

Berus-Lie Academic Spring Tournament (BLAST)

Writers: Anishka Bandara, Anson Berns, Dylan Bowman, Katherine Lei, Michael Li, Steven Liu, Keaton Martin, Leela Mehta-Harwitz, Arjun Nageswaran, Mazin Omer, Hari Parameswaran, Darren Petrosino, Govind Prabhakar, Matthew Shu, Cole Snedeker, Ethan Strombeck, Chris Tong, Sophia Weng, Walter Zhang, Shawn Zhao

Editors: Andrew Wang, Anson Berns, Katherine Lei, Michael Li, Keaton Martin, Hari Parameswaran, Vishwa Shanmugam

Packet 8: haha xdx

Tossups

1. **William Schuman orchestrated a work by this composer that includes the setting of a patriotic song in a minor-key polonaise. This composer depicted celebrations such as Decoration Day and the Fourth of July in his *Holiday Symphony*. One of this composer's *Two Contemplations* features clashing melodies between a brass band and ragtime pianos. Near the start of John Adams' *On the Transmigration of Souls*, an (*) offstage trumpet references a work by this composer, in which a phrase played seven times receives six replies from progressively erratic flutes. This composer wrote *Variations on "America"* for solo organ and *Central Park in the Dark*. For 10 points, name this modernist American composer of *The Unanswered Question*.**

ANSWER: Charles Ives <WZ, Auditory Fine Arts> {Fine Arts, Auditory Fine Arts}

2. **In this technique, the asymmetry factor is used to quantify tailing. One form of this technique uses immobilized metal ions and polyhistidine [**"poly-HIS-ti-deen"**] tags. Flame ionization detectors are sometimes used in this technique. An equation used to find the optimal velocity for this technique includes the eddy-diffusion parameter and is named for (*) Van Deemter. Differential retention time is important in this technique. Varieties of this technique include HPLC and size-exclusion. Silica gel is often used for the thin-layer type of this technique, which includes a mobile and stationary phase. For 10 points, name this technique whose "paper" form is often used to separate pigments.**

ANSWER: chromatography [accept any answer with chromatography; accept TLC, GC, HPLC] <GP, Chemistry> {Science, Chemistry}

3. **Historians have challenged the framing of this battle as a purely religious struggle by citing the participation of the Lipka Tatars, as well as Louis XIV's decision to give aid to Protestant rebels rather than Leopold I. The largest cavalry charge in history occurred during the relief of this battle and was led by the Winged Hussars of Jan III Sobieski [**"yan soh-bee-yes-key"**]. Historians consider this battle to have marked the beginning of the decline of the (*) Ottoman Empire, as Mehmed IV was unable to succeed at capturing the target city, where Suleiman the Magnificent had earlier failed in 1529. An Ottoman advance into Europe was checked at, for 10 points, what 1683 siege of the modern-day capital of Austria?**

ANSWER: 1683 Siege of Vienna [accept Battle of Vienna, Relief of Vienna, Battle of the Bald Mountains] <CS, European History> {History, European History}

4. After surviving an event of this type in Korean myth, the son of a laurel tree spirit named Namu Doryeong [**“door-yong”**] won a contest with the help of ants and mosquitoes. While preventing an event of this type, a mythical leader passed by his home three times in thirteen years but did not enter each time. Survivors of another one of these events atop the Malaya Mountains included the saptarishi, or seven sages. The epithet (*) Engineer was given to the Xia [**“shi-AH”**] Dynasty founder Yu the Great for stopping one of these events using irrigation. Before one of these events, Manu was advised to build a boat and tie it to the horn of the fish Matsya, Vishnu’s first avatar. For 10 points, name these catastrophic events, examples of which include overflowing of the Yellow or Ganges River.

ANSWER: **floods** [accept Great **Flood**; accept Great **Deluge**] <WZ, Mythology> {Beliefs, Mythology}

5. This author wrote a poem that repetitively contemplates “the unspoken word, the Word unheard, / The Word without a word” and opens “because I do not hope to turn again.” This poet described “disturbing the dust on a bowl of rose-leaves” in a poem that ends with a reflection on (*) “time past and time future.” The narrator of a poem by this author had “lingered in the chambers of the sea” “till human voices wake us, and we drown.” The narrator of that poem by this author asks “do I dare to eat a peach?” For 10 points, name this poet who wrote “Burnt Norton” as the first of his *Four Quartets* and also penned “Ash Wednesday” and “The Love Song of J. Alfred Prufrock.”

