

2020 ACF Winter

Packet I by Duke A, Georgia Tech B, MSU C, NYU B, Yale A

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Tossups

1. The type B1 submarine I-25 repeatedly shelled this country before it was sunk by the *Ellet*. The majority of Fu-Go fire balloons bombed this country, whose forests were targeted by the Lookout Air Raids. A false alarm over a lost balloon led a panicked coastal city in this country to mobilize anti-aircraft guns the night after the bombardment of its Ellwood Oil Field. Japan bombed this country's Fort Stevens and Dutch Harbor before occupying its islands of Kiska and Attu. This country produced the wartime propaganda films *Winning Your Wings*, *The Fighting Lady*, and *Why We Fight*. This country's leader lauded munitions factories as "arsenals of democracy" and decried its attack on "a date which will live in infamy." For 10 points, what country entered World War II after the bombing of Pearl Harbor?

ANSWER: **United States** of America [or **USA**; or **America**; accept *War Comes to America*] (The false alarm air raid was the "Battle of Los Angeles.")

<American History>

2. The "Chasing Equilibrium" measures this property, whose intrinsic form is often calculated thermodynamically with fusion and sublimation cycles. Starburst dendrimers were designed to promote this property, which PEGylation ("peg-ill-AY-shun") improves for interferon ("inter-FEER-on") and paclitaxel ("pack-lih-TAX-ul"). A partition coefficient based on *n*-octanol quantifies this property, which decreases in heavier group II sulfates despite their similar lattice energies. Qualitative "rules" to predict this property hold that it is rare for chromates and carbonates, but common for ammonium salts. Increasing temperature reduces this property for gases by Henry's law. This property's "product" is an equilibrium constant for aqueous systems that is unaffected by its reduction in the common-ion effect. For 10 points, what property allows compounds to dissolve?

ANSWER: **solubility** [or word forms like **soluble**; accept becoming a **solute** or **dissolving** in a solvent or going into **solution** until "dissolve" is read; accept **solubility** rules or **solubilization**; accept fat **solubility** or water **solubility**; accept **solubility** product or **K_{sp}**; accept **hydrophilicity**, but do not accept or prompt on "hydrophobicity"; prompt on **half-life** or **stability** or **bioavailability** or **longevity** in the body or similar by asking "what molecular property is responsible for that improvement?"]

<Chemistry>

3. This author's muse Marta Abba adapted a play by this author in which an aviation officer leaves his wife, causing her to die while singing opera. In that play by this author, Doctor Hinkfuss fails to provide a script. This author set another play in the apartment of a councilman who investigates an employee's claims that he is protective of his second wife because she is believed to be the daughter of Lady Frola. This author of *Right You Are (If You Think You Are)* created the Director, who is furious when a rehearsal of this author's play "Mixing it Up" is interrupted by a group including the Father, the Boy, and the Stepdaughter. For 10 points, name this Italian author of *Six Characters in Search of an Author*.

ANSWER: Luigi **Pirandello** (The first play is *Tonight We Improvise*.)

<European Literature>

4. A 1945 production of this ballet included a Marc Chagall-designed backdrop depicting a figure with an upside-down head holding a bouquet of flowers against a dark blue sky. In a scene in this ballet, the tuba plays only the last two notes in the syncopated woodwinds phrase [read slowly] “B, C, A, B, C-A.” A George Balanchine production of this ballet launched the career of the Osage (“OH-sayj”) *prima ballerina* Maria Tallchief. A solo horn introduces the last scene of this ballet, which features the disappearance of the villain’s palace and magical creatures along with “general rejoicing.” A bassoon plays the main melody in this ballet’s *berceuse* (“bare-SUZZ”), which follows the “Infernal Dance” of Kashchei (“kuh-SHAY”) the Immortal. For 10 points, name this 1910 Igor Stravinsky ballet about Ivan Tsarevich’s encounters with the mythical title avian.

ANSWER: *The Firebird* [or *L’Oiseau de feu*]

<Other Arts>

5. Alessia Trivellone held a 2018 conference for historians who speculate that these people actually never existed. They’re not witches, but Beatrice de Planisoles was forced to wear a yellow cross to identify her as one of these people after having an affair with the town vicar (“VICK-er”). Pope Benedict XII recorded transcripts of trials of these people in the Fournier (“foorn-YAY”) Register. Arnaud Amaury ordered a massacre of these people in Béziers (“bez-YAY”), justifying it by saying “kill them all, God will know his own.” Emmanuel Le Roy Ladurie (“le RWAH la-doo-REE”) wrote a microhistory of these people centered on the village of Montailou (“moan-tie-YOU”). These people believed in both a good and evil God and practiced vegetarianism. For 10 points, name these French heretics almost wiped out by the Albigensian Crusade.

