

**Early Fall Tournament 2016** - "Auntie Vivian's Daughter can answer these questions, why can't you?"

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## Packet 12

### TOSSUPS

**1. A novel by this author opens with its narrator remarking that one does not look back in time but "down through it, like water." A character in one of this author's novels becomes close to a woman who shares her disbelief in a store called Soul Scrolls. This author wrote a novel about the childhood friendship between Cordelia and the painter Elaine Risley. This author wrote about a character whom Nick encourages to enter a (\*) black van that he claims belongs to the resistance. That character visits Moira at Jezebel's, and plays a forbidden game of Scrabble with the Commander. This author of *Cat's Eye* wrote about Offred ["of Fred"], the title character of a novel set in the post-apocalyptic Republic of Gilead. For 10 points, name this Canadian author of *The Handmaid's Tale*.**

ANSWER: Margaret Atwood [Margaret Eleanor Atwood] <OLit, RY>

**2. A keyboard suite by this composer ends with a G minor passacaglia that was arranged for violin and viola duet by Johan Halvorsen. He called for nine natural trumpets and nine natural horns in a wind suite whose central movement, marked *Largo alla siciliana*, is "La Paix" [lah PEH]. This composer heavily used sixteenth-note melismas and word painting in a three-part choral piece with movements such as (\*) "All we like sheep have gone astray." Since its inception, every British coronation has performed this composer's anthem *Zadok the Priest*. For a concert on a barge down the River Thames, George II commissioned this composer's *Water Music*. For 10 points, name this composer whose oratorio *Messiah* includes the "Hallelujah" chorus.**

ANSWER: George Frideric Handel [or Georg Friedrich Händel] <Music, EK>

**3. At low energies, this phenomenon's propagator is roughly constant since the exchanged four-momentum is small compared to the exchanged mass. This phenomenon's associated vertex factor can be expressed in terms of two Lorentz-covariant currents corresponding to a vector and an axial vector. At low energy scales, this phenomenon's coupling constant is roughly equal to 1 over 30. A 1957 experiment led by C.S. Wu on the decay of polarized (\*) cobalt atoms showed that this interaction violates parity. This force can change the flavor of quarks or leptons, and it is mediated by the W and Z bosons. At high energies, the electromagnetic force unifies with this force, which is responsible for beta decay. For 10 points, name this force whose name suggests it is several orders of magnitude less in strength than the strong force.**

ANSWER: weak nuclear force <Phys, BB>

**4. Diplomat Raimondo de Soncino reported this man's boasts that his country would soon have "no more need of Iceland," and that he had traveled to the Isle of the Seven Cities. Historian Evan Jones extended research on this man left unpublished at the death of Alwyn Ruddock. J.A. Williamson wrote the definitive history of this man's career, published by the Hakluyt [HACK-lit] Society. An enterprise of his is documented in a letter to a merchant named John Day sent before this man is believed to have died at sea. This man sailed from (\*) Bristol on the *Matthew* in a 1497 expedition commissioned by Henry VII, becoming the first European since the Vikings to explore the coast of Newfoundland. For 10 points, name this Italian explorer whose voyages laid the foundation for Britain's control of Canada.**

ANSWER: John Cabot [or Giovanni Caboto; or Zuan Cabotto] <AmHist, RY>

5. A native language from this country has a famously difficult-to-translate word that refers to a look between two people who each want the other to initiate something mutually desired. This country's extremely dry Tarapaca valley is oddly a center of its wine production, which mostly takes place in its Central Valley. A fifth of the world's fish catch comes from a warm current that originates off this country's southern coasts, the (\*) Humboldt Current. A territory in this country that includes Magdalena Island and many of the Yagan people is governed from the city of Punta Arenas. Several hundred miles along this country's northern coast are dominated by the world's driest desert. For 10 points, the Atacama desert is in what country that contains Tierra del Fuego?

