2022 ACF Winter

Packet 9 by Florida B, Georgia B, Caltech A, WUSTL A

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Tossups

1. This story titles a Carol Ann Duffy poem whose narrator “found some hobbies for myself,” reimagining a character in this story who induces an “obsequious and conciliating nature” in the protagonist and dies from a broken blood vessel “in a fit of passion at a peddler.” A man in this story encounters figures with “enormous breeches” and “long knives in their belts” after walking to a natural amphitheater with a man carrying a keg. This story’s protagonist finds that his favorite inn has painted over one of its portraits to reflect their new head of state. Upon seeing his rusted gun, this story’s title character determines that a group of men playing ninepins drugged him in the Catskill Mountains. For 10 points, the title farmer sleeps for 20 years in what story by Washington Irving?

ANSWER: “**Rip Van Winkle**”

<American Literature>

2. A 2006 book by Walter Gibson discusses how this artist’s paintings illustrate “the Art of Laughter.” Several men, one of whom wears a paper crown, appear below lifeless trees in the bottom right of a painting by this artist that is set around February or March. This artist’s paintings *Haymaking*, *The Gloomy Day,* and *The Return of the Herd* are among the five extant works in his series of six landscapes that depict the *Labors of the Months*. In a painting by this artist, a man carrying a dead fox and his companion walk on a hill in the foreground. In that painting by this artist, people skate on a lake in the distance while dogs trail the title figures in a winter landscape. For 10 points, name this Flemish artist of *The Hunters in the Snow*.

ANSWER: Pieter **Bruegel** the Elder [or Pieter **Brueghel** the Elder; accept *Pieter* ***Bruegel*** *and the Art of Laughter*; reject “Pieter Brueghel the Younger” or other Brueghels]

<Painting & Sculpture>

3. These are the main phenomena modeled by a mathematical technique for which Ravn (“rav’n”) and Uhlig (“UR-lig”) proposed a means of estimating the parameter “lambda,” which is often set to 1600. The HP filter is usually used to analyze these phenomena, whose measurement titles a 1946 book by Burns and Mitchell. Edward Prescott and Finn Kydland proposed a theory named for how these phenomena are caused by “real,” not nominal, supply-side shocks. Joseph Schumpeter’s (“SHUM-pay-tur’s”) analysis of these phenomena identified a long, technology-driven example he named “Kondratiev (“kon-DRAT-ee-ehv”) waves.” In 1992, the National Bureau for Economic Research estimated that, on average, these phenomena last 4.5 years. For 10 points, name these phenomena in which an economy goes through booms and recessions periodically.

ANSWER: **business cycle**s [or **economic cycle**s or **trade cycle**s; accept real **business cycle** theory; accept ​​*Measuring* ***Business Cycle****s*; prompt on cycles; prompt on expansions or contractions by asking “what more general phenomena are they a part of?”; prompt on recessions or booms until each is read by asking “what more general phenomena are they a part of?”]

<Social Science>

4. Pausanias recounts that this city was built on the land of the Ectenes and ruled by the king Ogyges (“oh-GAI-jeez”), who survived his namesake worldwide flood. After defending this city from King Erginus and the Minyans, Heracles married its princess Megara. An epic by Statius recounts a failed siege of this city that was made successful ten years later by the Epigoni. A ruler of this city blinded himself after learning he had killed his father at a crossroads, inadvertently fulfilling part of a tragic prophecy. Polynices (“paw-lee-NAI-seez”) led an army named for the “Seven against” this city, which was home to Antigone and the queen Jocasta. For 10 points name this Greek city in Boeotia (“bee-OH-shuh”) whose mythical kings included Cadmus and Oedipus.

ANSWER: **Thebes** [or **Thebai**; or **Cadmea**; accept *Seven against* ***Thebes*** or *Hepta epi* ***Thēbas*** or *Septem contra* ***Thebas***]

<Mythology>

5. In the fourth movement of this symphony, a section marked *incalzando* ends in quiet tam-tam strokes that introduce a solemn tuba and trombone section before the *allegro giusto* (“ah-LEG-roh JOO-stoh”) coda. Staccato triplets in the strings and flutes develop into the march-like theme of this symphony’s third movement, which is simultaneously in 12/8 (“twelve eight”) and 4/4 (“four four”) time. This symphony opens with a slow bassoon solo over strings, though a later bassoon solo may be replaced by a bass clarinet to match the intended dynamic marking of 6 p’s. This symphony, which quotes the Russian Orthodox requiem, has a second movement “limping waltz” in 5/4 (“five four”) time. For 10 points, name this final symphony by Pyotr Ilyich Tchaikovsky.

ANSWER: **Tchaikovsky**’s Symphony No. **6** [or ***Pathétique*** *Symphony*; or **Tchaikovsky**’s **Six**th Symphony; accept No. **6** or **Six**th after “Tchaikovsky” is read]

<Classical Music>

6. In a play, a character with this first name repeatedly responds to mentions of death with the expression “how long a term for credit!” An atheist with this first name points his sword at a veiled woman in a censored Molière play. At the end of another play, a character with this first name is invited to dine on scorpions and snakes by his fiancée Ana’s father. A character with this first name sneaks into Inés’s convent in a play by José Zorrilla that gives him the surname Tenorio. A protagonist with this first name sees a ghostly statue come to life and is dragged to hell for his abuse of women in Tirso de Molina’s play *The Trickster of Seville and the Stone Guest*. For 10 points, give this first name of a Spanish womanizer whose legend inspired a Lord Byron poem and a Mozart opera.