ANSWER: Cathars [accept Albigensians until read]

<European History>

6. After her dog Lucy Lucy Apple Juice ended up in a shelter, a reality star with this first name allegedly got revenge on Dorit Kemsley in #PuppyGate. In *JoJo’s Bizarre Adventure*, a character with this name repeated twice is revealed to be Joseph Joestar’s mother. An aspiring fashion designer at Bayside High with this first name is often hit on by Screech in *Saved by the Bell*. A former *Real Housewives of Beverly Hills* star with this first name runs the Hollywood restaurant Sur on the show *Vanderpump Rules*. Yearley Smith voices a cartoon character with this first name who fends off the advances of Milhouse, is convinced by Paul McCartney to become vegetarian, and plays the saxophone. For 10 points, give the first name of the intelligent sister of Bart Simpson.

ANSWER: Lisa [accept Lisa Vanderpump; or Lisa Lisa; or Elizabeth Joestar; or Lisa Simpson; or Lisa Turtle; accept Dorit Kemsley until read]

<CE/Geo/Other/Pop Culture>

7. A woman burns Richard Churchill’s manuscript after he sleeps with a character who has this relationship to her in a novel set during the Biafran war; those characters are Kainene (“KYE-neh-neh”) and Olanna (“OH-len-nuh”). A boy tries to escape to the History House with a character who has this relationship to him, resulting in Sophie Mol’s drowning. That boy is molested by the Orangedrink Lemondrink man and has this relationship to a character who he sleeps with after a 23-year separation. In a play, an Ilyrian shipwreck fails to kill a character with this relationship to a woman disguised as Cesario. For 10 points, Rahel and Estha in *The God of Small Things* have what relationship, which also describes Viola (“VYE-oh-la”) and Sebastian in *Twelfth Night*?

ANSWER: twins [accept fraternal twins or identical twins; prompt on siblings or sisters or brothers or brother and sister] (The first line is from *Half of a Yellow Sun*.)

<World/Other Literature>

8. During a sacrifice that opens one of these events, a harmless rainbow-like giant snake eats some food, then disappears. During one of these events, Acestes fires an arrow that burns up mid-flight, which is likened to a shooting star. At one of these events in Larissa, Perseus accidentally kills his grandfather, Acrisius. Iris incites Trojan women to burn their ships after one of these events that makes up Book V of the *Aeneid*. An event in which Antilochus fouls Menelaus as Diomedes wins the armor of Sarpedon takes place during a larger event of this kind described in Book 23 of the *Iliad*. These events include one held by Aeneas (“uh-NEE-iss”) for his father Anchises (“an-KY-seez”) and one held in honor of a companion of Achilles after Hector slays him. For 10 points, Patroclus was honored with what type of sporting event held after a hero’s death?

ANSWER: **funeral** games [accept the **funeral** games of Anchises or of Patroclus; anti-prompt on chariot racing or archery contests or discus throwing or sporting events by asking “what larger event did that take place during?”]
<Mythology>

9. A 1999 book by Peter Singer claims that incorporating this thinker’s ideas would allow the ideological Left to better achieve its political and economic goals. Alvin Plantinga has used the phrase “[this thinker]’s doubt” to argue against a joint belief in naturalism and an idea introduced by this thinker by claiming such a belief implies that our faculties are likely unreliable. A book [emphasize] *titled* for this thinker introduced the philosophical terms “skyhooks” and “cranes” and likens the title concept to a “universal acid”; that book by Daniel Dennett is named for this thinker’s “dangerous idea.” The “social” form of this thinker’s namesake school of thought was introduced in the racist book *Social Statics* by Herbert Spencer. For 10 points, name this thinker who formulated the principle of evolution by natural selection.

ANSWER: Charles **Darwin** [accept **Darwinism** or social **Darwinism**; accept *Darwin’s Dangerous Idea*]
<Philosophy>

10. An early use of this behavior was Ralph Fowler and Lothar Nordheim’s explanation of field electron emission. An Airy function may be used to connect regions describing this behavior at their turning points. This non-vibrational behavior is often used to model nitrogen inversion. Evanescent wave coupling occurs analogously to this phenomenon as seen in frustrated total internal reflection. While this behavior is instantaneous, it does not occur at superluminary velocities due to its velocity technically being imaginary. The likelihood of this behavior is characterized by a transmission coefficient, as opposed to a reflection coefficient, and this behavior cannot occur in an infinite potential well. For 10 points, name this behavior in which a wavefunction passes through a potential barrier.

ANSWER: quantum **tunneling**
<Physics>

11. This painting inspired a verse novel by David Dabydeen responding to it. A contemporary art critic called the sea in this painting “the noblest ever painted by man.” That critic, John Ruskin, was the first owner of this painting, and defended this painting’s artist in the first volume of his *Modern Painters*. This painting was first exhibited alongside a poem by the artist that asks “Hope, hope, fallacious Hope! / Where is thy market now?” The artist was inspired to paint this work by Thomas Clarkson’s description of the *Zong*. In this painting, several drowning people’s hands can be seen sticking out of the water. For 10 points, name this painting depicting the aftermath of several people being thrown overboard from the title vessel, by J. M. W. Turner.