ANSWER: (Republic of) Chile [or República de Chile] <Other, WA>

6. This leader introduced the Household Responsibility System to help revive township and village enterprises, part of an effort to build so-called "socialism" with his country's "characteristics." This leader's "one country, two systems" doctrine allowed special administrative regions to keep their own ways of government. This leader's sayings included "To be rich is glorious!" and "It doesn't matter whether a (\*) cat is black or white, as long as it catches mice." This leader set up Special Economic Zones like Shenzhen as part of reforms to encourage export-led development. The "Tank Man" photo was taken when this leader sent troops to put down the Tiananmen Square protests. For 10 points, name this reformist paramount leader of China from 1978 to 1992.

ANSWER: Deng Xiaoping <WorldHist, WA>

7. A set of these objects given by the disjoint union of the tangent spaces of  $M$  is called the tangent bundle. The hairy ball theorem states that one of these with a value of zero must exist on an even-dimensional sphere if the field is continuous and tangent. This kind of graphics uses polygons, which are themselves built up from these objects in contrast to raster graphics. The relationship between two astronomical bodies is often defined using one of these things named for (\*) Laplace, Runge and Lenz. In biology, this term refers to an organism that carries an infectious agent to a host, such as the mosquito in the case of malaria. The inputs to the cross product and the dot product are -- for 10 points -- what structures with a direction and a magnitude, unlike scalars?

ANSWER: vectors [accept vector graphics] <OSci, IJ>

8. Mark Gluck's research on computational understanding of this phenomenon uses adaptive networks to extend a linear model of it in which strength of association is the dependent variable. Applied understanding of this phenomenon is used in therapy methods designated FBA and ABA. Experiments on rats studying a form of this phenomenon on a multiple schedule observed a type of "hoarding" of pellets of food. (\*) "Spontaneous recovery" occurs when responses generated by this phenomenon reappear after undergoing "extinction." This phenomenon was empirically observed in humans in an experiment involving furry white rats and a baby nicknamed "little Albert." For 10 points, Ivan Pavlov's dogs experienced the "classical" type of what learning process?

ANSWER: conditioning [accept any specific form of conditioning] <SocSci, WA>

9. The authenticity one of these things created at Anandpur is hotly disputed and sometimes amusingly attributed to the RSS. The early process of creating one of these things is evidenced in the Sana'a manuscript. A specific one of these things that is regarded as the greatest existing example of *gurbani* is placed on a throne called on a *takhat* in a *gurdwara*, where it is the main subject of meditation. Scholars differ on whether (\*) Hindus belong to group of peoples named for these objects to whom the Pact of Omar guaranteed *dhimmi* status. An example of these objects called by the honorific title *Sahib* is the tenth and final guru of Sikhism. Zoroastrians, Christians, and Jews are regarded as "People of" of them in Islam. For 10 points, the Adi Granth and Quran are both examples of what kind of object?

ANSWER: books [accept anything mentioning the word book; accept People of the Book; accept granth or Quran specifically; prompt on holy text] <Rel, WA>

10. The epilogue of a novel by this author is a *New York Times* article which notes that a man is now dressed in khaki pants, rather than his previous "\$2,000 custom-tailored English suits." In that novel by this author, Judge Kovitsky throws out a case being covered by the alcoholic journalist Peter Fallow. In this author's first novel, a man who styles himself as a "Master of the Universe" gets caught in a media frenzy after he and his mistress (\*) Maria Ruskin get into a hit-and-run with the black Henry Lamb. This author, who used New York City as the setting for a novel about the trial of Sherman McCoy, wrote a book cataloguing the psychedelic-fueled adventures of Ken Kesey and the Merry Pranksters. For 10 points, name this pioneer of New Journalism who wrote *The Bonfire of the Vanities* and *The Electric Kool-Aid Acid Test*.

