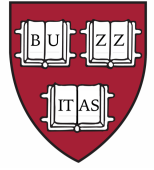


Harvard Fall Tournament XIII

Edited by Jon Suh with assistance from Raynor Kuang, Jakob Myers, and Michael Yue

Questions by Jon Suh, Michael Yue, Ricky Li, Kelvin Li, Robert Chu, Alex Cohen, Kevin Huang, Justin Duffy, Raynor Kuang, Chloe Levine, Jakob Myers, Thomas Gioia, Erik Owen, Michael Horton, Luke Minton, Olivia Murton, Conrad Oberhaus, Jiho Park, Alice Sayphraraj, Patrick Magee, and Eric Mukherjee

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Round 1

Tossups

1. **Joseph Whitworth developed one of this profession's first widely used pieces of equipment. In the Bosnian War, two streets in Sarajevo ["sah-rah-YAY-vo"] were known for the presence of these people. John Sedgwick's last words mocked people of this profession. In fewer than 100 days, a man of this profession who earned the nickname "The (*) White Death" recorded 542 confirmed kills during the Winter War. Chris Kyle notably served in this role during the Iraq War. For 10 points, name these military marksmen, often operating with a spotter, who are known for their accuracy with firearms.**

ANSWER: snipers (accept sharpshooters; accept marksmen until mention; accept Sniper Alley; accept *American Sniper*; prompt on less specific designations within the military, like soldiers or troops) [*Writer's note: Sedgwick said, "They couldn't hit an elephant at this distance."*] <Suh>

2. **The "two squares tessellation" is known as this theorem's namesake "tiling" because "dissecting" it forms the basis of multiple geometric proofs of this theorem. Pappus's area theorem generalizes this theorem to areas of parallelograms. This theorem can be used to convert from the Cartesian coordinates "x" and "y" to the (*) radial coordinate "r," since it directly gives rise to the Euclidean distance formula. Sets of positive integers associated with this theorem are known as its namesake "triples." For 10 points, name this theorem that describes the relationship between side lengths of a right triangle.**

ANSWER: Pythagorean theorem (or Pythagoras' theorem) <R. Li>

3. **A section of this B-flat-major song begins with *staccato* A-major piano chords. Producer Roy Thomas Baker made at least 160 separate overdubs for this song, and at the end of its music video, a 60-inch symphonic gong is hit by drummer Roger Taylor. This song begins with a four-part (*) *a capella* section, and its protagonist notes later that it's "too late" and his "time has come." This song's protagonist "sometimes wish[es he'd] never been born at all," and he says in its "opera section" that "Beelzebub has a devil put aside for me." For 10 points, name this song with lots of "Galileos" by Queen that begins, "Is this the real life? Is this just fantasy?"**

ANSWER: "Bohemian Rhapsody" <Yue>

4. **This author's only novel uses 71 journal-like excerpts to recount the Danish nobleman Malte Laurids Brigge's childhood. A poem by this author describes "a ritual dance around a center in which a mighty will stands paralyzed," and describes the title animal's vision as "so weary that it cannot hold anything else." This poet asked if the addressee has "remembered (*) Gaspara Stampa sufficiently yet" in a collection of ten poems dedicated to Princess Marie von Thurn und Taxis, which opens by asking "who, if I cried out, would hear me among the Angelic Orders?" For 10 points, name this German poet of "The Panther" and the *Duino Elegies*.**

ANSWER: Rainer Maria Rilke <R. Li>

5. In a work by this artist, a young woman in a gray dress and checkered apron practices geometry on the title object. This artist painted *Blackboard*, as well as a painting showing young boys holding hands and running in front of a red schoolhouse. In the 1880s, this artist painted his most famous scenes from his family's estate in Prouts Neck, (*) Maine. *Snap the Whip* and *Breezing Up* are among the works by this artist, who also illustrated a waterspout in the distance and stalks of sugarcane on a rudderless ship, as sharks mass around a seemingly hopeless Black man. For 10 points, name this American artist of *The Gulf Stream*.