ANSWER: **Juan** [accept *Don* ***Juan*** *Tenorio* or *Don* ***Juan*** *Tenorio: Drama religioso-fantástico en dos partes*; accept *Don* ***Juan*** (“JOO-un”)or *Dom* ***Juan*** *(*“zhoo-AHN”); prompt on Don Giovanni] (The quote from *The* *Trickster of Seville* in the first line is the source of the Spanish idiom “Cuán largo me lo fiáis.”)

<European Literature>

7. This color names a family of compounds that exhibit it due to a dipolar fused-ring system and are found in German chamomile oil. An oxidized indicator turns this color before being reduced by glucose to its colorless form in a common kinetics demonstration named for a “bottle.” A protein-binding dye that exhibits this “brilliant” color above a pH of 2 is named for the city of Coomassie. This color results when electrons are solvated in a solution of sodium dissolved in ammonia. A common pH indicator partly named for this color is a derivative of bromothymol. Green or this color is the characteristic color of copper (II) (”copper-two”) salts. For 10 points, alkaline solutions cause litmus paper to turn what color?

ANSWER: **blue** [accept **indigo** or **violet**; accept **cyan** or **turquoise** or other shades of blue; accept **blue**-green; accept methylene **blue**; accept Coomassie brilliant **blue**; accept **blue** bottle experiment; accept bromothymol **blue**; accept **azul**ene; reject “green”]

<Chemistry>

8. George Shultz quipped that the State Department should give this leader AIDS. Dobbins Air Reserve Base in Marietta, Georgia currently houses eight C-130s whose delivery to this leader’s country was blocked in 1982. This leader agreed to grant a 220,000-dollar loan to Jimmy Carter’s brother Billy. This leader pitched a tent on Donald Trump’s property in Bedford, New York prior to addressing the United Nations. Condoleezza Rice convinced this leader to provide financial compensation for victims of the Lockerbie bombing. Hilary Clinton quipped “we came, we saw, he died!” after this leader was discovered near a drainage pipe in Sirte (“sairt”) and executed by US-backed rebels. For 10 points, from 1969 to 2011, what dictator led Libya?

ANSWER: Muammar **Gaddafi** [or Muammar **Qadaffi**; or Muammar Muhammad Abu Minyar al-**Gaddafi** or Muʿammar Muḥammad ʾAbū Minyār al-**Qaḏḏāfī**]

<American History>

9. The lifetimes of these things increase due to human activity in the Albrecht effect, which has similar results to the Twomey effect. John Latham and Stephen Salter have proposed mixing seawater with these things in order to change their color. The formation of these things is the main application of Köhler theory. These large-scale things are the site of a process whose rate increases in a method co-developed by Bernard Vonnegut, which initially used solid carbon dioxide in the vicinity of supercooled crystals. Silver iodide is used to form these things’ condensation nuclei in a climate engineering technique named for their “seeding.” For 10 points, contrails are man-made examples of what large meteorological objects made from water vapor?

ANSWER: **cloud**s [accept **cloud** seeding; accept marine **cloud** brightening; prompt on water vapor or H2O (“H-two-O”); prompt on vapor or droplets; prompt on atmospheric aerosols]

<Other Science>

10. This figure’s name was given to rocks from Berekhat Ram and Tan-Tan. Betty Meggers incorrectly argued that pots and sculptures named for this figure from Ecuador’s Valdivia (“bahl-DEEV-yah”) culture derived from transpacific contact with Japan’s Jōmon culture. This figure names a black ceramic from Dolní Věstonice (“doal-NEE-vyess-toh-NEET-say”), an Aurignacian (“or-ig-NAY-shun”) mammoth ivory statue from Hohle Fels, and a Gravettian statuette from Lespugue (“less-POOG”) that may represent steatopygia (“stee-at-uh-PIDGE-ee-uh”). Rome’s largest temple honored Roma and this deity, whose sanctuary at Paphos brought many Greeks to Cyprus. Vienna’s Natural History Museum displays a Paleolithic oolite (“oh-oh-lite”) sculpture named for this deity, which may be a fertility idol and was found near Willendorf. Praxiteles made a cult statue for this goddess’s temple at Knidos. For 10 points, what goddess names an armless marble sculpture from Milos?

ANSWER: **Venus** [accept **Aphrodite**; accept ***Venus*** *de Milo* or ***Aphrodite*** *de Milos*; accept **Venus** of Willendorf; accept **Aphrodite** Paphia or **Aphrodite** of Knidos; accept **Cytherea** or **Cypris** until “Cyprus” is read; accept Temple of **Venus** and Roma or Templum **Veneris** et Romae; accept **Venus** of Lespugue, **Venus** of Hohle Fels, **Venus** of Dolní Věstonice, Jōmon **Venus**, **Venus** of Valdivia, **Venus** of Tan-Tan, or **Venus** of Berekhat Ram]

<Other History>

11. In a novel by this author, a home invader with Huntington’s disease is moved to tears upon hearing the protagonist’s daughter recite “Dover Beach.” In another novel by this author, a vase owned by Uncle Clem is broken, leading a woman to strip naked to retrieve it from a fountain. An anti-Iraq War protest frames a novel by this author that follows a day in the life of neurosurgeon Henry Perowne. After accidentally sending her a dirty letter, a man in a novel by this author has sex in a library with his lover, who reunites with him after he is evacuated from Dunkirk. The postscript to a novel by this author reveals its main action to be a fabrication by Briony Tallis. For 10 points, name this contemporary British author of *Saturday* and *Atonement*.

