A. Name this Spanish-born guard who was traded in 2017 to the Utah Jazz.
      answer: Ricky Rubio (or Ricard Rubio i Vives)
   B. Rubio was traded to the Jazz by this president and coach of the Minnesota Timberwolves, who had previously coached the Chicago Bulls.
      answer: Tom Thibodeau [thih-boh-DOH] (or Thomas (Joseph) Thibodeau (Jr.))
   C. Rubio was taken by the Timberwolves with the fifth pick in the 2009 NBA draft; two picks later, this point guard from Davidson was taken by the Golden State Warriors.
      answer: Stephen [STEFF-in] Curry (or Steph Curry or Wardell Stephen Curry II)

10. For 10 points each—answer the following about administrative units of Japan:
    A. Japan is comprised of 47 of these units. The entirety of Hokkaido [hoh-kye-doh] is one of these, while the island Shikoku [shee-koh-koo] is made of four of them.
       answer: prefectures (or todofuken)
    B. The larger cities in Japan are made up of these municipalities. 23 "special" examples of them comprise Tokyo.
       answer: wards (or ku; accept special wards)
    C. This Japanese city is divided into special units called fu. The Meiji [may-ee-jee] emperor moved from this former imperial capital to Tokyo in the late 19th century.
       answer: Kyoto [kee-oh-toh]

11. For 10 points each—answer the following about crime in 1970s New York:
    A. This set of harsh narcotic laws was passed in 1973; it prescribed penalties such as 25 years in prison for possession of four ounces of cocaine.
       answer: Rockefeller (drug) laws
    B. Nelson Rockefeller said "that's life" in reference to the 39 deaths during the storming of this state prison, where inmates took guards as hostages in September 1971.
       answer: Attica [AT-uh-kuh] (Correctional Facility)
    C. Over five million dollars in cash and jewels were stolen by Lucchese [loo-KAY-zee] mafia associates in 1978's Lufthansa [loo-TAHN-zuh] heist at this airport.
       answer: John F. Kennedy International Airport (or JFK)
12. He is the namesake of an architecture medal that has been awarded intermittently since 1967. For 10 points each—
   A. Name this Finnish architect of Baker House at MIT and the Finnish pavilion at the 1939 World’s Fair in New York City.
   answer: Alvar Aalto [ah-toh] (or Hugo Alvar [Henrik] Aalto)
   B. The 1982 Alvar Aalto Medal was awarded to this Danish architect who designed the Sydney Opera House.
   answer: Jørn (Oberg) Utzon [YURN OOT-zun]
   C. Utzon also designed this country’s National Assembly Building, which was restored after Iraqi troops set it on fire in 1991.
   answer: Kuwait (or State of Kuwait or Dawlat al-Kuwayt)

13. Endothelin receptor antagonists like bosentan can be used to treat hypertension in this structure. For 10 points each—
   A. Name this artery that has an unusually low blood pressure of 8-20 mm Hg [“millimeters mercury”]. It directs deoxygenated [“de-oxygen-ate-ed”] blood to the lungs.
   answer: pulmonary artery
   B. Increased pulmonary artery pressure can be indicative of a left-to-right example of these pathways of blood flow that deviate from normal circulation.
   answer: cardiac shunts
   C. The foramen ovale [foh-RAY-min oh-VAH-lee] is a fetal shunt between these two upper chambers of the heart that receive blood from the veins.
   answer: (left and right) atrium or atria

14. Arnold van Gennep coined this term and said it consisted of separation, transition, and re-incorporation stages. For 10 points each—
   A. Name this type of event, which includes, according to van Gennep, baptism and ordination. The bar mitzvah is another example of this type of event.
   answer: rite of passage (or rites of passage; prompt on “rite(s)” or “ritual(s)”)
   B. This anthropologist built on van Gennep’s theory in The Ritual Process, arguing that rites of passage move participants into a liminal space.
   answer: Victor Turner
   C. In a rite of passage from this religion, newborn babies are initiated by visiting the tutelary kami 30 to 100 days after birth.
   answer: Shintoism

15. The title character of this author’s final novel was based on his former colleague Allan Bloom, who taught at the University of Chicago. For 10 points each—
   A. Name this author of the novel Ravelstein. His earlier books include The Dean’s December and Henderson the Rain King.
   answer: Saul Bellow (or Solomon Bellows)
   B. Bellow’s third novel is a picaresque [“pick-uh'-resk”] work that depicts the “adventures” of this man, who proclaims that he is “an American, Chicago born.”
   answer: Augie March (accept either underlined portion; accept The Adventures of Augie March)
   C. This novella by Bellow centers on an unsuccessful actor named Tommy Wilhelm, who lives in a residential hotel in Manhattan.
   answer: Seize the Day
16. "Begone, Dull Care" from this composer's Friday Afternoons, is one of several works by the composer featured in Wes Anderson's film Moonrise Kingdom. For 10 points each—
A. Name this British composer who set the poem “The Kraken” ["CRACK"-en] in his Nocturne.
answer: (Edward) Benjamin Britten
B. This 1945 educational composition by Britten introduces children to various instruments, and is based on a theme by Henry Purcell [PUR-sil].
answer: The Young Person’s Guide to the Orchestra, Op. 34
C. Britten’s Four Sea Interludes comes from this opera that begins with an inquest into the death of the title character’s apprentice.
answer: Peter Grimes, Op. 33