ANSWER: Thomas Stearns **Eliot** [or T.S. **Eliot**] <KL, Non-Epic Poetry> {Literature, Non-Epic Poetry}

6. This leader spearheaded the construction of the Great Man-Made River, which he referred to as the “Eighth Wonder of the World.” This leader’s country was targeted by American air strikes in Operation El Dorado Canyon in retaliation for the bombing of the La Belle discotheque in West Berlin. This leader outlined his philosophy of “Jamahiriya,” or “state of the masses,” to refer to the socialist state he espoused in his (*) Green Book. This leader, who was convinced by Nelson Mandela to hand over the perpetrators of the Lockerbie bombing, was killed in Sirte along with his son Mutassim during the Arab Spring. For 10 points, name this former dictator of Libya.

ANSWER: Muammar Mohammed Abu Minyar **Gaddafi** <GP, World History> {History, World/Commonwealth History}

7. In an opera in this language, the title group sings the hymn “Salve Regina” [**SAL-vay reh-JEE-na**] as they are executed. A character reflects on how the title objects appear on her body in the “Jewel Song,” an aria in this language, which was also used for the opera *Dialogues of the Carmelites*. The title character of an opera in this language sings the (*) “Flower Duet” with her servant after the title character’s mother, Nilakantha, leaves her at home. Another opera in this non-German language begins with the title character making a deal with Mephistopheles. For 10 points, name this language used in Charles Gounod’s *Faust*, Léo Delibes’ *Lakmé*, and by Francis Poulenc [**poo-LAWNK**].

ANSWER: **French** [accept **français**] <KM, Other Auditory Arts> {Fine Arts, Other Fine Arts}

8. In one scene in this play, a character is chastised for her humanitarian views as she can’t even remember how much she pays for a yard of cloth. Towards the end of the play, Nana declares that “the judgement hour has come” when the title characters attack. Two characters in this play are named after Roman generals due to the mistaken belief that (*) Marius and Sulla were lovers. Helena burns a paper with a certain formula in this play, frustrating her husband Domin. At the end of this play, Alquist refuses to dissect two of the title characters after declaring they are the new Adam and Eve. For 10 points, name this Karel Capek [**“cay-pek”**] play about the title human-like characters, which is the origin of the word “robot”.

ANSWER: **R.U.R.** [or **Rossum’s Universal Robots**] <AN, Drama> {Literature, Drama}

9. This river's namesake "gorge" is home to many medieval toll castles, such as the ship-shaped Pfalz ["falls"] Castle near Kaub. Legend states that shipmen travelling near the town of St. Goar along this river were distracted by a sirens from a nearby cliff. An equestrian statue at Koblenz watches over this river's confluence with the (*) Moselle. Commerce travels north along this river from cities such as Cologne and Strasbourg to its headwaters, at which one can find Europe's largest maritime hub, the port of Rotterdam. For 10 points, name this river which flows from to Alps through western Germany before emptying into the North Sea.
ANSWER: Rhine River <CS, Geography> {Other, Geography}

10. These molecules are classified based on their namesake "commision number." A quasi-steady-state approximation for the kinetics of these molecules was postulated by G.E. Briggs and J.B.S. Haldane. One kind of these molecules acts at palindromic cut sites and creates either blunt or sticky ends. Constants which characterize the activity of these molecules, such as K_m ["kay-sub-em"] and V_{max} ["vee-max"], can be found using a (*) Lineweaver-Burke plot. The activity of these molecules can be slowed down using allosteric and competitive inhibitors. The "induced fit" and "lock and key" models describe the binding of these molecules to their substrates. For 10 points, name these proteins which act as biological catalysts.
ANSWER: enzymes [accept restriction enzymes or restriction endonucleases, prompt on catalysts until read] <ARB, Biology> {Science, Biology}