ANSWER: Ian **McEwan** [or Ian Russell **McEwan**]

<British Literature>

12. This scientist names a phenomenon in which atmospheric pressure exceeding the exit pressure of a propelling nozzle creates a series of namesake “disks.” This scientist sometimes names an effect in which an accelerating body pitches downwards, his namesake “tuck.” An infinite number of waves named for this scientist arise in a Prandtl–Meyer (“PRAN-tull-MY-ur”) expansion fan, whose cone angle is the arcsine of one over a quantity named for this scientist. If a quantity named for this scientist is less than about 0.3, a fluid is approximately incompressible. If that quantity named for this scientist exceeds one, it leads to a loud noise called a sonic boom. For 10 points, the ratio of an object’s speed to the speed of sound is a “number” named after what German scientist?

ANSWER: Ernst **Mach** (“mahk”) [or Ernst Waldfried Josef Wenzel **Mach**; accept **Mach** number; accept **Mach** cone; accept **Mach** waves; accept **Mach** tuck; accept **Mach** disks]

<Physics>

13. At the end of one of this author’s novels, the protagonist decides to only answer letters from her niece Marianita (“mah-ree-ah-NEE-tah”). In that novel by this author, the shards of a lightbulb are swallowed in a suicide attempt by Pupo Román (“POO-poh roh-MON”). In a different novel by this author, characters such as a mysterious scarred African man start to appear in the wrong storylines. In that novel by this author, the underage protagonist attempts to bribe a series of small-town mayors to marry him to a divorced relative. This author created a semi-autobiographical protagonist who works with a writer of wild radio plays named Pedro Camacho (“cah-MAH-cho”). For 10 points, name this Peruvian author of *The Feast of the Goat* and *Aunt Julia and the Scriptwriter*.

ANSWER: Mario **Vargas Llosa** (“YO-sah”) [or Jorge Mario Pedro **Vargas Llosa**; prompt on Vargas or Llosa]

<World Literature>

14. A book by this thinker ends by bemoaning the idea that “one must [always] go further” by referencing a student of Heraclitus who said that one can’t step in the same river once. A book by this thinker asks “who deserves the distinction of being unhappier than everyone else?” in a section framed as a lecture by the man “A.” A book by this thinker that takes its title from Psalm 55 was written in part to process his break-up with Regine Olsen. One of this thinker’s books analogizes “crop rotation” to an aesthetic life, which it contrasts with an ethical life. This thinker compared a person who accepts “infinite resignation” with one who can make a “teleological suspension of the ethical” to become a “Knight of Faith.” For 10 points, name this Danish existentialist who wrote *Either/Or* and *Fear and Trembling*.

ANSWER: Søren **Kierkegaard** [or Søren Aabye **Kierkegaard**; accept Johannes **de Silentio**; accept Victor **Eremita**]

<Philosophy>

15. Susan Shirk’s recent book *Overreach* examines the “ghost” left by this leader after the end of his “hide and bide” doctrine. Biographies of this leader by Richard Evans and Ezra Vogel highlight him wearing a cowboy hat on a state visit to the US. This leader of the “Eight Elders” sent his successor to study Ireland’s Shannon Airport one year after his army invaded Vietnam. This “second generation” leader’s “Southern Tour” publicized the success of the first four special economic zones he created as part of “reform and opening up.” This leader proposed the principle of “one country, two systems” and instituted the one-child policy. For 10 points, Jiāng Zémín (“j’yahng dzuh-min”) succeeded what modernizing paramount leader who resigned after the 1989 Tiānānmén Square protests?

ANSWER: **Dèng** Xiǎopíng[accept **Dèng** Xiǎopíng theory or **Dèng** Xiǎopíng Lǐlùn or **Deng**ism; accept ***Dèng*** *Xiǎopíng and the Transformation of China*; accept ***Dèng*** *Xiǎopíng and the Making of Modern China*] (The third line refers to the 1979 Sino-Vietnamese War.)

<World History>

16. This disease can cause black sunbursts to appear in the retina. Patients with this disease are susceptible to medullary renal cancer, salmonella-induced osteomyelitis (“ahss-tee-oh-MY-lite-iss”), and parvovirus-B19-induced aplastic crisis. Penicillin prophylaxis is used in patients with this disease due to splenic auto-infarction. The frequency of this disease’s crises can be reduced by triggering the expression of a gamma chain with hydroxyurea. Using electrophoresis, Linus Pauling showed that sufferers of this disease have an altered charge on a certain protein. This disease, which is caused by a glutamate-to-valine substitution, confers a heterozygote advantage against malaria in its carrier state. For 10 points, name this disease in which a mutation in hemoglobin deforms red blood cells.

ANSWER: **sickle cell** anemia [or **sickle cell** disease; or **SCA**, or **SCD**; prompt on anemia]

<Biology>

17. This goddess is the primary one worshiped at several monsoon festivals during the month of Shrāvana, at which *ghevar* sweets are often eaten. Women mostly pray to this goddess during Teej. This goddess is worshiped at sites where, according to legend, parts of her predecessor’s body fell while her distraught husband carried her corpse around. This goddess created a child out of turmeric paste and told him to guard her while she was bathing. This goddess is the reincarnation of Sati (“suh-tee”), who immolated herself. This goddess’s husband cut off her child’s head, leading it to be replaced with an elephant’s head. Alongside Saraswatī and Lakshmī, this deity forms the Tridevī. For 10 points, name this Hindu goddess who is the mother of Ganesha and wife of Shiva.