ANSWER: Tom Wolfe [Thomas Kennerly Wolfe] <AmLit, JC>

11. This metal is the central atom in a redox couple containing a deep blue salt with a  $\text{BF}_4^-$  counterion ["counter"- "ion"] whose voltage is 0.64 volts with respect to the hydrogen electrode. This element was the central atom in a compound made in a failed synthesis of fulvalene ["FULL-vuh-leen"] whose structure was deduced independently by Woodward and Fischer. In that compound, this element coordinates two ligands with hapticity 5 and appears to be an orange powder. This element is sandwiched between two (\*) cyclopentadienyls ["cyclo"- "penta"-dye-EE-nuls] in the first known metallocene. Aluminum reacts with this element's oxide in the typical thermite reaction. Cytochromes contain a cofactor consisting of this element coordinated to a porphyrin ring which also appears in myoglobin and hemoglobin. For 10 points, name this element whose oxide is rust.

ANSWER: iron [prompt on Fe] <Chem, AW>

12. Philosophers from this modern-day country articulated the doctrine of "dependent origination," which is explained through a metaphor of a chain with twelve links and was used by thinkers from here to explain a concept translated as "voidness" or "emptiness." A book from this modern-day country uses the phrase "the earth is the honey of all beings" to explain that one's immortal person is found in the self-soul, which is contrasted with the immortal universe. Texts from this country provided the "primeval wisdom" cited by (\*) Arthur Schopenhauer as a major inspiration for *World as Will and Representation*; those texts from here include a set of 108 religious commentaries called the *Upanishads*. For 10 points, in what modern-day country were Four Noble Truths articulated by Siddhartha Gautama?

ANSWER: Republic of India [or Bharat Ganarajya] <Phil, WA>

13. This organization collaborated with locals to set up factories in its so-called "presidency towns." Restrictions imposed by the Calico Act pinched the revenue of this organization, whose triumphs over the Wadiyar family were largely thanks to an employee named Eyre Coote. A seven-year long trial against a member of this organization featured the testimony of Richard Brinsley Sheridan. It's not the British army, but this organization, which fought against (\*) Tipu Sultan, employed Charles Cornwallis after the American Revolution. This organization, largely responsible for the popularization of a product named for Darjeeling, lost its governing role after a rebellion due to rumors that cartridges contained grease from pork fat. For 10 points, the Sepoy Rebellion targeted what British company?

ANSWER: British East India Company [or Honourable East India Company; just East India Company is needed after "British" is read, but prompt on that beforehand; prompt on John Company] <Brit/ClassHist, JZ>

14. A negotiator in this war remarks that his comrades are all bent over, as if carrying lanterns, after being asked why he hides a spear under his robe by a magistrate. A threat to chop up a basket of coals allows a man, whose name means "just city," from the title characters of a play set in this war, which Lampito opposes in another play. Two slaves feed a giant dung beetle so that a man can fly on its back to ask the (\*) gods to end this war. This war is the subject of the plays *The Acharnians* and *Peace*, both by Aristophanes, who wrote another play in which women end this war by withholding sex from the men of the two cities fighting it. The title character of the play *Lysistrata* ends – for 10 points – what war between Athens and Sparta?

ANSWER: Peloponnesian War <EuroLit, RY>

15. An artist from this movement painted a pale blue figure gazing at the viewer in his work *Astonishment*. Paintings of colorful female heads in this movement's style were created by its member Alexei von Jawlensky [yah-VLEN-skee]. Paul Klee restored a painting from this movement that depicts a blue deer twisting and looking straight up amidst chaos. Its founder argued different orientations of lines produce different effects and tonalities in his book *Point and Line to Plane*. The artist of (\*) *The Fate of the Animals* was part of this movement, as was a man who analyzed the effect of color on the soul in *On the Spiritual in Art* and painted a series of increasingly abstract works simply titled "Compositions." For 10 points, name this art movement that was named after a painting by Wassily Kandinsky.

ANSWER: Der Blaue Reiter [ or The Blue Rider] <Painting, PC>

16. In this modern-day country, a woman is angered when her husband attempts to sell her late father's extensive library. Another character from this country is forced to confess that a train arrived in London *after* the date written on a death certificate. A girl in this country marries a Greek shipwreck survivor named Tito Melema. In this country, Eleanor Lavish steals an English girl's (\*) Baedeker guidebook. An obese nobleman from this country helps Sir Percival Glyde plot to seize Laura Fairlie's inheritance. This home country of George Eliot's *Romola* and *The Woman in White*'s Count Fosco is where George Emerson and Lucy Honeychurch meet in a hotel that contains the title location of an E.M. Forster novel. For 10 points, name this country that is the main setting of *A Room with a View*.