11. While talking to his wife on his deathbed, a man in this novel states that he hopes "thunder and lightning" will kill her because of the "tearing down talk" she gives him. A man in this novel draws comparisons to Abraham Lincoln freeing the slave when he buys Matt Bonner's starving mule for five dollars. This novel, which ends as the protagonist symbolically "pulls in the horizon" like a "fishnet," is framed as a conversation with (*) Phoeby Watson. After he is bitten by a rabid dog during a hurricane, the protagonist of this novel has to shoot her third husband, Tea Cake. For 10 points, name this novel about Janie Crawford's search for an ideal marriage, written by Zora Neale Hurston.
ANSWER: Their Eyes Were Watching God <VS + AB, Long Fiction> {Literature, Long Fiction}

12. The 5S method of organization originated in this country, developed by a company which introduced just-in-time production. In this country, a philosophy of "continuous improvement" was introduced in the Production System of that company as a part of lean manufacturing. The term translated as "overwork death" rose to prominence in this country after multiple executives died at the end of its (*) post-World War II economic miracle. The end of that period also contributed to a sharp rise in suicides in this country, many of which are performed in the Aokigahara forest. The Nikkei index is based in, for 10 points, what country, where the philosophy of *kaizen* was developed by Toyota?
ANSWER: Japan [the term for "overwork death" is *karoshi*; "continuous improvement" is *kaizen*] <SL, Other/Mixed Academic> {Other, Miscellaneous/Other Academic}

13. James Bjorken ["byor-ken"] posited that these particles behave like points due to his namesake "scaling." The Cabibbo Angle was introduced to explain how these particles can decay into their various types. The charge of these particles is related to their hypercharge and isospin via the Gell-Mann-Nishijima formula. In 1968, scientists at SLAC discovered these particles using (*) deep inelastic scattering. This is the particle with mass that, due to color confinement, cannot be found in isolation. Two types of these particles have charges of $+\frac{2}{3}$ and $-\frac{1}{3}$. For 10 points, name these subatomic particles which make up baryons and come in varieties such as charm and up.
ANSWER: quarks [accept up, down, top, bottom, strange, or charm quarks] <HP, Physics> {Science, Physics}

14. A 2015 meta-analysis by Carter and McCullough failed to confirm the “depletion” of this concept, which supposedly occurs when willpower is “used up.” Erikson’s final stage of psychosocial development sees the conflict of despair against the “integrity” of this concept. This is the first title concept of a 1923 paper that compares this concept to a rider that tries to control the impulses of a horse. Anna Freud posited that this concept counters anxiety and depression with (*) defense mechanisms. An individual’s second self is known as the “alter” form of this concept, which adheres to the “reality principle.” For 10 points, name this concept, from the Latin for “I,” that is paired with this concept’s “super” and the id in Sigmund Freud’s theory of the psyche.

ANSWER: ego [accept *das ich*; do not accept or prompt on “superego”. The 1923 paper is *The Ego and the Id*] <WZ, Social Science> {Thought, Social Science}

15. After arguing over wearing homespun garments on the senate floor, two politicians from this state fought a rather non-violent pistol duel which left Humphrey Marshall and his opponent lightly wounded. The alleged theft of a hog triggered a violent feud between a northern state’s Hatfields and this state’s McCoys. Thomas Jefferson paired this state with Virginia in a series of (*) resolutions rebuking the Alien and Sedition Acts. One senator from this state became Secretary of State after his collusion with John Quincy Adams in the “corrupt bargain”, developed the American System, and was known as the “Great Compromiser”. For 10 points, name this home state of Henry Clay.

ANSWER: Commonwealth of Kentucky [accept State of Kentucky] <CS, American History> {History, American History}

16. The velocities of objects close to the centers of these structures is empirically given by the M-sigma relation. The green valley appears between the red sequence and blue cloud in the color-magnitude diagram of these structures. Measurements of the rotation curves of these structures made by Vera Rubin provided evidence for dark matter. The bright (*) active nuclei of some of these structures are powered by black hole accretion disks and are known as quasars [“KWAY-zars”]. The Hubble tuning fork diagram is used to classify these objects, with unbarred and barred spiral types of these objects on the right. For 10 points, name these objects that include Andromeda and the Milky Way.

