

**Minnesota Undergraduate Tournament 2016: A Vat of Ranch Dressing or a Bullet to the Head**  
**Questions by Sam Bailey, Rob Carson, Mike Cheyne, Akhil Garg, Carsten Gehring, Andrew Hart, Ike**  
**Jose, Shan Kothari, Cody Voight, Najwa Watson, and NOT Cory Haala**  
**Packet 13/Finals 1: Tossups**

1. In a film from this country, a series of dissolves punctuates a scene in which a cat-loving first mate demonstrates “Greco-Roman wrestling”. In that film, a man sees a vision of his wife after jumping into a river. A short film from this country is made from still photographs except for a single shot of a woman in bed opening her eyes. Terry Gilliam's *12 Monkeys* was based on that film, in which a man is sent back in time to before a nuclear war. A poetic realist film from this country, (\*) *Zero for Conduct*, helped inspire another which ends on a freeze frame as the protagonist runs towards the ocean. That film's delinquent protagonist is sent to a correctional facility for stealing his stepfather's typewriter. A film whose name translates to “The Jetty” won the Jean Vigo Prize for Chris Marker in this country, whose “New Wave” also included *The 400 Blows*. For 10 points, name this home of François Truffaut.

ANSWER: France <Kothari>

2. A story from this country centers on a man whose name, which means “son of the sycamore”, was adopted for the protagonist of the most famous novel by Finnish author Mika Waltari. In another story from this country, a man receives a frothy container of beer that inspires him to seek out his brother's heart at the top of a cedar tree. This country was the origin of the *Story of Sinuhe* (SIN-oo-hay) and the *Tale of Two Brothers*. The phrases “emerging forth into the light” or “going forth by day” appear in more direct translations of the title of this country's (\*) *Book of the Dead*. Much of this country's literature, which was often written in hieratic or Demotic scripts, became translatable due to Jean-Francois Champollion's work on the Rosetta Stone. For 10 points, name this country whose ancient writers produced such funerary documents as the Coffin and Pyramid Texts.

ANSWER: ancient Egypt [or Misr; or Masr; or Khemi; accept the Middle Kingdom of Egypt or the New Kingdom of Egypt or the Egyptian Empire] <Carson>

3. A king with this name led his troops on the risky “March across the Belts” to surprise opponents. Another king with this name had his life saved three times in one day by his devoted guard Axel Erik Roos. A ruler with this name died inspecting trenches during the siege of Fredriksten, where he ended up after spending years at a camp in Bender. It's not Alexis, but this name was held by a ruler who successfully conquered Warsaw during the Deluge. A later ruler with this name fled with the Cossack Ivan Mazepa to the Ottoman Empire after being curbstomped at the (\*) Battle of Poltava. The twelfth king with this name in a certain country died while fighting against Russia during the Great Northern War. For 10 points, identify this name held by the Swedish king who fought against Peter the Great.

ANSWER: Charles Gustav [or Carl Gustav] <Cheyne>

4. “Herbert and Eve Clark found that even though young children frequently made the sound represented by this letter while babbling, it was one of the last they learned in actual speech. In American English, only a lax vowel may precede this letter's sound if they are in a single syllable. Some accents prevent back-to-back vowel sounds in two syllables by inserting an “intrusive” kind of this letter in between them. This letter represents a range of sounds, but the most common is a postalveolar approximant. Lateral consonants and the sounds produced by this letter make up the class of (\*) liquid consonants. The back of the tongue may be bunched or the vocal tract may be constricted in a process by which a vowel is “colored” by this letter. Most accents in England drop this letter's sound when it is not followed by a vowel, making them non-rhotic. For 10 points, name this 18th letter of the English alphabet.

ANSWER: R [prompt on “rhotic consonant”] <Bailey>

5. A type of this quantity can be derived by multiplying the Josephson constant by Planck's constant over two, or taking the square root of von Klitzing's constant over Planck's constant. Reformulating a problem using imaginary examples of this quantity is the basis for the method of images. The ability of an external field to distort the location of this quantity constitutes polarizability. By Gauss's law, the flux can be expressed as this quantity divided by the permittivity of free space. The (\*) electric field is defined as the electric force per unit of this quantity. For a capacitor, this quantity is equal to the capacitance times the voltage. An atomizer was used to introduce oil droplets into a chamber in an experiment that determined this property for a single electron. For 10 points, name this property whose "fundamental" variety was determined by the Millikan experiment, is symbolized  $q$ , and is measured in coulombs.