17. This state backed the peasant revolt of Ivaylo the Cabbage against Michael VIII ["the eighth"] Palaeologus ["pale"-ee-uh-LOH-guss]. For 10 points each—
A. Name this Mongol khanate that ruled Russia in the medieval era.
answer: Golden Horde (or Zolotaya Orda or Kipchak Khanate; prompt on partial answer)
B. Ivaylo was a member of this ethnicity, which at the time comprised a vassal state of the Byzantine Empire. A later country named for this group of people was led by Todor Zhivkov for much of the Cold War.
answer: Bulgars or Bulgarians (accept Bulgaria)
C. In the late 15th century, the power of the Golden Horde largely disintegrated following the Great Stand on the Ugra River, where the horde refused to engage this Grand Prince of Moscow.
answer: Ivan III (or Ivan the Great; prompt on “Ivan”)

18. This band’s 2017 album Science Fiction set a Billboard 200 record by dropping from number one in its first week on the chart to number 97 in its second week. For 10 points each—
A. Name this emo [EE-moh] band led by Jesse Lacey. Its 2003 album Deja Entendu featured the song “The Quiet Things That No One Ever Knows.”
answer: Brand New
B. Science Fiction knocked this artist's album Rainbow, which features the songs “Woman” and “Praying,” off the top of the Billboard chart. She also recorded “Tik Tok.”
answer: Kesha [KEH-shuh] (or Kesha Rose Sebert; accept Kešha)
C. Brand New’s first single was titled for this English actor “and a Semester Abroad.” He played Dr. Watson in Guy Ritchie’s Sherlock Holmes films.
answer: Jude Law (or David Jude Heyworth Law)

19. This field analyzes cases in which the incident light’s electric field is comparable to the Coulomb [KOO-lohn] field in a sample. For 10 points each—
A. Name this subfield of optics, which often models the polarization as a cubic polynomial in the electric field.
answer: nonlinear optics
B. One nonlinear effect is the generation of the “second” of these modes. In general, the $n$th of these modes has $n$ times the frequency of the “first” one, which is known as the fundamental frequency.
answer: harmonic (accept second harmonic generation or first harmonic)
C. An important nonlinear effect is the “two-photon” form of this process. It is the inverse of stimulated emission.
answer: absorption (accept two-photon absorption)
20. William Empson wrote a book about “some versions of” this literary genre, which Empson argued was “about the people” but not “by” or “for” them. For 10 points each—
A. Name this poetic genre that often focuses on peaceful shepherds and rural life.  
answer: pastoral poetry (accept Some Versions of Pastoral)
B. Shepherds named Strehnon and Klauiu narrate this author’s pastoral double sestina “Ye Goatherd Gods,” which was published as part of his Arcadia.  
answer: Sir Philip Sidney
C. Sidney was the dedicatee of The Shepheardes Calender, a twelve-part pastoral poem by this man. His most famous work concludes with the unfinished “Cantos of Mutabilitie” [“mute-ability”].  
answer: Edmund Spenser [The “Cantos of Mutabilitie” conclude The Faerie Queene.]

21. This thought experiment was introduced in John Searle’s paper “Minds, Brains, and Programs.” For 10 points each—
A. Name this thought experiment, which imagines a computer program that takes characters in a foreign language as input and outputs characters in that same language.  
answer: Chinese room (prompt on partial answer)
B. The Chinese room argument opposes what Searle calls the “strong” form of this concept, which is the idea that machines can mimic the cognitive properties of humans.  
answer: artificial intelligence (or AI)
C. Searle’s books include one on the “rediscovery” of this thing. Gilbert Ryle attacked Cartesian [“car”-TEE-zhun] dualism in a book on the “concept” of this.  
answer: mind (accept The Rediscovery of the Mind or The Concept of Mind)

22. A former prime minister of this country claimed that it has nuclear weapons in April 2016, escalating tensions after the so-called “April Fool’s War” in Nagorno-Karabakh [nah-GOR-noh-KAR-uh-bahk]. For 10 points each—
A. Name this country, which receives about 40 percent of its electricity from the Metsamor [met-suh-“MORE”] nuclear power plant.  
answer: Armenia (or Republic of Armenia or Hayastani Hanrapetut’yun)
B. Armenia is a strategic partner with this neighboring country, whose own attempts to obtain nuclear power led to a 2015 “nuclear deal” with the U.S.  
answer: Iran [ih-RAHN] (or Islamic Republic of Iran or Jomhuri-ye Eslami-ye Iran)
C. Iran’s Bushehr [boo-SHARE] nuclear plant was built by companies from Russia and this country, which in 2011 announced a plan to close its own 17 nuclear power plants by 2022.  
answer: Germany (or Federal Republic of Germany or Bundesrepublik Deutschland)

23. For 10 points each—answer the following about the closed box model of galactic chemical evolution:
A. It focuses on this process of generating new elements through fusion in stars. A period named for the Big Bang and this process generated most of the universe’s supply of helium.  
answer: nucleosynthesis (accept stellar nucleosynthesis or Big Bang nucleosynthesis)
B. The model shows a monotonic [mahn-uh-“tonic”] increase in this quantity, the mass fraction of a star or gas that is not hydrogen or helium.  
answer: metallicity (prompt on “Z”)
C. The model allows stellar material to enrich the ISM [“I-S-M”] through stellar winds and these explosive events, which can form neutron stars and black holes.  
answer: supernovas or supernovae
24. The protagonist of this novel stays at the Dolphin Hotel while searching for a mysterious animal. For 10 points each—
A. Name this novel, in which the protagonist journeys with a call girl who has beautiful ears while following a trail of letters from “the Rat.”
answer: A Wild Sheep Chase (or Hitsujī o meguru bouken)
answer: Haruki Murakami
C. Murakami’s other novels include a work titled “1-Q” followed by these two numbers. These two numbers follow “19” in an English-language novel about Winston Smith and Big Brother.
answer: 84 (accept 1Q84 or Nineteen Eighty-Four)