

PACE NSC 2011

Edited by Mike Bentley, Matt Bollinger, Rob Carson, Kyle Haddad-Fonda, Hannah Kirsch, Trygve Meade, Bernadette Spencer, Guy Tabachnick, and Andy Watkins

Packet 19

Tossups

1. **One prayer that follows this action has a long sequence of lines beginning “ha-rakhaman,” while a general blessing before it ends “she-ha-kol neeyeh bid’varoh.” On a wedding day, the bride and groom do not do this from sunrise until the ceremony is complete, and generally a (*) *hekhsher* indicates objects to which this action can be done. Blessings recited after it are called *birkat ha-mazon*, while the *motzi* [“MOH-tsee”] is said before doing it in one circumstance. The laws of *kashrut* govern this action; those may be better known as the “kosher laws.” For 10 points, name this action, which is not done on Yom Kippur but may be applied to hamantashen or potato latkes.**

ANSWER: eating [accept equivalents, including anything mentioning food or meals; do not accept anything specific to “drinking”; accept birkat ha-mazon until “bid’varoh”]

<Greenthal>

2. **One object named for this man is a cuboid whose sides and face diagonals have integral lengths, his namesake bricks. A function named for this man is the number of integers less than n relatively prime to n , his totient function. The quantity *chi*, this man’s namesake (*) “characteristic,” is equal to vertices plus faces minus edges for polyhedra. This mathematician ushered in graph theory in proving that a certain traversal was impossible because it had none of his namesake cycles. His identity states that a certain number to the power of i times πi equals negative 1. For 10 points, name this Swiss mathematician who solved the Seven Bridges of Königsberg problem, the namesake of a constant with Mascheroni who did work with the number e .**

ANSWER: Leonhard Euler

<Tabachnick>

3. **In one scene in this novel, the question of whether a glass should be drunk in or out of a certain room is settled by appealing to “the unbelief of Satan.” In this novel, a man named Lanyon is so traumatized by a drug-induced scene that he dies. It begins when Mr. Enfield sees a doorway, where a man had previously run over a small child. Enfield’s walking companion, the lawyer Utterson, attempts to solve some mysteries in this story, such as the servant Poole’s frantic search for an unknown (*) chemical and the murder of Danvers Carew. One title character kills himself when is in unable to transform back in, for 10 points, what Robert Louis Stevenson novel about a physician who unleashes his evil side?**

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

<Weiner>

4. A housing program in this country is called My House, My Life. The government has also launched Light for All, a rural electrification program spearheaded by an energy minister who has since become its president. More electricity will be provided for this country by the Belo Monte Dam on the Xingu River, which will displace 20,000 people in the state of Pará and be its second largest dam after the (*) Itaipu. This country's city of Curitiba is renowned for its public transportation, while government investment in the Suape port will benefit the capital of its Pernambuco state, Recife. Favelas are slums in the largest cities of, for 10 points, what country experiencing a real estate boom in São Paulo?

ANSWER: Federative Republic of Brazil

<Haddad-Fonda>

5. The aggressor in this conflict began a land campaign after sinking two enemy ships at Chemulpo. Peace negotiations stalled on the issue of whether one side had to return ships like the *Orel* that had been captured in this war. One of the pivotal battles in this conflict saw the commander of the *Mikasa* successfully “cross the T” and capture or sink nine enemy destroyers, while the first land battle in this conflict took place at (*) Yalu River. Elsewhere, at Dogger Banks, one side mistakenly opened fire on British fishing vessels. Other battles included one fought at Tsushima, and it began when Admiral Togo launched a surprise attack on Port Arthur. For 10 points, name this war ended by a treaty mediated by Teddy Roosevelt in Portsmouth, a victory for an Asian country over Tsar Nicholas II.

ANSWER: Russo-Japanese War

<Bentley>

6. The Dicke effect diminishes the broadening of spectral lines owing to this effect. The form of this effect that occurs at the point of closest approach is called “transverse”; that effect was employed in a confirmation of a certain relationship conducted by Ives and Stillwell and is one of the novel predictions of (*) special relativity. One form of this effect has a namesake factor equal to the square root of quantity one plus beta over one minus beta. This effect is summarized by a factor of velocity plus receiver velocity over velocity plus source velocity. For 10 points, name this effect, wherein the frequency of a wave is changed by the relative motion of an observer.