ANSWER: Italy <BritLit, RY>

17. An Egyptian deity with this animal form represents the celestial waters of the heavens, and is named Mehet-Weret. The eight Heh gods are created to assist Shu in physically supporting one of these animals considered to be a depiction of the goddess Nut, as described in an Amarna-period text titled the *Book of the Heavenly* type of this animal. The temple complex at Dendera is dedicated to a deity with this animal form who (\*) alternately manifests as the lioness deity Sekhmet. The head of this animal adorns the goddess that is considered to be both the mother and wife of Horus, and appropriately bears a name meaning "house of Horus." This animal form characterizes the motherhood goddess Hathor. For 10 points, name this animal which produces the Milky Way from its udders.

ANSWER: cow [or cattle; or heifer; do not accept "bull"] <Myth, EK>

18. This city's ruler al-Hakam II assembled a massive library of over 600,000 books, many of which were burned by the regent who ruled for his son al-Hisham II, Almanzor. A palace just to the west of this city was called Madinat az-Zahra, which means the "Shining City." After a government based *here* collapsed, the Jahwarid dynasty came to power as a *taifa* kingdom. A mosque in this city with a south-facing *mihrab* was decked out with bells captured from (\*) Santiago de Compostela - construction of that Great Mosque in this city began under Abd al-Rahman I. Three decades after the greatest Islamic state based in this city dissolved, it was sacked by the Almoravids. The capital of the caliphate in al-Andalus run by the Umayyads was – for 10 points – what city in southern Spain?

ANSWER: Cordoba [or Cordova; or Qurtuba; accept Caliphate of Cordoba] <EuroHist, JZ>

**19. Part of the complex that carries out this process contains a conserved internal stem loop responsible for coordinating magnesium ions. The differences between Lamins A and C are due to differences in this process. In female *Drosophila*, sex determination relies on the binding of sex lethal protein to force an alternate pathway for this process, resulting in a functional Tra protein. During this process, Complex E binds to a conserved (\*) adenosine at the branch point, which is found upstream from a polypyrimidine tract. The trans esterification reactions that occur during this process form a distinct lariat intermediate. The complex responsible for this process includes subunits such as U4 and U6, which are snRNPs ["snurps"]. This process ends with the ligation of exons. For 10 points, name this post transcriptional process that removes introns from mRNA.**

ANSWER: RNA splicing [accept word forms such as splice] <Bio, AW>

**20. In Act II, Scene II of this opera, the central couple begs for the night to free them from the bondage of the mortal world during a half hour-long love duet that is interrupted by repeated cries that the night is about to end. The opening of its third act imitates a shepherd's mournful pipe tune with an English horn solo. This opera's prelude is often paired with its closing soprano aria as a popular concert piece. At the end of this opera, the soprano lead asks Brangäne and King (\*) Marke if they, too, see how "softly and gently" her dead lover shines in her final aria, the *Liebestod* [LEE-"bus"-toht]. The prelude to this opera introduces a prominent dissonant chord named for its first title character. For 10 points, name this Richard Wagner opera in which a potion elicits the love between the two title characters.**

ANSWER: Tristan und Isolde <OArts, EK>

IF THE GAME IS A TIE AFTER REGULATION: Report to the tournament director. Then, read a bonus from the tiebreakers packet that the tournament director determines the team has not yet heard.

## BONUSES

1. This philosopher claimed to be a reincarnated *daimon* in a poem about a mystical cosmogony titled *Purifications*, of which only about 100 lines survive. For 10 points each:

[10] Name this philosopher, who believed that the world was a constant struggle between forces he identified as “love” and “strife.”

ANSWER: **Empedocles**

[10] Empedocles’s cosmogony accounts for the creation of the four classical examples of these things, which include earth, water, air, and fire.