ANSWER: *The **Slave Ship*** [or ***Slavers Throwing overboard the Dead and Dying—Typhoon coming on***]
<Painting/Sculpture>

12. This modern-day country's governor proposed the Soustelle Plan to abolish the khammessat system of sharecropping. The FIF represented an ethnic group in this country who were offered "the suitcase or the coffin" by angry mobs. "Bigear's ("bee-ZHAR's") shrimps" were political dissidents from this country who were thrown into the sea after being electrocuted in the gégène ("jay-JEN") torture technique. The Café Wars were examples of infighting in this country involving Messali Hadj's MNA. The founder of the OAS, Raoul Salan, led a General's Putsch in an attempt to prevent this country's independence. *Harkis* and the pieds-noirs ("pyay-nwarr") left this country en masse after losing an independence war to Ahmed ben Bella's FLN, who signed the 1962 Évian Accords. For 10 points, name this former French colony in North Africa.

ANSWER: **Algeria** [or People's Democratic Republic of **Algeria**; or République **algérienne** démocratique et populaire]

<World History>

13. Stephen McGarvey found that this ethnic group's "thrifty" variant of the gene *CREBRF* ("kreb-R-F") predisposes them to obesity. Women of this ethnicity weave fine mats called *'ie tōga* ("ee-ay TOH-gah") from pandanus leaves. This ethnicity's large diaspora in Long Beach and Auckland includes many people of the nonbinary third gender *fa'afafine* ("fa-ah-fa-FEE-nay"). This ethnicity names a territory whose low minimum wage mainly supports tuna canneries. Fathers of this ethnicity's virgin *taupou* hostesses become *matai* chiefs in a ceremony with the drug *'ava*. An influential ethnography omitted this people's high rate of assault and exaggerated their teenage sexual habits, according to Derek Freeman. This people names an American territory east of their country led from Apia. For 10 points, what ethnicity's "Coming of Age" was documented by Margaret Mead?

ANSWER: **Samoa**s [or tagata **Sāmoa**; prompt on **Polynesians** or **Pacific** Islanders; accept American **Samoa** or Amerika **Sāmoa**; accept Western **Samoa** or Independent State of **Samoa** or Malo Sa'oloto Tuto'atasi o **Sāmoa**; accept *Coming of Age in Samoa*]

<Social Science>

14. In this book, a character who is asked "Will you be wise? will you be guided?" chooses to witness "a prodigy to stagger the unbelief of Satan." A locksmith in this book allows access to a building in order to obtain a drawer with a white salt. A man in this book recounts receiving a suspicious check for 100 pounds from a man who had just trampled a young girl. In this novella, Poole's insistence that no letter was delivered by a messenger leads to Mr. Guest being asked to examine the handwriting on a letter. Danvers Carew is beaten to death with a cane in this novella, which follows the lawyer Gabriel Utterson as he investigates a client. For 10 points, name this novella by Robert Louis Stevenson about a scientist who transforms into his evil alter-ego.

ANSWER: *The Strange Case of **Dr. Jekyll and Mr. Hyde*** [accept **Jekyll and Hyde**]

<British Literature>

15. These compounds can be synthesized, racemized ("ruh-SEE-mized"), and metabolized by a coenzyme that forms a Schiff base linkage with a certain transferase; that coenzyme is pyridoxal phosphate. These compounds can be synthesized by forming an imine ("IM-een"), attacking it with a cyanide, and then hydrolyzing the result. In nature, these compounds are mostly found in the L configuration, rather than the D configuration. These zwitterionic compounds can be made in the lab using the Strecker synthesis. These compounds consist of an NH₂ group, a carboxyl, and a side chain. The eight types of these compounds that humans cannot make are called "essential." For 10 points, name these compounds, which are connected by peptide bonds in the primary structure of proteins.

ANSWER: **amino acids** [prompt on **amines** or **acids**]

<Biology>

16. A holder of this office lost power after his energy department was accused of trying to illegally borrow money from Pakistani banker Tirath Khemlani. A holder of this office welcomed the defection of Soviet spies Vladimir and Evdokia Petrov. A holder of this position who died in office supported American involvement in Vietnam, saying he was “all the way with LBJ.” The longest-serving holder of this office kept power due to a speech reaching out to citizens who were not in the middle class or labor unions, whom he called the “forgotten people.” Sir John Kerr dismissed a Labor Party holder of this office in favor of Malcolm Fraser. This office was held by the Liberal Party for 23 continuous years until the victory of Gough Whitlam (“goff WIT-lum”). For 10 points, name this office, held by Robert Menzies from Canberra.

ANSWER: **Prime Minister** of **Australia** [or **PM** of **Australia**; prompt on Prime Minister or PM by asking “of what country?”]

<Other History>

17. In a play, a character who is named after this person is shot by his brother after winning 500 dollars in a game of Three-card Monte (“monty”). That character named for this person works at an arcade doing a whiteface impersonation of him in Suzan-Lori Parks’s play *Topdog/Underdog*. A poem titled for this person calls him a “bronzed, lank man!” and describes him performing the title action “near the old court-house.” An elegy written for this person describes an “orb sailing the heaven” and a time when “the great star early droop’d in the western sky.” Another poem about this man describes him as “fallen cold and dead.” For 10 points, name this dedicatee of the poems “When Lilacs Last in the Dooryard Bloom’d” and “O Captain! My Captain!,” which were written after his assassination.