ANSWER: **Pārvatī** [or **Umā**; or **Gaurī**; or **Aparnā**; or **Girijā** or **Girirajaputri**; or **Haimavathi**; or **Shailaja** or **Shailaputri**; accept **Sati** until read; prompt on Devī or Mahādevī until “Tridevī” is read; prompt on Adi Shakti or Adi Para Shakti; prompt on Mātṝikās or Matar or Matri or Saptamātṝikā or Ashtamātṝikā]

<Religion>

18. In a song, this artist blows a kiss to a cloud that “looks like Ireland.” In a music video, this musician and Michael Hervieu perform an interpretive dance meant to evoke a bow and arrow. The second half of an album by this artist describes a vision quest in an icy landscape and is titled *The Ninth Wave*. This artist sings of a buried yo-yo in a song inspired by Peter Reich’s *Book of Dreams* and titled for a rainmaking invention. This artist sings “come on baby, come on darling” in the bridge to a 1985 song that surged in popularity in 2022 due to its inclusion in a scene in which Max escapes Vecna in Season 4 of *Stranger Things*. For 10 points, name this English singer whose album *Hounds of Love* includes the songs “Cloudbusting” and “Running Up That Hill.”

ANSWER: Kate **Bush** [or Catherine **Bush**] (The song in the first line is “The Big Sky.”)

<Pop Culture>

19. A leader of this country was led to believe he was ruling it for two years after a 1968 stroke allegedly caused by his deckchair collapsing underneath him. A leader of this country claimed that the encyclical *Rerum novarum* (“RAY-rum noh-VAR-um”) was the basis of the ideology of his so-called “non-party,” the National Union. After success balancing the budget as a finance minister under the “National Dictatorship,” a political economy professor from this country became its dictator in 1932, in which role he established the PIDE (“P-I-D-E”) secret police and was succeeded by Marcelo Caetano (“mar-SELL-oo cay-TAH-noo”). The 1974 Carnation Revolution overthrew this European country’s Estado Novo (“eece-TAH-doo NOH-voo”). For 10 points, Antόnio Salazar (“sah-lah-ZAR”) was a dictator of what Iberian country?

ANSWER: **Portugal** [or **Portuguese** Republic or República **Portuguesa**]

<European History>

20. A space-inspired album partly titled for this concept concludes with the track “Back to Earth.” At the end of a hit single from an album titled for this concept, the drummer laughs out loud and says “yeah!” after playing a solo that consists entirely of rim shots over a clap beat. An album titled for this concept misspelled the name of the composer’s five-year-old daughter on a track titled for her “waltz.” This concept is followed by the word “further” on a sequel album whose lead single was “Unsquare Dance.” An album named for this concept opens with a track built around a 2+2+2+3 Turkish metrical pulse and features a Joe Morello drum solo on a “quintuple meter” track. For 10 points, Paul Desmond wrote “Take Five” for a Dave Brubeck Quartet album punningly titled what musical concept “out”?

ANSWER: **time** [accept **time** signatures; accept **countdown**; accept ***Time*** *Out*; accept ***Time*** *Further Out*; accept *Countdown*—***Time*** *in Outer Space*] (The track in the second line is “Unsquare Dance.” The misspelled track is “Kathy’s Waltz,” which should have correctly been spelled as “Cathy.”)

<Other Fine Arts (Jazz)>

TB. The operation of some of these devices is described by the Courant–Snyder parameters, which describe an ellipse whose area is proportional to emittance. One of the first of these devices, which was powered using a bank of diodes and capacitors as a voltage multiplier circuit, was built in 1932 by John Cockcroft and Ernest Walton. A characteristic value of “charge times magnetic field strength over mass” arises in a type of these devices pioneered by Ernest Lawrence, which include two “D” shaped sections. The fact that it could reach tera-electronvolts of energy gave the name Tevatron to one of these devices built at Fermilab. For 10 points, Stanford operated a “linear” example of what devices that can bring protons and electrons up to high speeds?

ANSWER: particle **accelerator**s [accept linear **accelerator**s or **cyclotron** accelerators or **synchrotron** accelerators; accept particle **collider**s or **atom smasher**s]

<TB (Physics)>

Bonuses

1. *Note to players: the answer to the first part of this bonus requires an animal and a city, like “clownfish of Sydney” or “rabbits of Seville.”*

A statue of one of these animals known for living in Kadıköy (“KUH-dee-koy”) district named Tombili (“TOM-bee-lee”) depicts her leaning on a curb, a pose that went viral in 2012. For 10 points each:

[10h] Name these animals that are the subject of the documentary *Kedi* (“KEH-dee”). Some attribute the prevalence of these animals to their reverence in Islam, which considers them ritually pure enough to enter mosques.

ANSWER: feral **cat**s of **İstanbul** [or stray **cat**s of **İstanbul**; accept **cat**s of **Constantinople**; accept **feline**s or **felid**s in place of “cats”]

[10e] A European shorthair cat named Gli (“glee”) gained international fame for her residence in this major İstanbul mosque but died just a few months after its 2020 conversion from a museum.

ANSWER: **Hagia Sophia** [or **Ayasofya**; or **Sancta Sophia**]

[10m] Cats roam just as freely in the ruins of this ancient Greek city that is now a tourist attraction in Turkey’s İzmir Province due to sights like the Library of Celsus, the House of the Virgin Mary, and the Temple of Artemis.

ANSWER: **Ephesus** [or **Efes**; accept **Selçuk**]

<Geography>

2. According to a variant of the Shintō creation myth, Izanagi birthed Amaterasu by holding one of these objects in his left hand. For 10 points each:

[10m] Name these objects, one of which called the Yata no Kagami was hung from a tree to lure Amaterasu out of her hiding spot after Susano’o threw a flayed horse at her.

ANSWER: **mirror**s [accept specific types of mirrors such as a bronze **mirror** or copper **mirror**; prompt on kagami]

[10h] Amaterasu’s birth by mirror is related in this book that opens with two chapters on creation myths. This text is the second oldest book on Japanese history behind the *Kojiki*.