ANSWER: Winslow Homer <Cohen>

6. The phragmoplast, which grows from spindle fibers left after cytokinesis, plays an important part in forming this structure. Piperacillin targets this part of the cell, as do the echinocandin class of antifungals which inhibit an enzyme that links monoglyceride. The antimicrobial properties of lysozymes stem from the way they hydrolyze the bond between (*) NAM [one word] and NAG [one word] residues in this structure. In plants, this structure allows the cell to survive hypotonic conditions by restricting expansion of the cell. For 10 points, name this rigid protective barrier around the cell that is made of cellulose and is absent in animal cells.

ANSWER: cell wall <K. Li>

7. *Hollywood Babylon* alleged that George Cukor [“KEW-kor”] was cut from directing this film because he was gay. Sidney Howard became the first posthumous Oscar winner for this film's screenplay. One thousand dummies and the Screen Actors Guild's entire cast of extras featured in a wide shot of this film's protagonist searching for Dr. Meade among fallen (*) soldiers. This movie won Hattie McDaniel the first Oscar for a black actor, and its final scene shows actress Vivien Leigh crying after Rhett Butler tells her, “Frankly, my dear, I don't give a damn.” For 10 points, name this movie based on a Margaret Mitchell novel.

ANSWER: *Gone with the Wind* <Chu>

8. In his explication of the Legalist Paradigm, Michael Walzer claimed that aggression is the unique condition for which this action is permissible. In the *Little Red Book*, Mao Zedong argued that this action is an extension of politics and encourages active participation in progressive forms of this action. St. Augustine identified three criteria in rightly (*) pursuing this action: a rightly intended will, a consent from a competent authority, and a just cause. Clausewitz's most notable treatise is on this subject, and a treatise on this subject encourages one to “know the enemy and know yourself.” For 10 points, name this action whose “Art” is described by Sun Tzu.

ANSWER: war (prompt on self-defense before *Little Red Book*; accept descriptive answers like trying to justifiably start a war; accept *The Art of War*) <Jin>

9. This quantity's operator is the generator of translations, and the derivative of energy with respect to it is the group velocity. This quantity is the generalized velocity derivative of the Lagrangian, and its space is also called *k*-space as it is proportional to inverse wavelength by the de Broglie [“broy”] relation. By Noether's [“NURH-thurs”] theorem, translational invariance implies its conservation, and its conjugate variable is (*) position. This quantity squared over twice the mass is the kinetic energy, and its time derivative is the force. Impulse gives the change in this quantity, which is conserved in inelastic collisions. For 10 points, name this vector quantity equal to mass times velocity.

ANSWER: linear momentum (do NOT accept or prompt on “angular momentum”) <Yue>

10. This author described a year in the life of Euclide and Cécile Auclair in *Shadows on the Rock*. In a novel by this author, “Outland vacuum” caused by World War I affects the daughter of Godfrey St. Peter. This author of *The Professor’s House* included the section “The White Mulberry Tree” in a novel in which Frank shoots Emil. This author wrote novels about (*) Alexandra Bergson and singer Thea Kronborg, and Lena Lingard tells one of this author’s narrators to visit a woman with the last name Shimerda who had previously moved to Nebraska. For 10 points, name this author whose *Prairie Trilogy* includes *O Pioneers!* and *My Ántonia*.

ANSWER: Willa Cather <Levine>

11. Three Hawaiians who died while exploring this present-day state are the namesake of this state’s Owyhee County. This state’s capital has the highest concentration of Basques in America. George M. Willing falsely claimed a Native American origin for this state’s name, which he actually just made up. This state contains the ski town of Coeur d’Alene [“kor duh-LANE”] and otherworldly lava fields at the (*) Craters of the Moon. This state is the westernmost to contain a portion of Yellowstone National Park. The city of Pocatello is in, for 10 points, what “Gem State” known for its potatoes with capital at Boise?