ANSWER: Doppler effect

<Watkins>

7. This composer replaced the minuet from his first symphony with the scherzo from a chamber work to which Arturo Toscanini added double basses, his *String Octet in E-flat Major*. One of his symphonies contains a pilgrim's march, a tarantella, and a saltarello. This composer evoked pillars of basalt and “rolling waves” with the violins in a piece originally called “The (*) Lonely Island.” He wrote a collection of eight books with six short songs each. This composer of the *Italian Symphony* and *Songs without Words* described his trip to Fingal's Cave in his *Hebrides Overture* and composed a famous “Wedding March.” For 10 points, name this composer of incidental music for *A Midsummer Night's Dream*.

ANSWER: Jakob Ludwig Felix Mendelssohn Bartholdy

<Gupta>

8. In **Minnesota v. Dickerson**, one protection guaranteed by this amendment was held not to extend to items that could be “felt,” although they were extended to those that could be seen. **Terry v. Ohio** is a major case interpreting this amendment which establishes guidelines for when it applies to cars, although its provisions were limited in **Katz v. Ohio**. Its major doctrine was first established in **Weeks v. US** and is known as the (*)

“Exclusionary Rule”; that rule, applied to the states in **Mapp v. Ohio**, provides that evidence illegally obtained cannot be admitted to court. For 10 points, name this Amendment to the Constitution which provides for protection against unreasonable searches and seizures.

ANSWER: The **Fourth** Amendment

<Meade>

9. Edward Grim relates how those involved in this action were assisted by Hugh the Evil-Clerk. Among the people who carried out this action were William de Tracy and Richard le Breton. The fallout from this event ended with the **Compromise of Avranches** signed in part by Pope Alexander III. The person targeted in this event, who earlier sought refuge under the French king Louis VII, had (*) refused to comply with the Constitutions of Clarendon.

According to legend, the man who ordered this event shouted “will no one rid me of this turbulent priest”, causing four knights to enter into Canterbury Cathedral. For 10 points, name this 1170 event which saw agents of Henry II murder an English archbishop.

ANSWER: the **murder** of Thomas à **Becket** [accept equivalents for “murder”; prompt on **murder** in the **cathedral**]

<Cohen>

10. One character in this novel claims he would be happy to go to an afterlife consisting of “one little room... grimy... with spiders in every corner.” That character later shoots himself in the mouth after telling some guards he is “going to America.” In this novel, the drunken Marmeladov complains to the protagonist in a bar. The protagonist of this novel writes an article claiming that great men like (*) Napoleon are justified in wasting the lives of thousands. That protagonist struggles to keep Svidrigailov and Luzhin away from his pure sister, Dunia. For 10 points, name this novel in which Raskolnikov murders a pawn-broker, written by Fyodor Dostoevsky.

ANSWER: **Crime and Punishment**

<Bollinger>

11. One species in this phylum transmits flukes that cause schistosomiasis. Some members of this phylum use secretions from the byssal gland to create fibrous threads of protein. Members of one class in this phylum possess a lid-like structure called an operculum. They use an odontophore to support and control a (*) toothed structure used to scrape food off surfaces, the radula. Members of this phylum, classes in which include Gastropoda and Cephalopoda, also possess a muscular foot and a mantle that secretes a shell. For 10 points, name this phylum including squid and snails.

ANSWER: **Mollusca** [or **mollusks**]

<Kirsch>

12. One artist from this country showed a woman falling out of a building and then lying dead on the ground in *The Suicide of Dorothy Hale*. A hero of this nation was depicted with his left fist raised and carrying sticks of fire in his right hand above orange flags. The artist of that work made a cycle that includes skeletons wearing gowns in one panel, *Gods of the Modern World*. One of its artists depicted (*) Lenin in a work that shows a hand clutching a control panel in front of a man with colorful wings. That man's wife painted a self-portrait with a thorn necklace and hummingbird. That large work was *Man at the Crossroads*. For 10 points, name this country whose painters included José Orozco, Diego Rivera, and Frida Kahlo.