ANSWER: *Nihon* ***Shoki*** [or ***Nihongi***; or *The* ***Chronicles of Japan***]

[10e] The mirror Yata no Kagami, a jewel, and the sword Kusanagi are the Three Sacred Treasures belonging to people with this title. Amaterasu is said to be the ancestor of Jimmu, the first person to hold this ruling title.

ANSWER: **emperor** of Japan [or **Tennō**; accept **Mikado**; accept **Emperor** Jimmu]

<Mythology>

3. This place’s agoraphobic proprietor promises to leave it for the first time in 20 years and walk around the block on his birthday. For 10 points each:

[10m] Name this place where Theodore “Hickey” Hickman admits to murdering his wife Evelyn after criticizing this place’s patrons, such as Don Parritt, for holding onto “pipe dreams.”

ANSWER: **Harry** Hope’s **saloon** [or Harry **Hope**’s **saloon**; accept the **saloon** from *The* ***Iceman Cometh***; accept **bar** in place of “saloon”; prompt on bar or saloon by asking “from what literary work?”]

[10e] In Eugene O’Neill’s *The Iceman Cometh*, Hickey is a traveling worker in this profession, which provides a cover for his flight from the law. Willy Loman holds this title profession in a play by Arthur Miller.

ANSWER: **sales**man [or **sales**person; accept traveling **sales**man; accept hardware **sales**man; accept *Death of a* ***Sales****man*]

[10h] In a play by this author, Joe and Kitty Duval frequent Nick’s Pacific Street Saloon. This author also wrote the collection *My Name Is Aram*.

ANSWER: William **Saroyan** (The play is *The Time of Your Life*.)

<American Literature>

4. Answer the following about fashion labels changing the typeface class in their logos between serif and sans serif, for 10 points each.

[10e] In 2019, Virgil Abloh switched from Helvetica to a serif font for the logo for a label called “off” this color. Princess Diana wore a dress of this traditional color with a 25-foot train to her wedding to Prince Charles in 1981.

ANSWER: **white** [accept Off-**White**™]

[10h] In 2018, Peter Saville switched the font in the logo of this luxury label to sans serif and dropped a comma between “London” and “England” in its subtitle. This label’s namesake beige “checks” line its famous trench coats.

ANSWER: **Burberry** [accept **Burberry** check]

[10m] For a 2012 rebrand, Hedi Slimane (“ay-DEE slee-MON”) dropped the first name of this designer from his namesake label and switched to a sans serif logo. This Algerian-born designer started the label in 1962 to create items in the style of his “Le Smoking” tuxedo.

ANSWER: Yves **Saint Laurent** (“eev san loh-RON”) [prompt on YSL]

<Other Fine Arts (Design)>

5. Gordon Parks captured a famous photo of a boy pointing at one of these toys during a psychological experiment. For 10 points each:

[10e] Name these toys that Black children favored when they resembled white people in an experiment by Mamie (“MAY-mee”) and Kenneth Clark. These toys include the “Bobo” that names an experiment conducted by Albert Bandura.

ANSWER: **doll**s [accept Bobo **doll**s]

[10m] Other experiments on minorities’ perceptions of their own minority have investigated this phenomenon’s namesake “threat,” which causes minorities to underperform on tests.

ANSWER: **stereotype**s [or word forms like **stereotyping**; accept **stereotype** threat]

[10h] An early experiment demonstrating stereotype threat was performed by Claude Steele and a scholar with this last name. A psychologist with this last name invented the “jigsaw classroom” technique.

ANSWER: **Aronson** [accept Elliot **Aronson**; accept Joshua **Aronson** or Joshua Michael **Aronson**]

<Social Science>

6. Cáo Huī’s (“tsow hway’s) sculpture series *I Want To Play God* depicts hyperrealistic objects, such as armchairs, cut open to seemingly reveal this substance. For 10 points each:

[10h] Name this substance that hangs on either side of a screaming Pope Innocent X in a Francis Bacon painting.

ANSWER: **meat** [accept specific types of meat, such as **flesh** or **organs** or **viscera** or **carcass**es; accept *Figure with* ***Meat***; prompt onbone; reject “skin”]

[10m] This artist experimented with the visuals of flesh in “Shooting into the Corner,” in which blood-red wax cannonballs are fired into the opposite corner of a room. This artist also created a curved, oblong sculpture of mirror-like stainless steel for Chicago’s Millennium Park.

ANSWER: Anish **Kapoor** [or Anish Mikhail **Kapoor**] (The sculpture is *Cloud Gate* or “the Bean.”)

[10e] Adriana Varejão (“vah-ray-ZHAO”), an artist from this country, depicts ornamental ceramic tiles, or azulejos, (“ah-zoo-LAY-zhoos”) combined with viscera. Heitor (“ay-TOR”) da Silva Costa constructed this country’s *Christ the Redeemer* statue.

ANSWER: **Brazil** [or **Brasil**; or Federative Republic of **Brazil** or República Federativa do **Brasil**]

<Painting & Sculpture>

7. Answer the following about a style of popular Russian print literature known as lubok, for 10 points each.

[10e] One of the most popular lubki was Vasily Koren’s illustrations of this text, which was the first book to be printed in Russian. Martin Luther translated this text into German at Wartburg Castle.

ANSWER: the **Bible** [accept Book of **Genesis** or **Bəreʾšīt**; accept Book of **Revelation** or **Apokalypsis**; accept Luther **Bible** or Luther**bibel**; accept **Old Testament** or **Altes Testament**; accept **New Testament** or **Neues Testament**; accept Koren Picture-**Bible**]

[10h] A famous lubok that possibly satirized Peter the Great is titled for a cat from this city. An icon known as “Our Lady in [this city]” was obtained during a 1579 siege in Tatarstan and is believed to have miracle-working powers.