ANSWER: Idaho <Chu/Myers>

12. The *Al Chet* prayer is recited out loud on this holiday. A ceremony on this holiday originated from the sacrifice of one goat and the release of another into the wilderness of Azazel and thus gives the origin of the term “scapegoat.” During the *kapparot* ceremony observed on the eve of this holiday, money or chicken is (*) waved over an observer’s head. The days leading up to this holiday from New Year’s is called the Days of Awe. The entire Book of Jonah is read in the afternoon of this day, while the *kol nidre* declaration is made on the eve of this holiday. For 10 points, name this Day of Atonement, the holiest day of the Jewish calendar.

ANSWER: Yom Kippur <Suh>

13. Historian Leonard Levy claimed that this organization chiefly benefited from the Supreme Court case *U.S. v. Cruikshank*. This organization tried to boycott Kellogg’s for supporting the *Superman* radio program which publicized this organization’s secret codes. The rape and murder of Madge Oberholtzer by D. C. (*) Stephenson tarnished the reputation of this organization. The first iteration of this organization was founded by Confederate General Nathan Bedford Forrest in 1866. D. W. Griffith’s film *The Birth of a Nation* repopularized this organization. For 10 points, name this white supremacist organization with an alliterative three-part name.

ANSWER: Ku Klux Klan (or KKK) <Suh>

14. The lead salt of this element was the first to display a gradual increase in conductivity with increasing temperature, a transition named after Faraday. As a molten electrolyte, a compound containing sodium, aluminum, and this element functions as the solvent in the Hall–Héroult process. This element is found in PVDF, a common membrane used for (*) western blotting. Unlike others in its group, the conjugate acid of this element’s anion is a weak acid, and it’s responsible for the hydrophobicity of Teflon. This element is usually said to have the highest electronegativity. For 10 points, name this element that is added to water to improve dental health.

ANSWER: fluorine <K. Li>

15. In a section of this work, a figure describes a tree with its roots in the heavens that symbolizes material existence and is to be felled with the “axe of detachment.” A character in this work is humiliated when he mistakes a pond for a polished floor and falls in. When a noble family in this work attempts to strip (*) Draupadi in front of their court, her clothes magically grow in length. After losing a game of dice in this work, a family is exiled for 12 years. A section of this work sees Arjuna converse with his charioteer Krishna. For 10 points, name this Hindu epic which includes the *Bhagavad Gita*.

ANSWER: Mahabharata (anti-prompt [ask for less specific] on Bhagavad Gita until read) <Cohen/R. Li>

16. **This man and Gaspar Gorricio wrote a book that claimed that the Garden of Eden must be discovered for the Second Coming of Christ to occur. This author of the *Book of Prophecies* was imprisoned and replaced by Francisco de Bobadilla [“bo-ba-dee-yah”] in one post. This man successfully predicted a lunar eclipse to convince the natives of Jamaica to provide him with (*) provisions. This man supposedly silenced his critics by crushing the tip of an egg to balance it on a table, and he received support from Ferdinand and Isabel for his most famous expedition. For 10 points, name this Genoese explorer, who in 1492, sailed the ocean blue.**

ANSWER: Christopher Columbus <Suh>

17. **A man declares “I bear no grudge, though my heart is breaking” in a song cycle by this composer, whose D-minor violin concerto was not included in the Complete Edition of his works. *Songs of Dawn* is this composer’s last numbered piano work, and another is titled for an E. T. A. Hoffmann character. As the critic (*) Eusebius, this composer exclaimed “Hats off, gentlemen, a genius!” in reference to Chopin. This composer of *Kreisleriana* wrote a a “Cathedral” fourth movement for his third symphony, which was inspired by a trip to the namesake river with his wife Clara. For 10 points, identify this German composer of the “Rhenish” symphony.**