ANSWER: classical **elements**

[10] This philosopher’s writings are sometimes interpreted as stating that fire was the origin of the universe. This man attributed all things to *logos* and believed they were constantly in flux.

ANSWER: **Heraclitus** <Phil, WA>

2. This poet wrote a story about a starving poet who is given a music box that he plays incessantly in the palace of the title “Bourgeois King,” which opens his major poetry collection. For 10 points each:

[10] Name this poet who collected some poems in a section titled “The Lyrical Year.” He described the sea breeze resting on its “black trumpet” while the sea reflects a sky of “rolled zinc” in another poem.

ANSWER: Ruben **Dario** [Félix Rubén **García** Sarmiento]

[10] Two sections of Dario’s *Azul* were written during his time in this South American country, whose Nobel laureates include Gabriela Mistral and Pablo Neruda.

ANSWER: **Chile**

[10] Another “modernism” was pioneered by this country’s poets Mario and Oswald de Andrade. This country’s other writers include Jorge Amado [“George”-ee uh-MAH-doo] and Joaquim Machado de Assis, who created the characters Quincas Borba and Bras Cubas.

ANSWER: **Brazil** <OLit, RY>

3. This ruler used the Robot Patent to force peasants to work for landowners. For 10 points each:

[10] Name this child of Charles VI who came to power after he died of consuming poisonous mushrooms. Despite Charles’ diplomatic efforts, this ruler was forced to cede Silesia shortly after coming to power.

ANSWER: **Maria Theresa** Walburga Amalia Christina

[10] Maria Theresa was a ruler of this house, which ruled over the Austro-Hungarian empire. This family’s inbreeding led to elongated jaws.

ANSWER: House of **Habsburg** [or **Hapsburg** dynasty, etc.]

[10] Under its scion Frederick III, the Habsburgs gained the saying “Let others wage war; you, happy Austria, marry” due to the marriage of his son, Maximilian I, to Mary the Rich, heiress of this region.

ANSWER: **Burgundy** [or **Bourgogne**] <EuroHist, JZ>

4. *Bacillus cereus* is noted for growing on this substance when it is left out. For 10 points each:

[10] Name this crop, one variety of which was engineered to produce beta-carotene, becoming golden in appearance.

ANSWER: **rice** [or **Oryza sativa**]

[10] These plant hormones responsible for stem elongation were discovered in rice exhibiting “foolish seedling” disease.

ANSWER: **gibberellins**

[10] This process has been studied in both *B. cereus* and rice. A Holliday junction forms when this process occurs through homologous recombination. NER [N-E-R] and mismatch are other mechanisms for this process.

ANSWER: **DNA repair** <Bio, AW>

5.. This dance is exemplified by a World War II song titled for a beer barrel and popular among European soldiers on both fronts. For 10 points each:

[10] Name this 2/4 time dance of Bohemian origin.

ANSWER: **polka**

[10] This composer wrote such polkas as “Tritsch-Tratsch” and “Pizzicato.” His brother Josef became a one-hit wonder with his polka “Feuerfest.”

ANSWER: Johann **Strauss II** [or Johann **Strauss, Jr.**; or obvious equivalents; prompt on **Strauss**; prompt on **Johann Strauss**]

[10] Strauss’s waltz “On the Beautiful Blue Danube” depicts the title river as it passes through this capital of Austria.

ANSWER: **Vienna** [or **Wien**] <Music, EK>

6. This Prime Minister surprisingly signed the Camp David Accords with Anwar Sadat. For 10 points each:

[10] Name this founder of Likud. As leader of Irgun, he planned and led the Jewish insurgency against the British, including the King David Hotel bombing.

ANSWER: Menachem **Begin** [or Mieczyslaw **Begin**; Menahem **Begin**]

[10] Begin ordered Operation Opera, also called Operation Babylon, which was an airstrike carried out on this location. This French-supplied nuclear reactor in Iraq was targeted in a preemptive strike in the creation of the Begin Doctrine.