ANSWER: **Kazan** [accept Siege of **Kazan**; accept Khanate of **Kazan** or **Kazan** xanlıgı or **Kazanskoye** khanstvo; accept Our Lady of **Kazan** or Mother-of-God of **Kazan** or **Kazanskaya** Bogomater]

[10m] This later tsar enforced strict censorship on lubki using secret police he established called the Third Section. The Decembrists opposed this tsar’s succession to the throne and instead promoted his brother, Constantine.

ANSWER: **Nicholas I** [or **Nikoláy I**; or **Nicholas Pavlovich** Romanov or **Nikoláy Pávlovich** Románov; prompt on Nicholas or Nikoláy; prompt on Románov]

<European History>

8. Given *n* pairs of parentheses, the *n*th of these numbers is the number of ways they can be arranged so that the pairs correctly match. For 10 points each:

[10h] Name these numbers, the *n*th of which equals “2*n* choose *n*, all over *n* plus one.”

ANSWER: **Catalan** numbers [prompt on C sub n]

[10e] The *n*th Catalan number can be written as this function of 2*n* plus one, over this function of *n* times this function of *n* plus one. This function of *n* is the product of the integers from 1 through *n*.

ANSWER: **factorial** [or *n* **factorial**; prompt on exclamation mark or bang]

[10m] An asymptotic approximation for the *n*th Catalan number can thus be found using this approximation, which states that the log of *n* factorial is roughly “*n* log *n* minus *n*.”

ANSWER: **Stirling**’s approximation [or **Stirling**’s formula]

<Other Science>

9. A law partially named for this resource led the US to lay claim over Baker Island and Jarvis Island. For 10 points each:

[10m] Name this resource that was mined on many remote Pacific islands in the 19th century to produce fertilizer. Peru enjoyed a prosperous era named for this resource thanks to its deposits on the Chincha Islands.

ANSWER: **guano** [accept **Guano** Islands Act; accept **Guano** Era; prompt on bird excrement or bird poop or equivalents; prompt on nitrogen or nitrates or NO3]

[10h] While he was a senator, this politician introduced the Guano Islands Act. As a cabinet member, this politician negotiated a treaty with the British diplomat Richard Lyons to end the slave trade.

ANSWER: William **Seward** [or William Henry **Seward**; accept Lyons–**Seward** Treaty of 1862]

[10e] Many laborers who mined guano on American and Peruvian islands were kidnapped from this kingdom ruled by the Kamehameha dynasty. This kingdom was annexed by the US in 1898 and later became its fiftieth state.

ANSWER: **Hawai’i** [or Kingdom of **Hawai’i**; accept **HI**]

<American History>

10. Contacts between metals and these materials were the subject of the first studies of band-bending. For 10 points each:

[10e] Name these materials, exemplified by silicon, which have properties intermediate between insulators and conductors.

ANSWER: **semiconductor**s

[10h] Metal-semiconductor contacts form a “barrier” named for this physicist, and can be used to make his namesake devices, which are very fast-switching and have a low voltage drop.

ANSWER: Walter H. **Schottky** [or Walter Hans **Schottky**; accept **Schottky** barrier or **Schottky** diodes; reject “Shockley” or “Shockley diodes”]

[10m] The Schottky–Mott rule predicts the “height” of the Schottky barrier to be this quantity minus electron affinity. This is the minimum energy needed to free an electron from a metal via the photoelectric effect.

ANSWER: **work function** [prompt on phi; reject “work”]

<Physics>

11. Zhū Yù’s performance piece entitled *Eating People*, in which he claimed to have eaten a human fetus, references a story by this author. For 10 points each:

[10m] Name this author who created a protagonist who sees the words “eat people” written between the lines of Confucian classics in his short story “Diary of a Madman.”

ANSWER: **Lǔ** Xùn (“loo shwin”) [or **Lu** Hsün; or **Zhōu** Shùrén or **Chou** Shu-jen; or **Zhōu** Zhāngshòu; prompt on Yùshān or Yùcái]

[10e] Demons attempt to eat the monk’s Táng Sānzàng’s flesh multiple times in this member of the Four Classic Chinese novels, in which Sūn Wùkōng and Pigsy join the title trip.

ANSWER: ***Journey to the West*** [or ***Xī Yóu Jì***; accept **​​*Monkey****: A Folk-Tale of China*]

[10h] In a novel, this author wrote of the “special investigator” Dīng Gōu’er (“ding goh-arr”), who goes to investigate cannibalism and, like Zhū Yù, eats a dish that may be a real infant or a facsimile.

ANSWER: **Mò** Yán [or **Guǎn** Móyè] (The novel is *The Republic of Wine.*)

<World Literature>

12. Molecules with high ratios of these atoms to carbon are extremely reactive. For 10 points each:

[10m] Non-carbon elements like nitrogen, sulfur, and oxygen in organic molecules are referred to by what general term? Aromatics with these elements include purine and furan and are desirable synthetic targets among biomolecules.

ANSWER: **heteroatom**s [accept **heterocycle**s or **heteroarene**s]

[10h] A highly reactive molecule with a seven-to-one heteroatom-to-carbon ratio has three of these functional groups. Acyl-substituted examples of this functional group can decompose into isocyanates in the Curtius rearrangement.

ANSWER: **azide**s (“AY-zides”) [accept acyl **azide**s] (The highly reactive molecule is azidoazide azide, with formula C2N14.)