ANSWER: electric charge [or elementary charge] <Garg>

6. A speech given before this event describes a figure moving "with Tarquin's ravishing strides" after which the speaker begs the "sure and firm-set earth" to "hear not my steps". The man who performs this action worries that "sightless couriers of the air" will blow news of it "in every eye", creating tears to "drown the wind", in a speech that vows "here, upon this bank and shoal of time, we'd jump the life to come". A character imagines a voice crying "sleep no more" while performing this action, which is later attributed to two drunk (\*) chamberlains. In the aftermath of this action, its performers hear the "knocking at the gate" analyzed in a Thomas de Quincey essay. This action's perpetrator is told "screw your courage to the sticking-place" and is briefly dissuaded from it by a vision of a bloody dagger. For 10 points, name this event that occurs at a castle in Inverness, causing Malcolm and Donalbain to flee and opening Macbeth's path to the Scottish throne.

ANSWER: the murder of King Duncan in *Macbeth* [accept synonyms for murder like assassination or killing; prompt on partial answers or less specific answers like "the assassination in *Macbeth*" or "the murder of the king"] <Carson>

7. After the main character of this text measures "the structure of the Deep", he creates the mansion E-sara. This text was recited on the fourth day of the Akitu festival, and it contains an oft-repeated passage that describes monsters "clothed in terror" who had poison for blood. A report conveyed by Gaga in this text causes the Igigi to wail bitterly before leaving for a banquet. The arrivals of Ansar and Kisar and Lahmu and Lahamu are described in the first of the seven tablets of this text, which takes its name from its incipit, beginning (\*) "When on high". The imprisonment of the vizier Mummu and the slaying of Apsu set this text's events in motion. Its main character recovers the Tablets of Destiny from Kingu and creates humanity from the blood of a primeval ocean goddess. For 10 points, name this text in which Tiamat is slain by Marduk, the creation myth of Babylonian mythology.

ANSWER: the Enuma Elish [accept "When on high" or similar translations before that line is read] <Carson>

8. Leo Amery quoted Oliver Cromwell in telling this man, "In the name of God, go!" This man lost support after artlessly claiming to "have friends in the House", referring to Parliament. His half-brother won the Nobel Peace Prize for negotiating the Locarno Pact. This leader died a few months after he and men like Stanley Baldwin and Ramsay MacDonald were attacked in the book *Guilty Men*. This man, the half-brother of (\*) Austen, resigned after the Norway debate demonstrated Parliament's loss of confidence. He incorrectly proclaimed "peace for our time" after ceding the Sudetenland region of Czechoslovakia in a 1938 agreement. For 10 points, what British prime minister promoted German appeasement by signing the Munich Agreement?

ANSWER: (Arthur) Neville Chamberlain <Cheyne>

9. In one of this man's symphonies, a dissonant, four-bar brass chord allows a transition to F major for the 1/1 ("one"- "one")-time scherzo. At the recurrence of "Tempo I" in one movement by this composer, the *cantabile ed espressivo* theme is played by the first violin and cello staggered by a quarter rest. In another piece by this composer, a plodding pizzicato theme of leaping octaves underlies a sinuous oriental-inspired theme introduced by the English horn. A (\*) "Notturmo" is the third movement of his second string quartet, and the musical *Kismet* was adapted from his music. This composer wrote a series of dances for the slaves of Khan Konchak to end the second act of an unfinished opera, which was completed by Glazunov and Rimsky-Korsakov. Those are the "Polovtsian Dances". For 10 points, name this Russian member of "The Five" who wrote *In the Steppes of Central Asia* and *Prince Igor*.  
ANSWER: Alexander Porfiryevich Borodin <Kothari>

10. Walsh diagrams plot the changes of these entities to explain the differences in stability in molecules with respect to spatial configuration. These entities are said to have gerade symmetry, represented by the Mulliken symbol g, if the signs of these entities change upon inversion. With the use of character tables, these entities can be composed by combining multiple SALCs (S-A-L-C's). A single Slater determinant can be used to approximate these entities, which can be calculated using the (\*) Hartree-Fock method. Due to destructive interactions, a node exists where the wavefunction is zero in these entities, which can be denoted as pi or sigma star. They are often computed as a linear combination of atomic shells. For 10 points, name these entities that represent the regions around a bond that an electron is likely to occupy.