ANSWER: Robert Schumann <Yue>

18. **In a story by this author, the main character constantly checks his pedometer and encounters two gates made of ivory and horns. This author of “The Other Side of the Hedge” created a character named Maurice who seeks the help of Dr. Lasker Jones to cure his homosexuality. In a novel by this author, a character rudely interrupts a (*) tennis match to read from a novel and is later rejected by Lucy Honeychurch. This man wrote a novel in which Dr. Aziz is falsely accused of raping Adela Quested while on a visit to the Marabar Caves. For 10 points, name this English author of *A Room with a View* and *A Passage to India*.**

ANSWER: Edward Morgan Forster <Suh>

19. **This man achieved a victory by throwing pots filled with venomous snakes onto the ships of his enemies. After another victory, this man sent back more than 200 gold rings as loot. This man broke a treaty signed by his brother-in-law that set the Ebro River as the boundary against his enemies by besieging the town of (*) Saguntum. This man successfully executed the largest ambush in military history at a battle near Lake Trasimene. Later, this man was defeated at the Battle of Zama by Scipio [“SKEE-pee-oh”] Africanus. For 10 points, name this Carthaginian general who famously crossed the Alps during the Second Punic War against the Roman Republic.**

ANSWER: Hannibal Barca <Suh>

20. **A god was believed to control this entity from the caves underneath Elephantine Island. An androgynous deity most associated with this entity was often depicted with a potbelly and a cohort of frog goddesses. Abtu and Anet were two creatures who lived in this body. The arrival of Hapi was said to cause an (*) annual event on this body. The corpse of a god who died in this body was said to have been discovered near Abydos. Some stories attributed the annual flooding of this body to be caused by the tears of Isis for her dead husband Osiris. For 10 points, name this major river central to Egyptian mythology.**

ANSWER: Nile River (I guess prompt on river until mention) <Suh>

21. **A character in this novel travels to a mansion near Trantridge in order to “claim kin” with a rich widow and later kills a flock of wounded pheasants out of mercy. A man in this novel who briefly goes to Brazil on a failed farming venture rejects the advances of the main character’s co-workers at the (*) Talbothays dairy factory. Mrs. Brooks notices a bloodstain caused by the death of a man who earlier got lost in a foggy forest and raped the main character. At the end of this work, Liza-Lu and Angel Clare walk away after seeing the raising of a black flag implying the main character’s death. For 10 points, name this novel by Thomas Hardy.**

ANSWER: Tess of the d’Urbervilles: *A Pure Woman Faithfully Presented* <Suh>

Bonuses

1. When “roasted whole...[this foodstuff] make[s] a considerable figure at a Lord Mayor’s feast, or any other publick entertainment,” and it “would be a great inducement to marriage.” For 10 points each:

[10] Name this foodstuff, “a burden on their country” which if consumed by Irish residents “would greatly lessen the number of Papists” and allow the poor to “have something valuable of their own” according to a 1729 essay.

ANSWER: Irish **children** (accept **babies**, **infants**, and other synonyms)

[10] This satirist proposed making Irish children “beneficial to the publick” in his essay *A Modest Proposal*, although he is better known for detailing Lemuel Gulliver’s travels in a namesake satirical novel.

ANSWER: Jonathan **Swift**

[10] The “pleasures” and “pains” of ingesting this other unusual substance was discussed in an autobiography by Thomas De Quincey, who described the horrific visions the title “just, subtle, and mighty” substance causes in that work.

ANSWER: **opium** (accept **laudanum**) <Yue>

2. This two-component circuit can be used to make band-pass filters. For 10 points each:

[10] Name this two-component circuit in which current oscillates as energy goes from being stored in the electric field of the capacitor to the magnetic field of the inductor and back.

ANSWER: **LC** circuit (or **resonant** circuit; or **tank** circuit; or **tuned** circuit)

[10] An LC circuit consists of an inductor and a capacitor, the latter of which has its capacitance measured in units named for this scientist. This British scientist has a namesake law of induction.