ANSWER: galaxies [accept more specific answers such as spiral galaxies; accept galactic bulge before “green valley”] <SL, Astronomy> {Science, Other Science}

17. In a novel by an author from this country, a thrift store named “The Clothes Hound” is run by Daisy’s adoptive parents; that novel’s title refers to the *Ardua Hall Holograph*, which is written by Aunt Lydia. In a novel written by an immigrant to this country, Kip Singh falls in love with Hana, a nurse who takes care of Almsy after he is burned during the African campaign of World War II. A Sri Lankan immigrant to this country, (*) Michael Ondaatje [“on-DAHT-jay”], wrote *The English Patient*. The protagonist admits to using butter in place of hand lotion to a man who often plays Scrabble with her, called the Commander, in a novel by an author from this country, which is set in the dystopian country Gilead. For 10 points, name this country home to the author of *The Handmaid’s Tale*, Margaret Atwood.

ANSWER: Canada [The first clue is from Atwood’s 2019 novel *The Testaments*] <HP, Long Fiction> {Literature, Long Fiction}

18. Intuitionism is discussed as one of *The Methods* of this field in a Henry Sidgwick work. Book VII of a work titled for this field discusses how people follow urges due to a lack of self-restraint known as *akrasia*. One philosopher's view of this field includes the example of the Kingdom of Ends as where the categorical imperative is applied. A book named for this field discusses how (*) God is nature and nature is God and is organized in the manner of Euclid's *Elements*. Baruch Spinoza's magnum opus is named for this field, whose Kantian type emphasizes the importance of "good will". Aristotle's son Nicomachus titles a book which discusses, for 10 points, what field which considers "right" or "wrong"?

ANSWER: **ethics** [accept The Methods of **Ethics**, Nicomachean **Ethics**, or Kantian **ethics**] <AN, Philosophy> {Thought, Philosophy}

19. Through the Camptown Clean-Up campaign, a president in this region attempted to stop high rates of US military prostitution amongst his people. In this region, suspected communist sympathizers were killed in the Bodo League Massacre. In this region, the Royal Australian Regiment and T-34s clashed at the Battle of Chongju, which took place near the (*) Yalu River. A leader in this region promulgated the *juche* ["joo-chay"], or "self-reliance," ideology as the first leader of his country. That leader in this region signed a peace agreement with Syngman Rhee to end a 1950s war. For 10 points, name this peninsula, where countries gained independence under leaders such as Kim il-Sung.

ANSWER: **Korean** Peninsula [accept North **Korea** or South **Korea**] <HP, World History> {History, World/Commonwealth History}

20. A sculpture by this artist that depicts Jesus leaning against a tree trunk gained its name after being housed in the Palazzo Rondanini for a long time. A now-lost sculpture of a faun's head was used by this artist to gain entry into Domenico Ghirlandaio's workshop. Laszlo Toth chipped the nose and eyes one of this artist's works. This artist's technique of carving freehand is exemplified by his series of *Prigioni*, which includes the (*) "Young Slave." This artist included a "horned" Moses in his design for the tomb of Pope Julius II. This artist's most famous sculpture, which stands in the Galleria Dell'Accademia, depicts a figure keeping a sling over his shoulder in *contrapposto*. For 10 points, name this Florentine sculptor who created the marble *David*.

ANSWER: **Michelangelo** Buonarroti <HP, Visual Fine Arts> {Fine Arts, Visual Fine Arts}

Bonuses

1. In the beginning of a play named after this kind of animal, a boy only quotes television commercials when speaking. For 10 points each:

[10] Name this kind of animal. That play, by Peter Shaffer, follows a boy who blinds six of these animals.

ANSWER: **horse** [accept Equus]

[10] In addition to *Equus* [“eck-wus”], Peter Shaffer wrote this play, which follows a composer’s fictitious rivalry with Antonio Salieri. It was adapted into a film by Miloš [“mee-losh”] Forman.

ANSWER: Amadeus

[10] Peter Shaffer was a playwright from this country. Daniel Radcliffe, an actor from this country, created controversy when he starred in *Equus*, a role that includes nude scenes.