ANSWER: Abraham **Lincoln** (The third sentence refers to Vachel Lindsay’s poem “Abraham Lincoln Walks at Midnight”; the two poems in the last sentence are by Walt Whitman.)

<American Literature>

18. These people may have worn rocks with holes in them called “adder stones.” These people used a “finger language” and worshipped a “queen” who was the “mother” of their calendar according to *The White Goddess*. The “Deal Warrior” may be one of these people, who had a stronghold on the island of Mona. The forger Iolo Morganwg (“YO-lo mor-GA-noog”) composed a “prayer” named for these people, who inspired his divination based on the medieval alphabet Ogham (“OG-um”). The hill of one of these people named Tlachtga was the site of rituals for Samhain (“SAH-win”). Strabo wrote that Vates (“VAH-tays”), bards and these people were the three exalted classes in Gaul. Pliny claimed that these people led the ritual of oak and mistletoe, while Caesar wrote that they sacrificed humans in “wicker men.” For 10 points, name these Celtic priests.

ANSWER: **druids** [or **druidesses** **druids**; accept Neo-**Druidism**; accept the **Druid**’s Prayer; accept **Druantia**; accept word forms like **druidry** or arch**druids**; prompt on Celtic people or Gaelic people or Gauls; prompt on priests or priestesses; prompt on bards or Gorsedd Cymru; prompt on Neo-Pagans]

<Religion>

19. While using ideal numbers to prove this theorem for regular primes, Ernst Kummer also extended the fundamental theorem of arithmetic to complex numbers. Sophie Germain broke this theorem into two cases and proved it true for her namesake primes. A counterexample to this theorem would imply the existence of non-modular Frey curves, so proving the epsilon conjecture connected this theorem to a special case of the Taniyama–Shimura conjecture. Richard Taylor spent a year helping to correct a flaw in a proof of this theorem given by Andrew Wiles. For 10 points, name this theorem that was written without proof in the margin of a notebook, claiming that x -to-the- n plus y -to-the- n equals z -to-the- n has no solutions when n is greater than two.

ANSWER: **Fermat’s Last** Theorem [prompt on Fermat’s Theorem; prompt on FLT; do not accept or prompt on “Fermat’s Little Theorem”]

<Other Science>

20. This country is the setting of an opera in which a low bass looks forward to his enemies' death in the aria "O, wie will ich triumphieren" ("oh, vee VILL eek tree-oom-FEE-rin"). A piano movement inspired by this country's music begins with the fast turn [read slowly] "B, A, G-sharp, A, C," which is then repeated a minor third higher. During the 18th century, a series of pedals were often added to pianos to imitate the sounds of this country's music, which also inspired Haydn's triangle-heavy "Military" Symphony. Belmonte attempts to rescue Konstanze from the title location in a Singspiel ("ZING-shpeel") opera set in this country that supposedly contained "too many notes." This country is the setting of *The Abduction from the Seraglio*, as well as the eponym of a piano rondo by Mozart. For 10 points, name this country home to many Janissary bands.

ANSWER: **Turkey** [accept **Ottoman** Empire or **Turkish**; accept or **Turkish Concerto** or **Rondo alla Turca**]
<Classical Music>

21. In 2016, Fernando Donis filed a copyright lawsuit against this city over his design of a large art piece shaped like a picture frame in this city. The world's largest flower garden is this city's Miracle Gardens. A building in this city features a Y-shaped cross-section that decreases with height, forming 26 terraces arranged in a spiral pattern. A commemorative tennis match was played on the helipad of a building in this city whose exterior is shaped like the sail of a *dhow* and is contrasted with the wave design of the nearby Jumeirah Beach Hotel. The World Islands are an artificial archipelago off the coast of this city, the home of the "seven-star" Burj Al-Arab hotel and the Burj Khalifa. For 10 points, name this largest city in the United Arab Emirates.

ANSWER: **Dubai**
<CE/Geo/Other/Pop Culture>

Bonuses

1. The title character of this novel pays a priest to bless his son, who is a murderer and a rapist. For 10 points each:
[10] Name this novel in which the protagonist searches for his father in the town of Comala after the death of his mother Dolores. The title character of this novel arranges the murder of the father of his childhood love Susana.

ANSWER: **Pedro Páramo**

[10] *Pedro Páramo* is written in a Latin American literary style described by this adjective. In that style of realism described by this adjective, fantastical elements pervade the otherwise ordinary world.

ANSWER: **magical** realism [or **magic** realism or el realismo **mágico**]

[10] Another early proponent of magical realism was this author, whose most famous novel begins with a recipe for sausage rolls. Mama Elena forbids her youngest daughter Tita from getting married in this author's novel *Like Water for Chocolate*.

ANSWER: Laura **Esquivel**

<World/Other Literature>

2. A parody of a section of this opera opens with a solo piano playing repeated octaves and sevenths in triplets before the strings play a painstakingly slow rendition of that section's main theme in unison. For 10 points each:
[10] Name this opera that includes a tune now synonymous with the scandalous can-can dance, the "Infernal Galop."