ANSWER: **Osirak** [or **Osirag**; prompt on **Osiris**, anti-prompt on **Tammuz**]

[10] Menachem Begin was a Prime Minister of this country, which is currently led by Benjamin Netanyahu.

ANSWER: **Israel** [or Medinat **Yisrael**; Dawlat **Isra’il**] <EuroHist, JZ>

7. In the Nice model, this set of objects migrates away from their initial conformations after the dissipation of their protoplanetary disks. For 10 points each:

[10] Name this set of objects, which includes four terrestrial planets, two gas giants, and two ice giants, as well as the star they orbit.

ANSWER: **solar system** [prompt on **planets**]

[10] The initial Nice model accurately described this period of time in which a disproportionately large number of asteroids are thought to have collided with the inner planets.

ANSWER: **Late Heavy Bombardment** [or **LHB**]

[10] The Nice model also explains the asteroid belt’s capture of many D-type asteroids, such as this dwarf planet and largest object in the asteroid belt. NASA’s *Dawn* spacecraft entered its atmosphere in early 2015.

ANSWER: **Ceres** <OSci, RH>

8. In this story, a sweet young girl calls the collective narrator “scum” and “miserable prisoners” and leaves after they abuse and spit at her. For 10 points each:

[10] Name this story about a group of bakers who obsess over Tanya, only to turn on her when she is seduced by an obnoxious soldier.

ANSWER: “**Twenty-six Men and a Girl**” [or “**Dvadtsat shest i odna**”]

[10] This author of “Twenty-six Men and a Girl” depicted the sordid lives of poor Russians living together in a shelter on the Volga in *The Lower Depths*, in which the thief Vaska kills the landlord Kostilya.

ANSWER: Maxim **Gorky** [or Aleksey Maksimovich **Peshkov**]

[10] Maxim Gorky was a prominent advocate of this political and economic philosophy. Gorky’s depictions of rough peasant life are an example of this system’s namesake “realism.”

ANSWER: **socialism** [accept word forms such as **socialist**, accept **socialist** realism; prompt on **Marxism** and **communism**] <EuroLit, JC>

9. Along with her son Melicertes, this woman escapes her murderous husband Athamas by leaping into the sea. For 10 points each:

[10] Name this queen of Thebes who jealously pursues her stepchildren Phrixus and Helle, forcing them to escape on the back of a magic flying ram.

ANSWER: Ino [or Leucothea]

[10] After the magic flying ram safely arrives in Colchis, its skin is flayed and turned into this precious artifact sought after by Jason and the Argonauts.

ANSWER: the golden fleece

[10] Jason's eventual usurpation of Pelias is foreshadowed when he arrives at Iolcus without one of these items. Before he departs for Athens, Theseus finds a sword and some of these objects under a boulder.

ANSWER: sandals [or shoes; or flip-flops] <Myth, EK>

10. Identify the following about the artist Asger Jorn [yorn], for 10 points each.

[10] Jorn was a member of the CoBrA movement, whose "Co" stands for the capital of this country, which contains a statue of *The Little Mermaid*. Jorn himself was from this country, as was Bertel Thorvaldsen.

ANSWER: (Kingdom of) Denmark

[10] Jorn's masterpiece is a painting in the Tachism [TA-shiz'm] titled for this city that consists mostly of furious gray lines. This city is overlooked by the statue *The Motherland Calls*, which sits atop Mamayev Kurgan.

ANSWER: Stalingrad [or Volgograd]

[10] While living in Albiola, Jorn completed his appropriately-titled Big Relief in this medium for the State Grammar School in Aarhus. Josiah Wedgwood worked primarily with this material.

ANSWER: ceramics [accept pottery] <OArts, WA>

11. Abdelbaset al-Megrahi died of prostate cancer after being imprisoned for his role in this event. For 10 points each:

[10] Identify this 1988 terrorist bombing of Pan Am flight 103, most of whose passengers were Americans returning from London. It occurred over a town in Dumfries and Galloway.

ANSWER: Lockerbie bombing

[10] Megrahi was eventually handed over by this Libyan ruler and self-styled "colonel" who wrote the Green Book and was killed by rebels in 2011.