ANSWER: Great **Britain** [or the **U.K.**; or the **United Kingdom**; accept **England**] <ML, Drama> {Literature, Drama}

2. In May 2019, this campaign accused the Icelandic band Hatari [“HAH-ta-ree”] of “fig-leaving.” For ten points each:

[10] Name this nonviolent movement, founded in 2005, which calls for a boycott against Israeli goods until it complies with international law. Roger Waters has stood in solidarity with this movement.

ANSWER: **Boycott, Divestment, Sanctions** [accept **BDS**; accept, but do not otherwise reveal, **Palestinian Campaign for the Academic and Cultural Boycott of Israel**, or **PACBI**]

[10] BDS calls for boycotting Caterpillar bulldozers to protest Israeli demolition of homes in this territory’s Gaza Strip.

ANSWER: **Palestine** [accept فلسطين, Filastīn, or Falastīn]

[10] This Palestinian-American representative from Michigan formally endorsed the BDS movement in December 2018. This DSA member commented that she felt a “calming feeling” because Palestinians provided a “safe haven” for Jews after the Holocaust.

ANSWER: Rashida (Harbi) **Tlaib** [accept Rashida **Harbi**] <DP, Current Events> {Other, Current Events}

3. Operational amplifiers multiply the input difference in this quantity as its output. For 10 points each:

[10] Name this quantity, the difference in electric potential between two points on a circuit.

ANSWER: **voltage** [prompt on V or electric potential difference]

[10] Ideal op-amps have an infinite value of this quantity at the input, which causes no current to flow through them. This complex-valued quantity is the inverse of admittance and can be visualized on a phasor diagram.

ANSWER: **impedance** [prompt on Z or resistance or reactance]

[10] Feedback in op-amps can be altered by changing whether it is in an “open-” or “closed-” one of these things. The total voltage drop around one of these structures is zero according to Kirchhoff’s rule named for them.

ANSWER: **loop** [accept Kirchhoff’s **loop** rule] <SL, Physics> {Science, Physics}

4. Answer some things about the prolific artist Ivan Aivazovsky ["eye-va-zov-ski"], for 10 points each:

[10] Aivazovsky was most famous for paintings of this type. Rembrandt's only painting of this type depicting a biblical event was stolen from the Isabella Stewart Gardner Museum in 1990.

ANSWER: **seascape**

[10] Aivazovsky was an artist from this country. Andrei Rublev's Trinity icon is held in this country's Tretyakov Gallery located in its capital of Moscow.

ANSWER: **Russia**

[10] Upon meeting Aivazovsky, this artist supposedly dedicated a rhymed eulogy in Italian to him. This artist wrote a poem that ends with "Where is thy market now?" to accompany his painting *The Slave Ship*.

ANSWER: J.M.W. **Turner** <KM, Visual Fine Arts> {Fine Arts, Visual Fine Arts}

5. The Nichiren and Jodo-Shu sects debated at a religious debate in one of these locations named Azuchi. For 10 points each:

[10] Name these locations. Toyotomi Hideyoshi ordered the construction of one of these locations in Osaka on the grounds of the Ishiyama Honganji Temple, which had been used by the Ikko-Ikki.

ANSWER: **castle** [accept Osaka **Castle** or Azuchi **Castle**]

[10] After becoming *kampaku*, Toyotomi Hideyoshi decreed in 1588 that these objects would be confiscated in order to consolidate his power. Amakuni was a legendary Japanese maker of these objects.

ANSWER: **swords** [accept **katanas**, **wakizashis**, **tachis**, etc.]

[10] This last of the Three Great Unifiers of Japan bombed Osaka Castle while campaigning against Toyotomi Hideyori. He names a shogunate that blocked out foreign influence through the *sakoku* policy.

ANSWER: **Tokugawa** Ieyasu [accept **Tokugawa** Shogunate] <HP, World History> {History, World/Commonwealth History}

6. Answer some questions about solving differential equations, for 10 points each:

[10] One method of solving differential equations is to separate these things by isolating x and dx on one side of the equation and y and dy on the other side. x and y are themselves these values, which can be changed.

ANSWER: **variables**

[10] The linear independence of solutions can be determined with the Wronskian ["RON-skee-en"], which performs this operation on the solutions and their derivatives. Cramer's ["CRAY-mers"] rule solves systems of linear equations by using this operation.