ANSWER: Mexico [or United Mexican States; or Estados Unidos Mexicanos]

<Tabachnick>

13. Contemporary Christians in this country gather annually to honor its “first martyr,” Bernard Mizeki. Dombo was a ruler of the Butua Kingdom here, which had its capital at Khami. One archaeological site in this country, explored by David Randall-MacIver and sometimes thought to be the ancient city of Ophir, features a number of daga buildings in the Great Enclosure. That site also contained a bird that became this nation's symbol. After independence, this country fell into civil war with the arrest of Joshua (*) Nkomo. The eastern section of this nation is dominated by the Shona people, who also reside in neighboring Mozambique. For 10 points, name this country, home to a namesake “Great” iron age city, now ruled jointly by Morgan Tsvangirai and Robert Mugabe.

ANSWER: Republic of Zimbabwe [or Kingdom of Zimbabwe; or Great Zimbabwe]

<Bentley>

14. This thinker defined logic as “formal semiotic” and created three interlocking typologies of signs, including that between tone, token, and type and between icon, index, and symbol. He suggested that anyone whose process of thought in deciding to pay a horse-car driver one nickel or five pennies actually proceeds from doubt to belief would have to be nearly insane, and calls belief the “demi-cadence which closes a musical phrase in the symphony of our intellectual life.” In that work, this proposer of (*) tychism claims that different ways of measuring the speed of light will all converge upon refinement to the same value and describes vector addition using a “parallelogram of forces” to describe the notion of weight. For 10 points, name this author of *How to Make our Ideas Clear*.

ANSWER: Charles Sanders Pierce

<Watkins>

15. Near the end of this film, some characters argue that there should be efforts to “understand the young people,” just after an affair is revealed. One scene sees the title characters become angry after learning that the central locale used to kill those of their kind and then shameful after one of them reveals that he had originally been a farmer. A wall of (*) spears is erected to keep out this film's antagonists, although over half of the title group is killed by musket-wielders, including Kikuchiyo. Shino has an affair with Katsushiro, one of the survivors of the big battle of this film. Opening with the assembly of the title group by the veteran Kanbei in order to protect villagers from bandits, for 10 points, identify this masterwork of Akira Kurosawa.

ANSWER: *The* Seven Samurai [or Shichinin no Samurai]

<Gupta>

16. This element catalyzes the addition of alpha-bromo esters to ketones in the Reformatsky reaction. This element is coordinated by a water atom and three imidazole nitrogens in the active site of carbonic anhydrase, and transcription factor II B has a “ribbon motif” named for this element. A structure with folds called the (*) “gag knuckle” and “treble clef” uses cysteine and histidine residues to bind an ion of this metal, its namesake “finger” domain. Its most often used ore is its sulfide, the mineral sphalerite. With nickel, this metal is used in rechargeable batteries. For 10 points, name this metal, which with a thin copper coating comprises pennies.

ANSWER: zinc

<Watkins>

17. This man was sent along with Jimmy Carter and Sam Nunn to convince Haiti’s Raoul Cedras to step down from power in 1994. He recounted changing the pronunciation of his first name in his best-selling memoir, *My American Journey*. A notable speech given by this politician heavily relied on CURVEBALL, a source otherwise known as Rafid Ahmed Alwan. He warned his president “you’re going to be (*) owning this place” according to *Plan of Attack*, an articulation of the so-called Pottery Barn rule. Despite this, he notably help up a mock vial of anthrax and declared “there can be no doubt that Saddam Hussein has biological weapons” in a speech given at the UN in 2003. For 10 points, name this former Chairman of the Joint Chiefs of Staff, the first Secretary of State under George W. Bush.

ANSWER: Colin Luther Powell

<Bentley>

18. In the *Mahabharata*, the Vedic god of this type fathers the only son of Kunti not to fight alongside the Pandavas. That god of this type fathered Karna and the Ashvin twins. Another god of this type turned his weeping daughters by Clymene into amber-dripping poplar trees and suffered over the burial Leucothoe alive. The Chinese believed that (*) nine birds in this role were shot by Hou Yi. Ninigi received beads, a mirror, and a sword as imperial regalia from the Japanese one, and a Greek one killed Python, owned the Delphic oracle, and fathered Phaethon. For 10 points, name this role filled by Surya, five successive Aztec gods, Amaterasu, and Helios.