ANSWER: **Orpheus in the Underworld** [or **Orpheus in Hell**; or **Orphée aux enfers**]

[10] This composer used that parody of the "Infernal Galop" from Offenbach's *Orpheus in the Underworld* to portray tortoises as one of several "musical jokes" in his *Carnival of the Animals*.

ANSWER: Camille **Saint-Saëns** ("kuh-MEE san-SAWNS") [or Charles-Camille **Saint-Saëns**]

[10] *The Carnival of the Animals* also parodies the scherzo from this work on the piano and double bass. The overture to this work represents "hee-hawing" in the strings, while a march from this work is usually played at its title event on the organ.

ANSWER: Mendelssohn's incidental music for *A Midsummer Night's Dream* [accept overture to *A Midsummer Night's Dream* or *Ein Sommernachtstraum*; prompt on Mendelssohn's "Wedding March" by asking "what larger work it is part of?"]

<Classical Music>

3. The apparent dip is converted to the true dip in this technique. For 10 points each:

[10] Name this geophysical technique that mathematically modifies the coordinates of underground events to compensate for refraction and diffraction. It is required because of complex underground features like salt bodies.

ANSWER: seismic **migration** [prompt on reflection **seismology**]

[10] Seismic migration also corrects for these features, which have reverse and strike-slip types. The San Andreas one of these features has caused multiple massive earthquakes.

ANSWER: tectonic **faults** [accept reverse **faults** or strike-slip **faults** or transform **faults** or the San Andreas **fault**]

[10] Seismic migration requires a type of relation named for this process, which relates the frequency and wavenumber for a given type of wave. The "fire" of gemstones is a result of this process, in which white light can be broken up into different components with differing velocities.

ANSWER: **dispersion** [accept **dispersion** relations]

<Other Science>

4. Women were the patients in over 80 percent of these surgeries, which were motivated in part by hospital overcrowding and overconfident physicians, according to Eliot Valenstein's *Great and Desperate Cures*. For 10 points each:

[10] Name this surgery developed by Egas Moniz. Drugs like lithium carbonate and antipsychotics gradually replaced this psychosurgery, which severed nerve pathways with an instrument resembling an icepick.

ANSWER: **lobotomy** [or **leucotomy**; accept specific types like prefrontal **lobotomy**]

[10] While lobotomies are now discredited, OCD may be treated with bilateral cingulotomy as an alternative to this procedure. An electrode acts like a pacemaker for the brain in this procedure, mainly used for Parkinson's and more recently epilepsy.

ANSWER: **deep brain stimulation** [or **DBS**; prompt on partial answer; prompt on neurostimulation]

[10] People who respond poorly to these drugs may receive transcranial magnetic stimulation, which is less invasive than DBS. Among these drugs, bupropion is less likely to cause sexual side effects or weight gain than escitalopram.

ANSWER: **antidepressants** [accept **SSRIs** or **selective serotonin reuptake inhibitors**; accept **NDRI**s or **norepinephrine-dopamine reuptake inhibitors**; prompt on treating mood disorders or anxiety disorders or bipolar disorder or **OCD** or **obsessive-compulsive disorder** or anti-smoking aids or by asking "what primary class of drugs do they belong to?"]

<Social Science>

5. A letter by this critic to Anaïs Nin ("ah-nah-EES NEEN") insulted surrealist prose, before stating "I would love to be married to you, and I would teach you to write." For 10 points each:

[10] Name this American literary critic and author of *Axel's Castle* and *Patriotic Gore*.

ANSWER: Edmund **Wilson**

[10] *Axel's Castle* includes a chapter on this author, who wrote about "The Good Anna" and "The Gentle Lena" in her novel *Three Lives*. This author is credited with coining the phrase "Lost Generation" to describe a group of American writers living in Paris during the 1920s.

ANSWER: Gertrude **Stein**

[10] One of the epigraphs to this Ernest Hemingway novel states "you are all a lost generation." The first section of this novel details the escapades of Jake Barnes, Robert Cohn, and Lady Brett Ashley in Paris.

ANSWER: *The **Sun Also Rises***

<American Literature>

6. Poor women in this city prayed for miracles from beheaded criminals in the Via Decollati. For 10 points each:

[10] Name this city that has invoked its patron Saint Rosalia against COVID-19, since she stopped a 1624 plague. "Benedict the Moor" led hermits in this city, whose Church of Santa Maria dell'Ammiraglio ("del-ah-mee-RALL-yo") is in the Arab-Norman style.

ANSWER: **Palermo** [accept **San Fratello** or **San Frareau** or **Santu Frateddu** or **San Filadelfo**]

[10] Leonardo Fioravanti left Palermo to print medical texts in this city, whose Scuola ("SKWO-lah") Grande di San Rocco honors a plague-curing saint. An Armenian monastery replaced a leper colony near the Lazaretto hospital in the lagoon of this city, the site of Saint Mark's Basilica.

ANSWER: **Venice** [or **Venezia**]

[10] Antiseptic "Venice turpentine" was likely similar to this biblical resin or ointment. An African-American spiritual about healing a "sin-sick soul" quotes Jeremiah asking about this salve ("salv") from a "hill of testimony."