ANSWER: **determinant**

[10] If the Wronskian of a set of solutions has this property, then they are linearly independent. A differential equation is *non*-homogeneous if the side not containing the unknown function and its derivatives has this property.

ANSWER: **nonzero** [accept word forms] <HP, Math> {Science, Other Science}

7. These people maintained their practice of human sacrifice in order to sustain their war god Huitzilopochli [“wee-TSEE-loh-POCH'-tlee”]. For 10 points each:

[10] Name these Mesoamerican people who worshipped gods such as Huitzilopochli at their Temple Mayor. These people were told to settle where they found an eagle perched on a cactus.

ANSWER: **Aztecs**

[10] This goddess gave birth to Huitzilopochtli [“wee-TSEE-loh-POCH'-tlee”] fully formed after she was impregnated by a ball of feathers while sweeping a temple. Huitzilopochtli defends this goddess from Coyolxauhqui [co-yol-shay-hui] after she conspired with the four hundred stars to kill this goddess out of embarrassment for her pregnancy.

ANSWER: **Coatlicue** [“co-at-lee-kwei”]

[10] This north shrine of the Temple Mayor was painted blue and dedicated to this brother of Huitzilopochtli. This Aztec deity was the god of rain, fertility, and water, and was worshipped as a giver of life and sustenance.

ANSWER: **Tlaloc** <SZ, Mythology> {Belief, Mythology}

8. This family's *hacienda* called Las Tres Marias crushes this family's patriarch during an earthquake. For 10 points each:

[10] Name this family which includes the clairvoyant Clara, who predicts the accidental poisoning of her sister Rosa, and Esteban.

ANSWER: **Trueba** [prompt on del Valle with “what family do they join by marriage?”]

[10] The Trueba family is central to *The House of the Spirits*, the first novel of this female Chilean author.

ANSWER: Isabel **Allende**

[10] This is the name of Clara's dog, who was turned into a rug after his death. *The House of the Spirits* begins and ends with the sentence “[this name] came to us by sea.”

ANSWER: **Barrabas** <WZ, Long Fiction> {Literature, Long Fiction}

9. In power transition theory, the decline of a hegemon necessarily leads to this phenomenon. For 10 points each:

[10] Name this phenomenon, which Carl von Clausewitz described as “the continuation of politics by other means.”

ANSWER: **war**

[10] Warfare is notably excluded from this international relations concept introduced by Joseph Nye. It is the ability for a state to achieve goals through non-coercive means.

ANSWER: **soft power** [prompt on power]

[10] Nye introduced soft power in a book about the international influence of this country, the world's sole superpower after the fall of its Cold War foe, the Soviet Union.

ANSWER: **United States** of **America** [accept either underlined portion; accept **USA**; the Nye book is *Bound to Lead: The Changing Nature of American Power*] <SL, Social Science> {Thought, Social Science}

10. Answer the following about the illustrious political career of John Ashcroft. For 10 points each:

[10] Ashcroft served as Governor and then Senator of this Midwestern state. His re-election loss in 2000 against Mel Carnahan was notable as it came three weeks after Carnahan's death in a plane crash.

ANSWER: **Missouri**

[10] After losing to a dead man, Ashcroft then went on to serve in this Cabinet office before being succeeded by Alberto Gonzales. Ashcroft had succeeded the first ever woman to hold this office, Janet Reno.

ANSWER: **Attorney General** of the United States

[10] Ashcroft served as Attorney General under this 43rd President of the United States. This president took power after a controversial win against Al Gore and shares his first name with his father who himself was a president.

ANSWER: George **W. Bush** [accept **the younger Bush**, **Dubya**, **Bush 43rd**, and other similar answers; prompt on Bush or George Bush] <AN, American History> {History, American History}

11. This pedal is often replaced with one that depresses a mute rail, allowing the player to practice softly. For 10 points each:

[10] Name this pedal, not to be confused with a sustain pedal, which allows a piano player to only sustain certain notes. This pedal is often used to prevent dissonant sounds from mixing together.