ANSWER: sun gods [accept solar deities]

<Jackson>

19. One literary native of this state obsesses over bodybuilder Lionel Strongfort and steals a white horse with Mourad in the collection *My Name is Aram*. Tom, Kitty Duvall, and Joe spend their days in a bar owned by Nick in this state in *The Time of Your Life*. The stone building “Hawk Tower” was built in this state by a poet who was inspired by it to write *Roan Stallion* and *Tamar and Other Poems*, Robinson (*) Jeffers. Inhabitants of a street in this state include the marine biologist, Doc, in the novel *Cannery Row*. The author of that work wrote of this state's Hamilton and Trask families in *East of Eden*. Jim Casy, Rose of Sharon, and Tom Joad leave Oklahoma to reach, for 10 points, what state in Steinbeck's *Grapes of Wrath*?

ANSWER: California

<Ray>

20. In one work, this poet writes “On a hack’s hired prose, I earn/my exile” and tells himself, “To change your language you must change your life.” In another, this poet of “Codicil” calls the central event “a waste of our compassion, as with Spain” and asks “How choose between” the title region “and this (*) English tongue I love...How can I turn from” the title region “and live?” This poet of “A Far Cry from Africa” wrote an epic in which Achilles and Hector compete over Helen. For 10 points, name this poet of *Omeros*, a Caribbean Nobel laureate.

ANSWER: Derek Walcott

<Bollinger>

21. This man commanded the winning forces at the Battle of La Carbonera and the Battle of Miahuatlán. He initiated annual banquets held for his country’s Rural Guard, and men like his one-time vice president Ramon Corral were among his positivist científicos. This drafter of the Plan de Tuxtepec forced Sebastián Lerdo into exile after the Battle of Tecuac. His critics attacked him for abandoning the Constitution of (*) 1857. In his first presidential campaign, he opposed re-election, but when he succeeded Manuel González as President he removed all restrictions on re-election. He was ultimately forced to resign by Francisco Madero. For 10 points, name this dictator who ruled Mexico almost continuously from 1876 until 1911.

ANSWER: José de la Cruz Porfirio Díaz Mori [prompt on the Old Dictator]

<Nediger>

22. In one novel by this man, the protagonist befriends Gil Turko to frame him for the murder of Vic, a crewmate aboard the *Le Vengeur*. His premier novel tells of a Parisian prostitute named Divine. In addition to *Querelle de Brest* and *Our Lady of the Flowers*, this author wrote of a place called the Land of the Dead, a type of afterlife that appears in a play in which Said marries “the ugliest woman in town,” Leila, during the (*) Algerian War of Independence. In another play by this author, the title location is a brothel run by Irma whose theatrical like nature is used to restore order following a revolution. For 10 points-name this French author of *The Balcony*, *The Maids*, and *The Blacks*.

ANSWER: Jean Genet

<Cohen>

23. According to Gauss’s Polynomial Theorem, a reducible polynomial with coefficients of this type can be factored into two polynomials with coefficients of this type. The Gaussian numbers of this type include a complex part, and a ring with no zero divisors is known as this type of domain. Leopold Kronecker hoped to ground analysis entirely in this set of numbers. This set can be extended from a smaller one by including the (*) additive inverses of successors to zero as defined by the Peano axioms. The floor and ceiling functions output a number of this type, and every rational number is a quotient of two of these numbers. For 10 points, name this set of numbers symbolized \mathbb{Z} which includes 0, the natural numbers, and their negatives.

ANSWER: integers [accept word forms; accept \mathbb{Z} before mentioned]

<Tabachnick>

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Packet 19

Bonuses

1. This son of Pelops served his brother the flesh of his own children. For 10 points each:

[10] Name this king of Mycenae, the father of Agamemnon and Menelaus and namesake of a tragic house from Greek mythology.