ANSWER: **balm** of **Gilead** [accept **balsam** of **Gilead**; accept "There is a **Balm** in **Gilead**"; accept **tsori** or **natat** or **bosem** or **balsamon** or **balsamum** in place of "balm"; prompt on partial answers by asking "from what specific place?"]

<Religion>

7. In 1998, a protester cut the foot off a statue of this city's first governor, the murderous conquistador Juan de Oñate, because he cut off people's feet in the Acoma massacre. For 10 points each:

[10] Name this city whose San Miguel Mission was built in 1610, when it became the capital of its namesake province. Pioneers like Mary Donoho and Susan Shelby Magoffin settled this city after William Becknell opened trade to it.

ANSWER: **Santa Fe**, New Mexico [or **Santa Fe** de Nuevo México; accept the **Santa Fe** Trail]

[10] Near Santa Fe, Popé led a 1680 rebellion of this people's northern cities Picuris and Taos ("touse"). Ancestors of this people built medieval adobe cities like Canyon de Chelly ("shay") and Chaco Canyon, inspiring their Spanish name meaning "village."

ANSWER: **Pueblo** people [or **Puebloans**; accept Ancestral **Puebloans**; accept **Tewa** or **Tiwa** Pueblo or **Jemez** Pueblo or **Zuni** Pueblo or **Hopi** Pueblo or **Pecos** Pueblo or **Piro** Pueblo or **Keres** Pueblo; prompt on **Anasazi**]

[10] The Piro Pueblo met the Spanish during Antonio de Espejo's expedition seeking these two goods. The Chamuscado and Rodríguez expedition settled Cerrillos Hills to obtain these two goods, which led Coronado to seek Quivira and Cibola.

ANSWER: **silver** AND **gold** [prompt on partial answer; prompt on precious metals] (Cibola and Quivira were legendary cities of gold in the New Mexico Territory.)

<American History>

8. These are the most abundant cells whose maturation is controlled by the transcription factor PDX1. For 10 points each:

[10] Name these cells that secrete amylin and C-peptide alongside a hormone that increases GLUT4 expression and which opposes glucagon.

ANSWER: **beta**-cells [prompt on the Islets of Langerhans or the pancreas]

[10] Beta-cells in the pancreas's Islets of Langerhans are best known for producing this hormone, which is drastically underproduced in Type 1 diabetes.

ANSWER: **insulin** [accept **insulinomas**]

[10] This scientist names a diagnostic for insulinomas of the pancreas in which patients are checked to have low blood sugar, symptoms of hypoglycemia, and that those symptoms disappear when blood sugar is elevated. His namesake procedure removes the head of the pancreas.

ANSWER: Allen **Whipple** [accept the **Whipple** triad or the **Whipple** procedure]

<Biology>

9. In the modern era, collection of these objects involves plucking them from their animal source a maximum of three times. For 10 points each:

[10] Name these objects that may be painted with red dye to signify that a considerable deed was performed to earn one. Many Native American tribes would create war bonnets out of thousands of these objects.

ANSWER: eagle **feathers** [accept bird **feathers**; accept bald eagle **feather** or golden eagle **feathers**; do not accept or prompt on feathers from another bird]

[10] Hair from these animals, deer, and moose were used to create stiff roach headdresses. Beadwork replaced a Native American art form in which the round, tubelike hairs from these animals were appliquéd and embroidered onto moccasins, shirts, and other linens.

ANSWER: **porcupines** [accept **porcupine** quills or any answers mentioning hair from **porcupines**]

[10] In the Southwest, quillwork was largely replaced by beadwork using silver and this "fallen sky stone." The domes of Isfahan's Shah Mosque are covered in this blue stone that was largely mined out of the Iranian province of Khorasan.

ANSWER: **turquoise**

<Other Arts>

10. This country attempted to place emir Shah Shujah Durrani to supplant the Barakzai dynasty of Most Mohammad Khan. For 10 points each:

[10] Name this country that threatened to intervene in the Qajar Dynasty's Siege of Herat to deter a northern rival from annexing Khiva after that rival had already annexed Bukhara and other Central Asian powers.

ANSWER: Great **Britain** [or **England**; or the **United Kingdom**; or **UK**; accept the **British** Empire; accept **British** India or the **British** Raj]

[10] The Siege of Herat occurred in this modern-day country during the Great Game, in which Great Britain and Russia fought for influence over this country. This country's founder, Ahmad Shah Durrani, won the Third Battle of Panipat.

ANSWER: **Afghanistan** [or Islamic Republic of **Afghanistan**]

[10] By the end of the Third Anglo-Afghan War in 1919, this border line between British India and Afghanistan was reaffirmed and solidified to create a buffer zone with Russia. This line marks much of the modern border between Pakistan and Afghanistan.

ANSWER: **Durand** Line

<World History>

11. The introduction to this author's first book was written by Dorothy Canfield Fisher, who convinced Robert Haas to publish it. For 10 points each:

[10] Name this author of *Seven Gothic Tales*. This Danish author detailed her romance with Denys Finch-Hatton on a Kenyan coffee plantation in her memoir.