ANSWER: Michael **Faraday** (prompt on **farads**)

[10] The angular frequency of oscillation in an LC circuit varies with this function of the product of inductance and capacitance. The angular frequency of an oscillation for a pendulum varies with this function of the pendulum’s length. You can either give it as a power, or describe its equation.

ANSWER: **negative one-half** (accept **inverse square root**, **one over square root**, **reciprocal square root** and equivalents) <Yue>

3. For 10 points each, answer the following about broken or ineffective treaties.

[10] Neville Chamberlain declared “peace for our time” after signing the Munich Agreement that gave control of Sudetenland to this leader of Nazi Germany.

ANSWER: Adolf **Hitler**

[10] After being captured at the Battle of Pavia, this French monarch signed the 1526 Treaty of Madrid with Charles V. A few weeks later, however, he nullified the treaty and started the War of the League of Cognac [“**KON-yak**”].

ANSWER: **Francis I** of France (prompt on partial answer)

[10] This 1928 international agreement renounced the use of war as a means of conflict resolution. Named after the American Secretary of State and the French Foreign Minister at that time, this resolution is technically still in effect.

ANSWER: **Kellogg–Briand** Pact (or **Pact of Paris**; or **General Treaty for Renunciation of War as an Instrument of National Policy**) <Suh>

4. This show's seventh season ends with the Night King and his undead army destroying Eastwatch-by-the-sea and advancing into Westeros. For 10 points each:

[10] Name this popular HBO fantasy series adapted from novels by George R. R. Martin. Many of its plotlines revolve around the power struggles of various noble Houses as they vie for the Iron Throne.

ANSWER: **Game of Thrones**

[10] A prophecy about this *Game of Thrones* character foretelling the deaths of her three children was fulfilled when her son, Tommen, committed suicide in the Season 6 finale. She is played by Lena Headey.

ANSWER: **Cersei** ["SER-say"] Lannister (prompt on Lannister)

[10] Headey also starred as this character in a short-lived FOX spinoff series entitled this character's "Chronicles." In a critically panned 2015 film, fellow *Game of Thrones* actress Emilia Clarke starred as this character alongside Arnold Schwarzenegger.

ANSWER: **Sarah Connor** (prompt on partial answer) <R. Li>

5. For a time, this goddess disguised herself as an elderly woman named Doso to enter the household of Celeus. For 10 points each:

[10] Name this goddess who taught the gift of agriculture to mankind and was a central figure in the Eleusinian Mysteries alongside her daughter Persephone.

ANSWER: **Demeter** (or **Thesmophoros**)

[10] In return for Celeus' hospitality, Demeter attempted to make Celeus' son Demophon immortal by coating him with this substance, which was a staple foodstuff of the gods along with nectar.

ANSWER: **ambrosia**

[10] Demeter cursed this man with insatiable hunger as punishment for cutting down a sacred grove of trees dedicated to Demeter. This man eventually sold his daughter off to slavery to buy more food.

ANSWER: **Erysichthon** of Thessaly (or **Aethon**) <Suh>

6. A character with this surname ends a play by noting that "the strongest man in the world is the man who stands alone." For 10 points each:

[10] Give this surname of a doctor that discovers that his town's public baths are polluted in the play *An Enemy of the People*. It is also the surname of the doctor's brother, the mayor of that town.

ANSWER: **Stockmann** (accept Dr. Thomas **Stockmann** or Peter **Stockmann**)

[10] In another play by the same author, this character is blackmailed by Judge Brack after burning Eilert Lovborg's manuscript, and she commits suicide at the end of that play.

ANSWER: **Hedda Gabler** (accept either or both underlined parts; accept **Hedda Tesman**; prompt on Tesman alone)

[10] *An Enemy of the People* and *Hedda Gabler* were written by this Norwegian playwright who depicted Nora Helmer walking out on her family in *A Doll's House*.

ANSWER: Henrik **Ibsen** <Yue>

7. A work made in this form shows a boat that might be about to crash into the Rainbow Bridge. For 10 points each:

[10] Name this type of object onto which the original version of Zhang Zeduan's *Along the River During the Qingming Festival* was painted.