ANSWER: **Atreus**

[10] This father of Pelops attempted to serve the boy's flesh to the gods to test their omniscience. This man was punished by continually having food and water just out of reach.

ANSWER: **Tantalus**

[10] Atreus served this brother of his a meal made from his own children. As revenge, this man fathered Aegisthus on his own daughter.

ANSWER: **Thyestes**

<Angelo>

2. Generally, these processes see radiation deviate from its straight-line trajectory due to interactions with its medium. For 10 points each:

[10] Name these processes, including an elastic form between X-ray or gamma ray photons and electrons named for Compton.

ANSWER: **scattering**

[10] This elastic scattering concerns light interacting with particles much smaller than the light's wavelength. Light scattering in this manner in the air contributes to the color of the sun and sky.

ANSWER: **Rayleigh** scattering

[10] This inelastic scattering process, widely used in spectroscopy, exhibits characteristic Stokes and anti-Stokes lines. It occurs when the light scatters while causing a molecular excitation.

ANSWER: **Raman** scattering

<Watkins>

3. The monarch of the losing side in this battle was taken to Spain and forced to sign the Treaty of Madrid in its aftermath. For 10 points each:

[10] Identify this 1525 victory for Charles V over Francis I in the Italian Wars.

ANSWER: Battle of **Pavia**

[10] Francis I, who was captured at the Battle of Pavia, had earlier cavorted with this English monarch at the Field of the Cloth of Gold. At the time he was married to Catherine of Aragon.

ANSWER: **Henry VIII**

[10] A later flare-up in the Italian Wars was prompted by the death of Francesco II of this family. Other members included founder Muzio Attendolo, and Galeazzo Maria, who was murdered while celebrating Christmas.

ANSWER: House of **Sforza**

<Bentley>

4. For 10 points each, answer these questions about Asian political parties.

[10] The Democratic Party of this country, whose main opposition is the Liberal Democratic Party, currently leads its Diet.

ANSWER: **Japan**

[10] Ma Ying-Jeou brought this Taiwanese party, which favors increasing contact with Mainland China, back to power in 2008 after he defeated the candidate of the pro-independence Democratic Progressive Party.

ANSWER: **Kuomintang** [or **Guomindang** or **KMT** or **GMD**; prompt on Chinese **Nationalist** Party; prompt on **Pan-Blue** Coalition, which is a group of parties led by the KMT]

[10] Both President Lee Myung-bak and Prime Minister Kim Hwang-sik represent this conservative party, which has dominated South Korean national politics since it bested the Democratic Party in the 2008 parliamentary elections.

ANSWER: **Grand National** Party [or **Hannara**]

<Haddad-Fonda>

5. The Comedy of Errors is based on this man's play Menaechmi. For 10 points each:

[10] Name this archaic Roman playwright who told of a Greek soldier's exploits in *Miles Gloriosus*.

ANSWER: Titus Maccius **Plautus**

[10] In this Plautus play, the title slave tricks Ballio into selling him the slave-girl Phoenicium, with whom his master Callidorus is in love.

ANSWER: **Pseudolus**

[10] This other Roman playwright was also born a slave. His six surviving plays include *Phormio* and *Adelphi*, which concerns a man raised in the city and his brother from the country.

ANSWER: **Terence** [or Publius **Terentius** Afer]

<Angelo>

6. The inbreeding coefficient is calculated by dividing one minus observed heterozygotic frequency by the expected heterozygotic frequency according to this principle. For 10 points each:

[10] Name this principle that states that under certain conditions, which include random mating and large population, allelic frequencies remain constant

ANSWER: **Hardy-Weinberg** equilibrium

[10] The validity of apparent deviation from Hardy-Weinberg equilibrium can be verified by this statistical test, applied in this case to test observed against expected genetic frequencies.

ANSWER: Pearson **chi-square** test

[10] Nonrandom mating or other problematic factors disturb Hardy-Weinberg equilibrium and cause natural selection. This type of selection favors one phenotype over another, causing a shift in allele frequency to favor that phenotype.