ANSWER: **sostenuto** pedal [prompt on **middle** pedal]

[10] This Beethoven piano sonata's slow first movement is ironically marked *adagio* ["uh-da-gee-oh"] *sostenuto*, despite the composer calling for players to use the sustain pedal throughout. Modern performers of this sonata usually ignore that direction anyway.

ANSWER: "**Moonlight Sonata**" [accept **Piano Sonata No. 14** in C-sharp minor; accept **Op. 27, No. 2**; prompt on "**Quasi una fantasia**"]

[10] All modern types of these large pianos come with a full retinue of sustain, *una corda*, and *sostenuto* pedals. These pianos usually produce richer tones than their upright counterparts.

ANSWER: **grand** pianos [accept baby **grand** pianos] <HP, Auditory Fine Arts> {Fine Arts, Auditory Fine Arts}

12. In this story, pneumonia is characterized as a man who walks around "touching one person here and another there with his icy fingers" For 10 points each:

[10] Name this story, in which Old Behrman paints the title object so that Johnsy regains the will to live.

ANSWER: "The **Last Leaf**"

[10] "The Last Leaf" is a story by this author, who names an award given by the PEN American Center for outstanding short fiction. He wrote about the retired safecracker Jimmy Valentine in "A Retrieved Reformation."

ANSWER: **O. Henry** [or William Sydney **Porter**]

[10] "The Last Leaf" is set in Greenwich Square in this city, like much of O. Henry's work. The title of O. Henry's collection *The Four Million* references the population of this city.

ANSWER: **New York** City [or **NYC**] <AMB, Short Fiction/Other Literature> {Literature, Short Fiction/Other}

13. This city is home to Powell's City of Books, the largest independent bookstore. For 10 points each:

[10] Name this city, whose Voodoo Donuts got in trouble with the government for offering donuts glazed with NyQuil. This city lies at the confluence of the Willamette and Columbia Rivers.

ANSWER: **Portland**

[10] Across the Columbia River, one can enter a Washington town with this name. A different city with this name has its "Gastown" neighborhood named after a man who opened that city's first saloon.

ANSWER: **Vancouver**

[10] Portland in this state and is only an hour's drive away from this state's highest point, Mount Hood. This state's city of Eugene is home to its flagship state university and the birthplace of Nike.

ANSWER: **Oregon** <HP, Geography> {Other, Geography}

14. This ruler initially co-ruled with his brother Ivan V. For 10 points each:

[10] Name this Russian czar who sought to bring Russia to the fore of European politics by going on his Grand Embassy. This czar captured the port of Azov from the Ottoman Empire in 1696.

ANSWER: **Peter I** [accept **Peter the Great** or **Peter Alexeyevich**; prompt on **Peter**]

[10] Peter's rise to power was resisted by his half-sister Sophia Alekseyevna, who held this ruling position while he was too young to govern himself.

ANSWER: **regent**

[10] Sophia was able to oppose Peter through control of this elite musketeer force. This unit, which was originally formed by Ivan the Terrible, was disbanded after repeated revolts against Peter.

ANSWER: **Streltsy** <CS, European History> {History, European History}

15. S-Adenosyl methionine is a donor for this process. For 10 points each:

[10] Name this process, which a transferase enzyme catalyzes. This process is part of genomic imprinting, and its result is commonly found at CpG sites.

ANSWER: DNA **methylation** [accept **adding methyl** groups or **adding CH₃** groups]

[10] CpG sites are named for their abundance in cytosine and this nucleotide which hydrogen bonds with it, symbolized G.

ANSWER: **guanine** [accept **guanosine**; do not accept “guanidine”]

[10] Amino acids on these proteins can be methylated to modify gene expression. These proteins make up nucleosomes, which DNA winds around to form chromatin.

ANSWER: **histones** [accept specific histones like **H3** or **H4**] <KL, Biology> {Science, Biology}

16. Daniel Burnham designed the architecture for one of these events. For 10 points each:

[10] Name these events, one of which in Chicago inspired Daniel Burnham’s plan known as the “White City.” Gustav Eiffel created his namesake tower to show the progress of technology at one of these events.

ANSWER: **World’s Fairs** [accept **World’s Exposition** or **Columbian Exposition**]

[10] This sculptor was hired by the Columbian Exposition to create a gilded statue of Liberty holding an orb in one hand and a staff in the other. This man’s most famous sculpture is housed in the Lincoln Memorial.