ANSWER: **handscroll**

[10] *Along the River During the Qingming* ["ching-ming"] Festival was painted during the Song dynasty in this country.

ANSWER: **China** (or **Zhongguo**)

[10] Tang dynasty painter Han Gan was famed for his paintings of these animals. One of these animals pokes its head out from behind a curtain at the left of Henry Fuseli's *The Nightmare*.

ANSWER: **horses** <Chu>

8. This versatile drug may soon be used to combat cancer. For 10 points each:

[10] Name this pain reliever that can also lower the risk of heart attacks. This nonsteroidal anti-inflammatory drug should not be given to adolescents with flu-like symptoms.

ANSWER: **aspirin** (or **acetylsalicylic acid**; or **ASA**)

[10] Aspirin reduces inflammation and consequently tumor formation by inhibiting COX enzymes which synthesize this class of signaling molecule. These lipids are vasodilators and are involved in smooth muscle contraction.

ANSWER: **prostaglandins**

[10] Aspirin also affects these small packets of cytoplasm which shield cancer cells as they metastasize. They are crucial for blood clotting, and are named for their shape in their inactive form.

ANSWER: **platelets** <K. Li>

9. At this man's congressional hearing, several Democratic aides exhibited posters of Michael Flynn, Rick Gates, and other figures implicated in the Mueller investigation. For 10 points each:

[10] Name this former FBI agent who was called to testify before the House Oversight and Judiciary Committees after anti-Trump texts to his mistress Lisa Page surfaced. He was fired by FBI deputy director David Bowdich in August 2018.

ANSWER: Peter **Strzok**

[10] Trey Gowdy, a Congressman from this state, was among the lawmakers who grilled Strzok at his hearing. Henry McMaster defeated James Smith in this state's 2018 gubernatorial election.

ANSWER: **South Carolina**

[10] During his opening remarks, Strzok forcefully denounced the hearing as "another victory notch in [this leader's] "belt." This President of Russia discussed his country's annexation of Crimea during a summit with President Trump in Helsinki.

ANSWER: Vladimir **Putin** <R. Li>

10. This man was the first Catholic appointed to a presidential cabinet. For 10 points each:

[10] Name this man who first served as Attorney General under Andrew Jackson and then later as the Supreme Court Chief Justice.

ANSWER: Roger B. **Taney** ["TAW-nee"]

[10] In this landmark Supreme Court case, Taney ruled that African Americans, whether free or slave, were not citizens. The case is named after an African American who unsuccessfully sued for his freedom.

ANSWER: **Dred Scott v. Sanford**

[10] In this case, Taney ruled that only Congress had the authority to suspend the writ of habeas corpus, a decision that President Lincoln completely ignored.

ANSWER: *Ex parte* **Merryman** <Suh>

11. This author's namesake "stanza" consists of eight lines of iambic pentameter followed by one 'alexandrine' in iambic hexameter. For 10 points each:

[10] Name this English author who paid tribute to his wife Elizabeth Boyle through his sonnet cycle *Amoretti*. In an epic poem by this author, the villainous wizard Archimago dupes the Redcrosse Knight into believing that his lady Una has been unfaithful.

ANSWER: Edmund **Spenser**

[10] Spenser's aforementioned epic, *The Faerie Queene*, allegorizes the long reign of this English monarch. Other writers during this queen's reign included William Shakespeare.

ANSWER: Queen **Elizabeth I** (prompt on **Elizabeth**)

[10] Another work by Spenser contains 12 eclogues, each titled for a different month, and is named for a member of this profession's "calendar." Christopher Marlowe penned a poem titled for the love of a "passionate" one of these people.

ANSWER: **shepherd** <R. Li>

12. This quantity is halved in the coefficient of the quadratic term in a second-order Taylor approximation. For 10 points each:

[10] Name this quantity whose sign is related to the curvature of a function through the "concavity test." For a position function, this quantity at any specific point in time represents instantaneous acceleration.