ANSWER: **directional** selection

<Kirsch>

7. “Der Gymnasiast” is a character in one of this man’s operas, in which the title character marries The Painter after divorcing The Doctor. For 10 points each:

[10] Name this composer who used two Franz Wedekind plays for an opera about a character who gets killed by Jack the Ripper, *Lulu*, and wrote another opera in which a deluded Idiot cries out that he smells blood.

ANSWER: Alban Maria Johannes **Berg**

[10] In this opera by Alban Berg, based on a Georg Büchner play, the Drum-Major seduces Marie, the wife of the title character. That man then kills Marie before drowning.

ANSWER: **Wozzeck**

[10] Pierre Boulez conducted a performance of *Lulu* in 1979 at this opera house, often named for its designer, Charles Garnier. One opera company uses both this building and the Opéra Bastille in the same city.

ANSWER: Opéra de **Paris** [or **Paris** Opera House]

<Gupta>

8. This country’s war for independence began fifty years after the Russian-inspired Orlov Revolt and was instigated by the Society of Friends. For 10 points each:

[10] Identify this Southern European nation whose war for independence against the Turks including the Battle of Navarino.

ANSWER: **Greece** [or **Hellas** or **Hellenic Republic**]

[10] This leader of the Society of Friends or *Filiki Eteria*, organized the campaign for Greek independence and staged a failed attack on Dragasani in 1821.

ANSWER: Alexander **Ypsilantis**

[10] The congregation of the Archbishop of Candia--modern day Iraklio--were massacred here during the Greek War of Independence. Some artifacts here are written in the Linear A script.

ANSWER: **Crete**

<Jackson>

9. This author integrated forty-four photographs into his tale of all-encompassing and possibly supernatural love, *Nadja*. For 10 points each:

[10] Name this colleague of Louis Aragon and Paul Eluard, who used “automatic writing” to produce *The Magnetic Fields* and wrote two artistic manifestos.

ANSWER: André **Breton**

[10] Breton’s manifestos outlined the doctrines of this movement, which is the idiom for many of Luis Bunuel’s films. This artistic movement favors phantasmal images that appeal to the subconscious over explicit, logical thought.

ANSWER: **surrealism**

[10] The Bureau of Surrealist Research did much work on the production of art from within this state. August Strindberg wrote this kind of “play” and the “life of Balthus Snell” of this kind is a novel by Nathanael West.

ANSWER: **dreams** [or word forms]

<Weiner>

10. Identify these prime ministers of Israel, for 10 points each.

[10] This Polish-born Zionist was the leader of the Histadrut, a Zionist labor federation, before he became Israel's first prime minister.

ANSWER: David **Ben-Gurion**

[10] This Likudnik prime minister from 1977-1983 was a member of the Irgun prior to the establishment of Israel. As prime minister, he presided over Israel's 1982 invasion of southern Lebanon and negotiated the Camp David Accords, for which he shared a Nobel Peace Prize.

ANSWER: Menachem **Begin**

[10] This man led a special forces raid at the Lod International Airport in 1972. This one-time leader of the Labor Party has recently formed the splinter Atzmaut Party.

ANSWER: Ehud **Barak** [or Ehud **Brog**]

<Haddad-Fonda>

11. Classical symphonies frequently had a first movement of this form. For 10 points each:

[10] Name this musical form which consists of an exposition, development, and recapitulation and shouldn't be confused with a similarly named type of piece often composed for solo instruments.

ANSWER: **sonata** allegro

[10] This other form is usually *abaca* or *abacaba*, and is marked by alternating digressions and returns to the original melody. Mozart wrote a famous one "in the Turkish style", or "alla turca".

ANSWER: **rondo**

[10] This playful form, whose name comes from the Italian for "joke", replaced the minuet as a movement of a larger work in the nineteenth century. Beethoven used them frequently.

ANSWER: **scherzo**

<Tabachnick>

12. It is used when lifting the arm along the plane of the scapula. For 10 points each:

[10] Name this three-headed muscle on the rounded part of the shoulder.

ANSWER: **deltoid**

[10] The deltoid attaches to, among other things, this bone of the upper arm that articulates with the ulna and radius.

ANSWER: **humerus**

[10] This group of four muscles and associated tendons supports the shoulder and holds the humerus to the glenoid cavity of the scapula. Tearing of this structure often occurs in baseball pitchers or other athletes who make repetitive throws.