ANSWER: Isak **Dinesen** [or Karen von **Blixen-Finecke**]

[10] In this short story from *Seven Gothic Tales*, a group of people exchange stories in a farmhouse. In this story, Miss Malin Nat-og-Dag ("nat-oh-day") convinces Countess Calypso and Jonathan Maersk to get married.

ANSWER: "The **Deluge at Norderney**"

[10] Dinesen's short story "Babette's Feast" follows a servant who prepares a birthday dinner after winning one of these events. A Shirley Jackson short story titled for this type of event ends with the stoning of Tessie Hutchinson.

ANSWER: **lottery** [accept "The **Lottery**"]

<European Literature>

12. This behavior occurs after a material passes the yield point. For 10 points each:

[10] Name this behavior in which an object irreversibly changes due to an applied force.

ANSWER: **plastic** deformation [accept **plasticity**; prompt on **deformation**]

[10] Plastic deformation may be used to strengthen a material due to dislocations within the material's crystal structure. This term refers to the process of strengthening a material in this manner.

ANSWER: **work hardening** [or **strain hardening**]

[10] A material's plastic and elastic behaviors can be visualized on a curve that plots this quantity against strain. Young's modulus is the ratio of this quantity to strain.

ANSWER: **stress**

<Physics>

13. Tourists in this city's oldest neighborhood can visit a steam-powered clock powered by a plant on nearby Georgia and Beatty Streets. For 10 points each:

[10] Name this city that contains the historic neighborhood of Gastown. Car ferries near this city's suburbs of Horseshoe Bay and Tsawwassen connect this city to an island of the same name that contains Pacific Rim National Park.

ANSWER: **Vancouver**, Canada

[10] Vancouver is the largest city in this westernmost Canadian province, which also contains Vancouver Island and the Haida Gwaii archipelago.

ANSWER: **British Columbia** [prompt on **BC**]

[10] A popular Public Market lies on this Vancouver "island," which is actually a peninsula separated from downtown Vancouver by False Creek. This "island" retains the original name of Vancouver, before it was changed in 1886.

ANSWER: **Granville** Island

<CE/Geo/Other/Pop Culture>

14. This man's killer was unusually let into the Smolny Institute despite being caught with a gun, and he was mysteriously found unconscious at the scene of the murder. For 10 points each:

[10] Name this Leningrad party chief whose murder set off the Great Purge. Stalin likely ordered this man's murder and pinned it on a conspiracy involving the mentally ill killer Leonid Nikolayev.

ANSWER: Sergei **Kirov** [or Sergei Mironovich **Kirov**]

[10] Stalin's purges were carried out by this NKVD chief who ordered the murder of thousands of Polish military officers in the Katyn Massacre. This man was eventually executed on charges of serial rape.

ANSWER: Lavrentiy **Beria** [or Lavrentiy Pavlovich **Beria**]

[10] The NKVD was eventually replaced by this longtime Soviet secret police agency headquartered at Lubyanka Square. Vladimir Putin was an agent of this organization before going into politics.

ANSWER: **KGB** [or **Komitet Gosudarstvennoy Bezopasnosti**]

<European History>

15. This poem was first published as "By the Century's Deathbed" on December 19th, 1900. For 10 points each:

[10] Name this poem that proclaims "every spirit upon earth / Seemed fervourless as I." The narrator of this poem sees "So little cause for carolings" as "Winter's dregs made desolate / The weakening eye of day."

ANSWER: "The **Darkling Thrush**"

[10] This author of "The Darkling Thrush" also wrote *The Mayor of Casterbridge* and *Tess of the d'Urbervilles*.

ANSWER: Thomas **Hardy**

[10] Hardy described one of these events in a poem that notes "The sea-worm crawls" and considers "The Immanent Will that stirs and urges everything." Gerard Manley Hopkins dedicated a poem about one of these events "To the happy memory of five Franciscan Nuns."

ANSWER: **shipwreck** [or equivalents like **sinking of a ship**; accept "The **Wreck of the Deutschland**" or **sinking of the Titanic**]

<British Literature>

16. Answer the following about souls undertaking crossings, for 10 points each.

[10] An obol placed in the mouth would pay Charon (“karen”) for a soul’s passage across this river. Since the nymph associated with this river was the first to aid Zeus during the Titanomachy (“Titan-AW-muh-kee”), she came to symbolize unbreakable oaths.

ANSWER: River **Styx**

[10] Islamic beliefs state that on the Day of Judgment, souls will pass through a thin one of these things named As-Sirāt. That structure was likely inspired by the similar Chinvat example of these structures from Zoroastrian beliefs.

ANSWER: **bridge** [accept Chinvat **Bridge** or Cinvatô **Peretûm** or the **Bridge of the Requirer**; accept **as-Sirat**]

[10] Since children cannot build up enough good karma to cross the river Sanzu into the Pure Land, they are protected under the robes of this bodhisattva. This figure carries a staff and a wish-fulfilling jewel and promised not to become a Buddha until all six hells were emptied.