ANSWER: the **second derivative** (or **double derivative**; do NOT accept or prompt on just "derivative")

[10] This square matrix contains the second partial derivatives of a scalar field. A sufficient condition for classifying saddle points is met if this matrix's eigenvalues are both positive and negative.

ANSWER: **Hessian**

[10] If the second partial derivatives are continuous at some point, then Schwarz's theorem asserts that the differential operators at that point have this property. It's not associativity or distributivity, but an illustration of this property with integer multiplication is "3 times 4 equals 4 times 3."

ANSWER: **commutativity** (accept word forms) <R. Li>

13. An architect from this country designed the wavy Baker House dorms at a certain university. For 10 points each:

[10] Give this home country of Alvar Aalto. A man named Eliel and his son were also architects from this country.

ANSWER: Republic of **Finland**

[10] It's not Harvard, but the Baker House resides at this engineering university located near the Charles River in the city of Cambridge. Frank Gehry designed this institution's Ray and Maria Stata Center.

ANSWER: **Massachusetts Institute of Technology** (or **MIT**)

[10] This Finnish-American architect, the son of the aforementioned Eliel, designed MIT's school chapel building as well as the Kresge ["**KREZZ-ghee**"] Auditorium. He is better known for designing the Gateway Arch in St. Louis.

ANSWER: Eero **Saarin**en <Suh>

14. George Carnarvon funded the expedition that located this man's tomb. For 10 points each:

[10] Name this 18th dynasty Egyptian pharaoh whose nearly intact tomb was discovered in 1922 by Howard Carter.

ANSWER: **Tutankhamun** (or King **Tut**; or **Tutankhaten**)

[10] King Tut was the son of this pharaoh who unsuccessfully advocated for the monotheistic worship of the sun god Aten. His religious reforms were reversed soon after his death.

ANSWER: **Akhenaten** (or **Khuenaten**; or **Amenhotep IV**)

[10] During his reign, Akhenaten moved the capital of his kingdom to this city. This archaeological site is the namesake of a collection of clay tablets that contain detailed correspondences between Egypt and Canaan.

ANSWER: **Amarna** (accept **Amarna** letters) <Suh>

15. Commonly used as a household cleaner, borax has recently gained popularity in slime recipes. For 10 points each:

[10] Name this triel ["**TREE-el**"] element at the center of the anion in borax. This metalloid lies above aluminum on the periodic table and has atomic symbol "B."

ANSWER: **boron**

[10] The borate ion forms hydrogen bonds to cross-link glue polymers in slime. Similarly, the borate ion is thought to have stabilized this aldopentose ["**AL-doh-PEN-toes**"], leading it to become the first sugar component in nucleic acids.

ANSWER: **ribose**

[10] DBBT is one type of this compound which is used to activate carbonyls for enolization. Another type of this compound with trigonal planar geometry is aluminum chloride which is commonly used to catalyze the Friedel–Crafts reaction.

ANSWER: **Lewis acid** (prompt on partial answers; do NOT accept or prompt on "Arrhenius acid," "Bronsted acid," or any answer containing "base") <K. Li>

16. For 10 points each, answer some questions about the musician Anton Weidinger.

[10] Weidinger played this brass instrument, which opens the funeral march of Mahler's fifth symphony and plays three ascending notes to open Strauss's *Also sprach Zarathustra*. Jeremiah Clarke wrote a "voluntary" for it.

ANSWER: **trumpet**

[10] This composer known as the "Father of the Symphony" wrote the most notable concerto for trumpet for Weidinger, a piece in E-flat major. A trumpet soli begins the coda to the second movement of his "Military" symphony, and his other symphonies include the "Surprise."

ANSWER: Franz Joseph **Haydn**

[10] This virtuoso pianist and composer's trumpet concerto in E was also written for Weidinger, and is often performed in E-flat as well. This man was the dedicatee of Schubert's last three piano sonatas.