[10e] Azides (“AY-zides”) can be converted into amines with palladium-on-carbon catalysts, which often enable these reactions that add the lightest element. Partial versions of this process used by the food industry may produce trans fats.

ANSWER: **hydrogenation** [or word forms like **hydrogenate**; accept partial **hydrogenation** or partially **hydrogenated** oils; prompt on reduction or word forms like reduce]

<Chemistry>

13. In Scandinavian historiography, this period precedes the Vendel period, when Sweden remained wealthy and escaped much of its turmoil despite a decline in bracteate (“BRACK-tee-ut”) production. For 10 points each:

[10h] Give this term for a phase of European late antiquity marked by the settlement of so-called “barbarians” like the Alemanni, Alans, Lombards, and Goths, who founded kingdoms in the former Western Roman Empire.

ANSWER: **Migration** Period [or **Migration** Age; or **Völkerwanderung**; prompt on early medieval period or Early Middle Ages or “Dark Ages”]

[10e] Frigeridus suggests that, during the Migration Period, these people lost a war to the Franks before the 406 CE crossing of the Rhine. These Germanic people sacked Rome in 455, inspiring a common term for property crime.

ANSWER: **Vandal**s [accept **vandal**ism; accept **Hasdingi** or **Silingi**; accept **Vandal** Kingdom or Kingdom of the **Vandal**s and Alans or Regnum **Vandalorum** et Alanorum]

[10m] The Vandals used this technology to destroy the Roman fleet at the 468 Battle of Cape Bon. The *Madrid Skylitzes* depicts the Eastern Roman Empire using a lost weapon named for this technology against the Umayyads.

ANSWER: **fire** [or **pŷr** or **ignis**; accept **fire** ships; accept Greek **fire** or sea **fire** or **pŷr** thalássion or Roman **fire** or **pŷr** rhōmaïkón or liquid **fire** or hygròn **pŷr** or sticky **fire** or **pŷr** kollētikón or manufactured **fire** or **pŷr** skeuastón]

<Other History>

14. The people of Thamud (“thah-MOOD”) asked the prophet Ṣāliḥ (“saw-LEE-HH”) for a very specific one of these animals and miraculously were given one, but then proceeded to hamstring and kill her. For 10 points each:

[10m] In the Surah al-Ghāšiyah, the Qur’an asks how nonbelievers can “not look at [what type of animal]—how they are created?” The Qur’an analogizes the difficulty of a sinner entering heaven to one of these animals.

ANSWER: **camel**s [accept **dromedary** camels or Arabian **camel**s or one-humped **camel**s or ***Camelus*** *dromedarius*; accept She-**camel** of Ṣāliḥ; prompt on even-toed ungulates or artiodactyls]

[10e] During this journey, the Prophet Muhammad rode on his beloved camel al-Qaswa’ (“kuss-wah”), who starved herself after her owner died. Today, millions of Muslims perform this pilgrimage each year.

ANSWER: **Ḥajj** [prompt on going to Mecca or equivalents]

[10h] Camel meat is halal, provided that the camel has been slaughtered in this manner. In this type of killing, the name of Allah is invoked before a knife is used to slit the throat of the livestock so it will bleed out.

ANSWER: **dhabīḥah** (“thaw-BEE-hah”) [or **zabiha**]

<Religion>

15. This author claims, “only through time time is conquered” in a poem that ends “ridiculous the sad waste time / stretching before and after.” For 10 points each:

[10e] Name this poet who included “Burnt Norton” in his *Four Quartets*. This poet described the phrase “Jug Jug” and other “withered stumps of time” in his poem *The Waste Land*.

ANSWER: T. S. **Eliot** [or Thomas Stearns **Eliot**]

[10h] The *Four Quartets* poem “The Dry Salvages” (“sal-VAY-jizz”) refers to time as “destroyer and preserver,” paraphrasing this earlier poem, whose speaker exclaims, “I fall upon the thorns of life! I bleed!”

ANSWER: “**Ode to the West Wind**” (by Percy Shelley)

[10m] “The Dry Salvages” notes that “time is no healer” in a section that imagines a conversation from a book in this language. *The Waste Land* ends by repeating a word originally from this language three times.

ANSWER: **Sanskrit** [or **saṃskṛt**am] (*The Waste Land*’s last line is “Shantih shantih shantih.”)

<British Literature>

16. An Ursula K. Le Guin (“luh GWIN”) novel retells the *Aeneid* (“uh-NEE-id”) from the perspective of this character, who has no spoken lines in Virgil’s original poem. For 10 points each:

[10h] Name this daughter of King Latinus (“lah-TEE-nuhss”). After her hair catches fire, her father consults the oracle of Faunus (“FAW-nuhss”), who advises that her descendants will “raise our name to the stars.”

ANSWER: **Lavinia**

[10m] Though Dido considers herself married to Aeneas, Aeneas decides to leave her after this deity reminds him of his duty to the “soil of Rome.” In the *Odyssey*, this deity’s Greek equivalent gives Odysseus the herb moly.

ANSWER: **Mercury** [or **Hermes**]

[10e] Aeneas loses his first wife, Creusa (“kree-OOH-sah”), while fleeing Troy, but sees her ghost while visiting this location ruled by Pluto.

ANSWER: the **underworld** [or **Hades**; or **Dis**; accept **Hell**]

<European Literature>

17. This A minor piece begins with a deceptively simple [read slowly] E, E-E, E, F E C E *lento* melody before transitioning into a rapid *allegro con brio* section with a chaotically descending figure in the right hand. For 10 points each:

[10h] Name this étude that is nicknamed for the phenomenon its rapid scales and arpeggios in the right hand are said to imitate.