ANSWER: Daniel Chester **French**

[10] An art troupe with this quality known as the “White Rabbits” created many sculptures for the Columbian Exposition. An anonymous modern art troupe with this quality created an image of Ingres’ *La Grande Odalisque* wearing a mask to attack the Met.

ANSWER: **all-female** [accept equivalents such as **only made up of women**, etc.; the other group mentioned is the Guerilla Girls] <HP, Other Fine Arts> {Fine Arts, Other Fine Arts}

17. Under its ruler Shah Abbas the Great, this empire established its capital at the city of Isfahan. For 10 points each:

[10] Name this empire founded by Ismail I, which spread Twelver Shia Islam in a certain region. Its longest reigning ruler was Tahmasp I, who signed the Peace of Amasya with a neighboring empire.

ANSWER: **Safavid** Empire

[10] The Ottomans and Safavids warred frequently, including when an Ottoman emperor with this name defeated Shah Ismail at the Battle of Chaldiran. That emperor with this name had the nickname “the grim.”

ANSWER: **Selim** [accept **Selim I**]

[10] Along with the Ottomans and Mughals, the Safavids are classified as empires named for this resource. This explosive resource is paired with paper, compasses, and printing as one of the Four Great Inventions.

ANSWER: **Gunpowder** Empires <AN, World History> {History, World/Commonwealth History}

18. These reagents allow for the formation of carbon-carbon bonds by forcing a negative charge onto a carbon atom, which makes it nucleophilic. For 10 points each:

[10] Identify these reagents with general formula RMgX.

ANSWER: **Grignard** reagent

[10] Nucleophilic attack of a ketone by a Grignard [**“gri-NYARD”**] reagent results in a compound with a tertiary one of these functional groups, which has formula -OH.

ANSWER: **alcohol** [accept **hydroxyl**]

[10] This halogen is commonly used in Grignard reagents. This element’s namesake qualitative test involves the disappearance of its characteristic deep brown color in the presence of alkenes.

ANSWER: **bromine** <CT, Chemistry> {Science, Chemistry}

19. You are a Christian heretic. Answer some things about what you may or may not believe in, for 10 points each:
[10] This belief asserted that Jesus was his own distinct creature begotten by God and therefore inferior to God. It was decreed a heresy at the First Council of Nicaea.

ANSWER: **Arianism**

[10] In contrast to Arianism, this doctrine asserts that God, Jesus, and the Holy Spirit are one and the same. At the First Council of Nicaea, this belief was promulgated by Athanasius of Alexandria.

ANSWER: the **Trinity** [accept **Trinitarianism** or **Homoousianism**]

[10] This other heresy emphasized that Jesus had distinct divine and human natures. It also rejected the title of *Theotokos* for Mary and was denounced at the Council of Ephesus and then again at the Council of Chalcedon.

ANSWER: **Nestorianism** <SZ, Religion> {Beliefs, Religion}

20. For 10 points each, answer the following about the Hermeticist movement of poetry:

[10] The Hermeticist movement was founded by, and centered around, poets from this country. A Hermeticist poet from this country described how “even the poor know that richness, the fragrance of” the title “Lemon Trees.”

ANSWER: **Italy** [or **Italia**; the poet is Eugenio Montale]

[10] In a Salvatore Quasimodo poem titled for this thing, the narrator tells the place of Tyndari, “Today, you confront me / and penetrate my heart.” Another poet commands this “destroyer and preserver” to “drive [his] dead thoughts over the universe.”

ANSWER: **wind** [accept “**Wind** at Tyndari”; accept “Ode to the **West Wind**”; “Ode to the West Wind” is by Percy Shelley]

[10] Fighting in this conflict inspired Giuseppe Ungaretti to describe himself as “a yielding fiber / of the universe” in his poem “The Rivers.” This conflict also inspired “Dulce et Decorum Est,” a poem by Wilfred Owen.

ANSWER: **World War I** [accept equivalents, accept **prima guerra mondiale**, prompt on **Italian Front** by asking, “what larger conflict was this a part of?”] <DP, Non-Epic Poetry> {Literature, Non-Epic Poetry}