ANSWER: **Jizō** [or **Ojizō**-sama or **Dizàng** or **Jijang** or **Ksitigarbha**]

<Mythology>

17. These objects were first displayed to a Western audience during the *Les Magiciens de la terre* (“ma-zheese-YAN duh la TAIR”) exhibition at the Pompidou Centre. For 10 points each:

[10] Identify these objects that include the “fantasy” type produced by the Kane Kwei workshop and Paa Joe. A museum in Houston, Texas, contains some of these objects painted to look like a Mercedes-Benz and a chicken.

ANSWER: **coffins** [accept any specific type such as fantasy **coffins**]

[10] Most of the world’s fantasy coffins are produced in this country’s Greater Accra (“uh-KRAH”) region. The Golden Stool was the throne of kings of the Ashanti Empire, which was located in this modern-day country.

ANSWER: **Ghana** [or Republic of **Ghana**]

[10] This material is made of interwoven strips of fabric and is worn by different Ghanaian tribes to represent their cultural identity.

ANSWER: **kente** cloth [prompt on **cloth**]

<Painting/Sculpture>

18. Instead of reforming the Areopagus, Solon created the Athenian version of this institution as an advisory council. For 10 points each:

[10] Name this democratic council in many Greek poleis. Ephialtes’ reforms empowered this body and the Ecclesia at the expense of the Areopagus.

ANSWER: **boule** [accept **Council** of **400** or **Council** of **500**]

[10] This man expanded the number of people in the *boule* to 500 from the old 400 determined by Solon. This “father of democracy” is most often credited with introducing the practice of ostracism.

ANSWER: **Cleisthenes** [or **Kleisthénis**]

[10] Cleisthenes developed his political ideas as leader of this city-state. Cleisthenes was the uncle of Agariste, mother to Pericles, a future leader of this city.

ANSWER: **Athens** [or **Athínai**]

<Other History>

19. Curtis Oldenburg concluded that this effect doesn't really matter for injecting CO2 into natural gas reservoirs. For 10 points each:

[10] Name this effect that James Dewar ("DEW-er") exploited to produce cryogenic liquids. Ideal gases have a coefficient of zero for this effect, which occurs when a real gas undergoes an isenthalpic ("ice-en-THAL-pick") throttling process that changes its temperature.

ANSWER: **Joule–Thomson** effect [or **Thomson–Joule** effect; or **Kelvin–Joule** effect]

[10] The Joule–Thomson process is adiabatic ("ay-dee-uh-BAT-ick"), so it lacks this property. Lab demos often feature a flashy combustion reaction with this property between potassium chlorate and a Gummy Bear, since it releases heat due to a negative enthalpy.

ANSWER: **exothermic** reactions

[10] This highly exothermic reaction is self-sustaining, making it a useful way to create molten iron for welding the joints of rail tracks. Glycerine initiates this reaction between aluminum powder and iron(III) ("iron-three") oxide.

ANSWER: **thermite** reaction [accept **Goldschmidt** reaction]

<Chemistry>

20. An aesthetic treatise by this thinker describes the first title concept as that which "operates in a manner analogous to terror," and the second as that which causes "love or some passion similar to it." For 10 points each:

[10] Name this thinker who wrote a youthful treatise on the sublime and beautiful that would later be critiqued by Immanuel Kant.

ANSWER: Edmund **Burke**

[10] Burke is better-known as the founder of the modern form of this political and social ideology, which he used to oppose the French Revolution. This ideology is typically contrasted with liberalism.

ANSWER: **conservatism** [or **conservative**; or word forms]

[10] Despite being satirical, Burke's *A Vindication of Natural Society*, which turns Lord Bolingbroke's arguments against religion towards other aspects of society, is sometimes considered the first expression of the "philosophical" form of this position. Pierre-Joseph Proudhon coined the term for this political position in the mid-19th century.

ANSWER: **anarchism** [accept philosophical **anarchism** or political **anarchism**; accept **anarchist** or word forms]

<Philosophy>

21. Miranda Kaufmann's *Black Tudors: The Untold Story* and Onyeka's *Blackamoors* have identified over 360 Africans in Renaissance Britain. For 10 points each:

[10] The Black trumpeter John Blanke appears on the 1511 vellum Westminster Tournament Roll honoring the birth of this woman's short-lived son Henry. The Granadan "Catalina" was a Moorish attendant of this first wife of Henry VIII.

ANSWER: **Catherine of Aragon** [prompt on **Catherine**; do not accept or prompt on "Catherine Howard" or "Catherine Parr"]

[10] Skeletons from this Tudor shipwreck suggest that it was crewed by African sailors. After its 1545 sinking, the enslaved Guinean diver Jacques Francis salvaged this carrack warship of Henry VIII, which was raised again in 1982.

ANSWER: **Mary Rose** [accept **Mary Rose** Trust]

[10] Casper Van Senden, a merchant from this city, failed to get Elizabeth I to expel Africans so that he could sell them to Lisbon. Brick Gothic buildings dominate this Wendish German port, the longtime major city of the Hanseatic League.

ANSWER: Hanseatic City of **Lübeck** [or Hansestadt **Lübeck**; or **Lybæk**]

<Other History>