ANSWER: Muammar al-Gaddafi

[10] Reagan ordered air strikes on Libya in Operation El Dorado Canyon following the 1986 bombing of a discotheque in this city that catered mainly to U.S. servicemen.

ANSWER: (West) Berlin <AmHist, RY>

12. These kinds of churches have had major success in South Korea, with the Yoido Full Gospel Church reaching more than 800,000 members. For 10 points each:

[10] Give this common English term for massive Protestant churches whose weekly attendance is in the thousands.

ANSWER: megachurches

[10] Nearly 1 in 10 megachurches, including the Yoido church, are affiliated with the Assemblies of God offshoot of this Protestant branch. Preachers at this denomination's megachurches often carry out faith healings on stage.

ANSWER: Pentecostalism

[10] The largest city in this country boasts the second-highest weekly megachurch attendance of any in the world and recently shut down 70 churches and 20 mosques to reduce noise. This country is home to the "Chrislam" movement, which fuses Christianity and Islam in an attempt to reduce violence.

ANSWER: (Federal Republic of) Nigeria <Rel, WA>



13. Answer the following about the life of Prince Shotoku, for 10 points each.

[10] Shotoku's life story is told in this lengthy, elaborate collection of early legends, which also tells the story of Urashimako. Typical for its time, this document is written entirely in classical Chinese.

ANSWER: Nihon Shoki [accept translations like Chronicles of Japan or The Japanese Chronicle]

[10] Shotoku is said to have been the first to use the name *Nihon* for Japan; *Nihon-koku* literally means "country where" *this thing* "comes from" in Japanese. This thing is symbolized by the red circle on Japan's flag.

ANSWER: the Sun

[10] Shotoku lived in a time period known by this name, which is also the name of the majority ethnicity of Japan. The *Nihon Shoki* tells of Prince Osu, a warrior who becomes known as "Takeru" or "the Brave" man of this people.

ANSWER: Yamato <Other, WA>

14. Like trituration, this form of purification is forced out of solution while impurities are left behind in the solvent. For 10 points each:

[10] Name this form of purification that dissolves a compound in hot liquid, then the solution is cold and the desired compound solidifies.

ANSWER: recrystallization

[10] Another method to separate compounds is this technique which relies on the differing affinities that compounds have for a mobile and stationary phase. A form of this technique using paper can be used to separate the individual pigments of an ink.

ANSWER: chromatography

[10] Another method of purification involves heating a solid in a vacuum with a cold finger above it. This technique is named for the phase transition that the solid undergoes before it deposits onto the cold finger.

ANSWER: sublimation <Chem, AW>

15. Note: Both characters required. These two characters frequently daydream about ten acres of land and their own ranch. For 10 points each:

[10] Name these two ranch-hands. At the tragic end of the novel they appear in, one of these characters shoots the mentally disabled other in order to prevent him from being lynched.

ANSWER: George AND Lennie [accept in either order; prompt if the player names one but not the other]

[10] *Of Mice and Men* is a novel by this author, who wrote other such high school reading list classics as *The Grapes of Wrath* and *East of Eden*.

ANSWER: John Steinbeck [or John Ernst Steinbeck, Jr.]

[10] This action foreshadows what later happens to Curley's wife while Lennie strokes her hair. After performing this action, Lennie worries that George won't let him take care of the bunnies on their imaginary farm.

ANSWER: Lennie accidentally kills his puppy while trying to pet it [accept clear equivalents, including more specific ways of killing the puppy; prompt on partial answers; prompt on answers like "Lennie strangles Curley's wife" with "the thing that happened before that"] <AmLit, JC>

16. Indian culture wasn't just the rage among hippies – it was pretty much always in vogue in Southeast Asia until at least the 15th century, and even after. For 10 points each:

[10] Names of Khmer kings were made similarly to those of Kshatriya clans: they were often formed by appending this Sanskrit word, meaning “shield” or “armour” to the names of Hindu deities, like Surya or Indra.