ANSWER: ***Winter Wind***étude [or Étude **Opus 25, No. 11**; accept, BUT DO NOT OTHERWISE REVEAL, Frédéric Chopin’s **Opus 25, No. 11**]

[10e] The *Winter Wind* étude is by this Polish Romantic composer, who also wrote the piece *Fantaisie-Impromptu*.

ANSWER:Frédéric **Chopin** (“shoh-PAHN”) [or Frédéric François **Chopin**; or Fryderyk Franciszek **Chopin**]

[10m] This other Chopin étude is nicknamed for its repeated theme of rapid minor seconds that seem dissonant before resolving.

ANSWER: ***Wrong Note*** étude [or Étude **Opus 25, No. 5**]

<Classical Music>

18. David Lewis pioneered an “analytic” form of this theory, which argues that mental states are linked to the way we define the terms used to describe them. For 10 points each:

[10h] Name this theory from the philosophy of mind that holds that mental states are defined by their roles in a mental system in relation to other states. This theory emerged from behaviorist ideas of the mind.

ANSWER: **functional**ism [or word forms like **functional**ist or **functional**ity; accept analytic **functional**ism]

[10e] Functionalist theories often invoke the ideas of this thinker and computer scientist, who analogized thoughts to states in a machine and developed a namesake test in which an AI tries to pass as human.

ANSWER: Alan **Turing** [or Alan Mathison **Turing**; accept **Turing** Test]

[10m] Ned Block criticized functionalism in a thought experiment in which people from this country form a functional mind. A man translates English into a language from this country in a famous argument against strong AI.

ANSWER: **China** [or the **Chinese**; or **Zhōngguó**; or **PRC** or People’s Republic of **China** or **Zhōnghuá** Rénmín Gònghéguó; accept **Chinese** room thought experiment; accept **China** brain thought experiment]

<Philosophy>

19. In 2016, al-Mourabitoun attacked the Splendid Hotel in this country, whose so-called “spring” was led by Le Balai Citoyen (“luh bah-leh see-twah-YEN”). For 10 points each:

[10m] Name this country whose longtime president Blaise Compaoré (“blaze kohm-pow-RAY”) defected to Côte d’Ivoire (“coat dee-VWAHR”) after 2014 protests. Thomas Sankara gave this country a Mossi name meaning “land of honest men” to replace the colonial name “Upper Volta.”

ANSWER: **Burkina** Faso [accept “**Burkinabè** Spring”; accept 2014 **Burkina** Faso uprising]

[10e] In 2014, Burkina Faso and other members of G5 Sahel joined Operation Barkhane (“bar-KON”) to combat Salafi jihadists like Algeria’s offshoot of this terrorist group “in the Islamic Maghreb.” It was once led by Osama Bin Laden.

ANSWER: al-**Qaeda** [or al-**Qāʿidah** or **Qaedat** al-Jihad; accept al-**Qaeda** in the Islamic Maghreb or Tanẓīm al-**Qā'idah** fī Bilād al-Maghrib al-Islāmī or **AQIM**; prompt on “the Base” or “the Foundation”]

[10h] This word and “sharīʿa” name al-Qaeda-affiliated militias in Libya, Tunisia, and Mauritania. Operation Serval opposed a group named for this word and “Dine” (“deen”), which vied with the MNLA for control of Azawad in Mali’s Tuareg (“TWAH-reg”) rebellion.

ANSWER: **Anṣār** [or al-**Anṣār**; or **supporter**s or **partisan**s or **helper**s; accept **Anṣār** al-Sharīʿa in Tunisia or **Anṣār** al-Sharīʿa Brigade in Benghazi or **Anṣār** al-Sharīʿa in Derna; accept **Anṣār** Dine or ʾ**Anṣār** ad-Dīn; prompt on AAS or ASB or ASD by asking “what does that stand for?”] (The MNLA is the National Movement for the Liberation of Azawad.)

<World History>

20. Kinases are an important class of enzymes for all branches of life. For 10 points each:

[10e] Kinases catalyze the transfer of these high-energy functional groups onto a variety of substrates, such as histones and compounds like PEP. This group’s formula is PO4 3- (“P-O-four-three-minus”).

ANSWER: **phosphate**s

[10m] In pancreatic cells, glucokinase is the primary enzyme that converts glucose into glucose 6-phosphate. In most human cells, this kinase catalyzes the first step of glycolysis.

ANSWER: **hexo**kinase

[10h] Mutations in glucokinase cause this specific form of diabetes in children. Unlike type 1 and type 2 diabetes, this form of diabetes is associated with a single genetic mutation.

ANSWER: **MODY** [or **maturity-onset diabetes of the young** or **monogenic** diabetes; accept **MODY** type 2; reject “juvenile diabetes”]

<Biology>

TB. Herbert Simon proposed that people exhibit a “bounded” form of this quality when placed under time limitations. For 10 points each:

[10e] Name this quality that people are assumed to have in traditional economic theories, meaning that they make logical, utility-maximizing decisions according to reason.

ANSWER: **rational**ity [accept bounded **rational**ity]

[10h] Simon coined this term to describe non-rational behavior in which people make decisions that satisfy basic adequacy criteria rather than determining the fully optimal decision.

ANSWER: **satisficing** (“SAT-iss-FAI-seen”) [or word forms like **satisfice**]

[10m] Satisficing is one of these decision-making “rules of thumb.” Kahneman (“KAH-nuh-mun”) and Tversky (“t’VER-ski”) pioneered the study of these techniques in the paper “Judgement under Uncertainty,” which compares them with biases.

ANSWER: **heuristic**s (“hyur-IST-icks”) [or **heuristic** techniques]

<TB (Social Science)>