ANSWER: **rotator cuff**

<Kirsch>

13. God commanded fire temporarily not to be hot after this man's tormentors threw him into one. For 10 points each:

[10] Name this Muslim prophet, the father of Ishmael.

ANSWER: Abraham [or Ibrahim]

[10] Ishmael got left in the desert while Hagar looked for water by running up and down the hills al-Safa and al-Marwah. Mother and son were saved when God created this well for them.

ANSWER: Well of Zamzam

[10] After drinking from the Well of Zamzam to commemorate Hagar, participants in the Hajj undertake a vigil on this hill where Muhammad gave his Farewell Sermon.

ANSWER: Mount Arafat [or Jabal 'Arafat or Jabal al-Rahma or Mount of Mercy]

<Haddad-Fonda>

14. These events are releases of energy from the earth's crust. For 10 points each:

[10] Name these events, that induce shaking measured on the modified Mercalli scale.

ANSWER: earthquakes [or tremors; or temblors]

[10] These regions at convergent boundaries, where old oceanic crust moves under another plate, occasionally host seismic activity.

ANSWER: subduction zones

[10] This rock, the principal component of oceanic plates, forms eclogite during the process of subduction.

ANSWER: basalt

<Watkins>

15. This work was originally commissioned to depict Saint Bonaventure and John the Evangelist, although the former seems to have been replaced with Saint Francis in a gray robe holding a cross. For 10 points each:

[10] Name this painting in which two cherubs tug at the legs of Mary, dressed in yellow and blue, as she holds her baby atop a pedestal from which statuettes of a mythical creature jut out.

ANSWER: Madonna of the Harpies [or Madonna delle Arpie]

[10] This Florentine artist painted *Madonna of the Harpies*.

ANSWER: Andrea del Sarto

[10] This earlier Florentine painted an *Adoration of the Magi* for a chapel in the Santa Maria Novella, in addition to *Primavera* and *The Birth of Venus*.

ANSWER: Alessandro Botticelli [or Sandro Botticelli]

<Jackson>

16. Identify the following about a certain First Amendment case, for 10 points each.

[10] Not to be confused with Charles Schenck, this man was arrested for making an anti-war speech in Canton in 1918. He'd run for president on the Socialist ticket while still in jail two years later.

ANSWER: Eugene Victor **Debs**

[10] Oliver Wendell Holmes, Jr. and this other justice switched their position on free speech in the later case of *Abrams v. US*. This then-lawyer came to prominence by filing a namesake brief in *Muller v. Oregon*.

ANSWER: Louis Dembitz **Brandeis**

[10] The case was concurrent with the first Red Scare, which ended up deporting socialists like this woman on the so-called Soviet Ark. She'd later write *My Disillusionment in Russia*.

ANSWER: Emma **Goldman**

<Bentley>

17. Give the following from Boolean logic, for 10 points each.

[10] This conjunction is used to denote that two or more individual variables must be true for the sentence to be true.

ANSWER: **AND** [or **conjunction**; accept equivalents like "**upside-down V**"]

[10] This disjunction is used to denote that, of a two variable sentence, either of the variables may be true, but not both of them.

ANSWER: **XOR** ("ZORE" or "EX-OR") [or **exclusive disjunction**; or **underlined V**; or **exclusive or**; or **orr**; do not accept "or"]

[10] This rule states that not quantity A and B is equivalent to not A or not B.

ANSWER: **De Morgan**'s rule [or Augustus **De Morgan**]

<Meade>

18. In one poem from this set, the narrator watches a "descending moon" while riding to his love's cottage, but is struck by the fear that his love is dead. For 10 points each:

[10] Identify this set of poems, which include "Strange fits of passion have I known" and "She dwelt among untrodden ways."

ANSWER: The "**Lucy**" Poems

[10] The speaker of this other Wordsworth poem proclaims that he would "rather be a pagan" so he might "have sight of Proteus" or "hear old Triton blow his wreathed horn." Wordsworth also laments how "getting and spending, we lay waste our powers."