ANSWER: varman [or varma]

[10] Like Indian kings, Southeast Asian monarchs showed off by depicting themselves atop these massive mammals often used in war. King Naresuan of Ayutthaya and Mingyi Swa famously dueled while riding them.

ANSWER: (Asian) elephants

[10] The Mon people outdid a lot of their Indian models when they built this gorgeous golden stupa sometime between the 6th and 10th centuries. The queen regnant Shin Sawbu lived at this temple in modern-day Yangon for the rest of her life after handing power to her son in 1457.

ANSWER: Shwedagon Pagoda [or Shwedagon Paya or Great Dagon Pagoda] <WorldHist, WA>

17. This author wrote a non-chronological novel consisting of 54 disconnected episodes about Anthony Beavis, who discovers Buddhism in Mexico and recalls the suicide of his friend Brian Foxe. For 10 points each:

[10] Name this author who wrote another novel about the immortality-seeking Hollywood tycoon Jo Stoyte.

ANSWER: Aldous Huxley [Aldous Leonard Huxley]

[10] Huxley wrote this novel about a World State whose inhabitants are sorted into castes of alpha through epsilon, and which begins in the year 632 After Ford.

ANSWER: Brave New World

[10] The title of Huxley's novel *Eyeless in Gaza* comes from this earlier English writer's play *Samson Agonistes*, which was published alongside his sequel to his epic poem that aimed to “justify the ways of God to men.”

ANSWER: John Milton <BritLit, RY>

18. Helium-3 and helium-4 are mixed together in a device of this type. For 10 points each:

[10] Name this sort of device, which commonly perform their function using vapor compression cycles. CFCs used to be commonplace in these devices.

ANSWER: refrigerator [accept pretty much any cooling devices]

[10] One possible cycle used for refrigeration can be obtained by reversing this most efficient possible thermodynamic heat cycle.

ANSWER: Carnot cycle

[10] Refrigeration using this phenomenon effectively performs a reverse Carnot cycle using changes in magnetic field strength in place of pressure changes.

ANSWER: magnetocaloric effect [or adiabatic demagnetization] <Phys, AW>

19. Two of these things found in different languages that are related are called cognates. For 10 points each:

[10] Identify these things, the smallest linguistic units with semantic content that can occur in isolation. A list of common ones between languages was created by Morris Swadesh.

ANSWER: **words**

[10] Morris Swadesh, who created the Swadesh list, used it as part of a questionable method for determining this value for a given language; his method assumed a logarithmic stability of vocabulary size over time.

ANSWER: the **age** of the language [or equivalents, such as **how old** the language is; also accept answers related to time of linguistic **divergence**]

[10] A problem with glottochronology is the prevalence of linguistic borrowing, since more conservative languages like this one tend to appear younger. *Taiga* and *mammoth* were borrowed from this language into English, but actually originate from peoples like the Yakut.

ANSWER: **Russian** [or **Russki**] <SocSci, WA>

20. This artist's *Cestello Annunciation* [CHE-stell-oh] was created for the monastery of Santa Maria Maddalena de'Pazzi. For 10 points each:

[10] Name this Florentine artist who included Savonarola-inspired apocalyptic themes in his *Mystic Nativity*.

ANSWER: Sandro **Botticelli** [accept Alessandro di Mariano di Vanni **Filipepi**]

[10] This most famous Botticelli painting shows a Roman goddess arriving on a clam shell. Its central figure is often thought to be modeled on a then-dead but still legendary beauty named Simonetta Vespucci.

ANSWER: *The **Birth of Venus*** [or ***Nascita di Venere***]

[10] This artist created a portrait of Simonetta Vespucci that's generally interpreted as a depiction of Cleopatra. Vasari described this artist of *The Forest Fire* as being "more like a beast than a man" largely due to his slovenly-kept studio.

ANSWER: **Piero** di Cosimo [accept **Piero** di Lorenzo] <Painting, PC>

IF ADDITIONAL BONUSES ARE NEEDED: Report to the tournament director. Then, read a bonus from the tiebreakers packet that the tournament director determines the team has not yet heard.