ANSWER: Johann Nepomuk **Hummel** <Yue>

17. For 10 points each, answer some questions about research ethics.

[10] Name this physician who conducted gruesome experiments on prisoners in the concentration camp Auschwitz. He was particularly interested in children and twins.

ANSWER: Josef **Mengele**

[10] This document sets forth basic ethical principles – respect for persons, beneficence, and justice – to protect human research subjects. It remains an essential reference for conducting ethical research in the United States.

ANSWER: **Belmont** Report

[10] This concept means to "give permission for something to happen," the informed variety of which requires the research subject to be given all information necessary for them to voluntarily agree to participate in the research.

ANSWER: **consent** <K. Li>

18. During World War II, the United States gave \$100 million in Lend-Lease aid to this country; sadly, the leader of this country during the war committed suicide in 1954. For 10 points each:

[10] Name this South American nation led by Getúlio [“jeh-**TOO**-loh”] Vargas. Rio de Janeiro was this country’s capital until 1960.

ANSWER: **Brazil**

[10] In 1955, the Brazilian presidential candidate Juscelino Kubitschek ran on a slogan that promised to squeeze “fifty years of progress” into this many number of years. Beginning in the 1920s, the Soviet Union launched multiple economic development plans that were each supposed to last this many number of years.

ANSWER: **five** years (accept **Five**-year Plans)

[10] Former Brazilian president João Goulart’s heart attack death in 1976 has been alleged to be an assassination as part of this pan-South American initiative of repression of leftist dissidents.

ANSWER: Operation **Condor** <Suh>

19. This character says that “human beings can be awful cruel to one another.” For 10 points each:

[10] Name this Mark Twain character whose adventures include traveling down the Mississippi River to rescue his friend Jim.

ANSWER: **Huckleberry Finn** (accept either underlined portion)

[10] Huckleberry Finn encounters this con man who claims to be the son of Louis XVI and the heir to the French throne. This character is accompanied by a younger con man who claims to be the Duke of Bridgewater.

ANSWER: the **Dauphin**

[10] During his adventures, Huck encounters these two families who hate each other so much that they bring their guns to church while listening to a sermon about brotherly love. Name either of those two families.

ANSWER: **Grangerfords** or **Shepherdsons** (accept either underlined portion) <Suh>

20. This branch of Islam especially reveres the Battle of Karbala, in which Hussain and Abbas perished. For 10 points each:

[10] Name this second-largest branch of Islam that believes that Muhammad appointed his son-in-law Ali as his rightful successor. This denomination is the dominant branch of Islam in Iran, Iraq, and Bahrain.

ANSWER: **Shi’a** Islam (or **Shi’ite** Islam; or **Shi’ism**)

[10] This largest branch of Shia Islam believes in the namesake number of divinely guided leaders, or *imams*, the last of whom is considered to be the Mahdi.

ANSWER: **Twelver** (or **Imamiyyah**)

[10] Twelvers believe in the “minor” and “major” instances of this event, during which the Mahdi disappeared after being born.

ANSWER: **occultation** (or **Ghaybah**; accept Minor **Occultation** or Major **Occultation**) <Suh>

21. Difficulty performing this action is called dysphagia [“dis-**FAY**-zha”], and may require patients to drink thickened liquids to prevent aspiration. For 10 points each:

[10] Name this action that uses oral, pharyngeal, and esophageal phases to move food or drink through the mouth into the stomach.

ANSWER: **swallowing** (or **deglutition**; accept word forms)

[10] The goal of swallowing is to direct food into the esophagus, rather than this rigid, ringed tube that sends air to the lungs.

ANSWER: **trachea** (or **windpipe**)

[10] This cartilage flap points up at rest but folds down during swallowing to cover and protect the airway. In infants, it projects higher up into the throat than in adults, allowing them to drink and breathe at the same time.

ANSWER: **epiglottis** <Murton>