ANSWER: "The **World Is Too Much with Us**"

[10] Wordsworth contributed poems like Tintern Abbey to this landmark collection of the Romantic movement, which he collaborated on with Samuel Taylor Coleridge.

ANSWER: **Lyrical Ballads**, with a Few Other Poems

<Ray>

19. This man developed an eponymous theory of emotion, in which biological response precedes any emotional response, with Carl Lange. For 10 points each:

[10] Name this American professor at Harvard and author of *Varieties of Religious Experience*, whose *Principles of Psychology* helped start that field. He was also a founding pragmatist.

ANSWER: William **James**

[10] This later psychologist's two-factor theory of emotion, supported by experiments involving a high bridge and his injections of adrenaline performed with Singer, involves a cognitive label.

ANSWER: Stanley **Schachter**

[10] Daniel Schacter, unrelated to Stanley, studies the malleability of this mental function in his lab at Harvard. Other Americans who studied it include Elizabeth Loftus and George Miller, the latter of whom claimed its magic number was seven, plus or minus two.

ANSWER: **memory** [prompt on **short-term** memory]

<Jackson>

20. Sam Evans is oblivious to the affair between Ned Darrell and his wife, Nina Leeds, in this author's Pulitzer-winning *Strange Interlude*. For 10 points each:

[10] Name this playwright of *Beyond the Horizon* and *All God's Chillun Got Wings*, who adapted the Phaedra myth into his drama about Ephraim Cabot and Abbie Putnam, *Desire Under the Elms*.

ANSWER: Eugene Gladstone **O'Neill**

[10] This O'Neill play about the Tyrone family was so deeply autobiographical that it was only published posthumously. It ends with Jamie excoriating his mother Mary for her morphine addiction.

ANSWER: **Long Day's Journey into Night**

[10] O'Neill's early career was marked by his participation in this acting troupe, which premiered his play *Bound East for Cardiff*. This group, led by George Cram Cook, also premiered Susan Glaspell's *Trifles* and was named for a Massachusetts town.

ANSWER: the **Provincetown Players**

<Ray>

21. Rallies held in this city ended with newly created flags being touched to the Blutfahne, which was damaged in the Beer Hall Putsch. For 10 points each:

[10] Identify this city that was the site of a series of war crime trials for Nazi leaders following World War II.

ANSWER: **Nurnberg** [or **Nuremberg**]

[10] One of the men sentenced to life imprisonment at the Nuremberg Trials, he served as Hitler's Deputy Fuhrer. He had earlier tried to negotiate peace with Britain in 1941, and he served as an editor for *Mein Kampf*.

ANSWER: Walter Richard Rudolf **Hess**

[10] This man, sentenced to 20 years at Nuremberg, later published works like *Infiltrator* and *Inside the Third Reich*.

ANSWER: Berthold Konrad Hermann Albert **Speer**

<Bentley>

22. One of these men, Li Kui, kills an entire band of tigers after they kill his mother. For 10 points each:

[10] Name these figures, led by Song Jiang, who reside on Mount Liangshang and whose spirits were released from under a stone tortoise.

ANSWER: 108 Stars of Destiny [or Outlaws of the Marsh]

[10] The 108 Stars of Destiny appear in this Ming Dynasty novel by Shi Naian.

ANSWER: Water Margin [or Outlaws of the Marsh; or All Men are Brothers; or Shui hu Zuan]

[10] The principle antagonist of Water Margin, this general is assigned to destroy the outlaws. He shares his family name with the author of “Buying a Fishing-Rod for my Grandfather.”

ANSWER: Gao Qiu [or Commander Kao]

<Bollinger>

23. This property of a theory suggests that that theory’s objects can only be influenced by sufficiently close objects. For 10 points each:

[10] Name this property, which appears to be violated by quantum entanglement.

ANSWER: locality

[10] This result claims that no theory of local hidden variables can reproduce all the results of quantum mechanics.

ANSWER: Bell’s theorem

[10] Bell’s theorem was proposed in a paper responding to this paradox, which suggested that either systems cannot be completely described by their wavefunctions or else one system must be able to affect a spatially separate system.

ANSWER: EPR paradox [or Einstein-Podolsky-Rosen paradox]

<Watkins>