ANSWER: molecular orbitals [or MOs; prompt on "orbitals"; do not accept or prompt on "atomic orbitals"] <Garg>

11. This thinker claimed that God could not be the subject of metaphysics because metaphysics proves the existence of God, and no field can prove the existence of its own subject. This non-Descartes person argued for the separation of the soul and body with a thought experiment about a man who affirms his existence without affirming the existence of any of his body parts. His proof of God says that only God has existence as part of His essence, and thus, everything else is necessarily entailed by God. This creator of the (\*) "Falling Man" thought experiment said that he memorized Aristotle's *Metaphysics* but understood none of it until he read al-Farabi's commentary. He and al-Farabi were attacked for their belief in the world being created outside of time by al-Ghazali in *The Incoherence of the Philosophers*. For 10 points, name this medieval Islamic philosopher and doctor.

ANSWER: Avicenna [or Ibn Sina or Abu Ali al-Husayn ibn 'Abd Allah ibn al-Hassan ibn Ali ibn Sina] <Bailey>

12. This character claims that seeing a house built by John Hollister in Fond du Lac would make him sick. He is also troubled when the phrase "we'll get 'em liquored up and take 'em to the Peachtree dance" elicits no reaction. In another scene, he puts a napkin over his head and begins speaking loudly to embarrass the nearby H.M. Tilford. After murdering a man posing as his brother Henry, this character is forced to admit "I've abandoned my (\*) child!" during a baptism at the Church of the Third Revelation. In another scene, this character yells "bastard from a basket!" at his adopted son H.W. (pause) Before perpetrating a murder with a bowling pin, this character explains drainage to his recurring foe, Eli Sunday, with the line "I drink your milkshake! I drink it up!" For 10 points, name this Daniel Day Lewis-portrayed oilman, the protagonist of *There Will Be Blood*.

ANSWER: Daniel Plainview [accept either underlined portion] <Carson>

13. When the differential acceleration due to a force described by this adjective is greater than the gravitational binding acceleration, this type of “stripping” will occur. For a natural satellite, the so-called equation of a force described by this adjective is two times big G times mass of the primary body times radius of the satellite, all over distance cubed. The Roche limit is the nearest a satellite can get to its primary body without being (\*) ripped asunder by this type of force. This force distorts a satellite's shape into a prolate spheroid and causes Io's spectacular volcanism. For Earth, the moon's contribution to this type of force is approximately twice that of the Sun's contribution. For 10 points, name this type of force that causes a namesake periodic rise and fall of sea level on Earth.

ANSWER: tidal [accept word forms such as tides; accept tidal stripping or tidal equation[s] or tidal force[s]; prompt on “gravity” or “gravitational force” or “differential force”] <Voight>

14. The first ruler of this dynasty wrote a brief praise of Islam and Muhammad titled “The Hundred-Word Eulogy”. Another ruler of this dynasty was captured during the Tumu Crisis. The Seven Grievances were issued against it by Nurhaci, who laid the groundwork for its eventual collapse. This dynasty was the subject of two eccentric books by Gavin Menzies, who claimed it discovered the (\*) Americas prior to Christopher Columbus; those books refer to this dynasty's famous treasure voyages under the command of such people as the eunuch admiral Zheng He (jung huh). The Hongwu Emperor ruled this dynasty after the Red Turban Rebellion, which overthrew the Mongol led Yuans. For 10 points, name this Chinese dynasty that ruled from 1368 to 1644 and was known for elaborate porcelain designs.

ANSWER: Ming Dynasty <Cheyne>

15. A 1942 book by an author from this country revolves around a man named Konrad, who reappears after 41 years and is invited by an elderly general named Henrik to dinner at a castle. A contemporary novelist from this country wrote of a town whose circus exhibits only a whale in his novel *The Melancholy of Resistance* and described a small town in this country under communism in *Satantango*, both of which were adapted into films by a director from this country named (\*) Béla Tarr. *Embers* is a novel written by an author from this country named Sándor Márai. A Jewish Nobel laureate from this country wrote about the effects of the Holocaust in *Fatelessness* and *Kaddish for an Unborn Child*. László Krasznahorkai (krazh-nuh-HOR-kye) is from, for 10 points, what home country of Nobel Prize-winner Imre Kertész (IM-ray kur-TESH) and other writers in the Magyar language?

ANSWER: Hungary [or Magyarország] <Hart>

16. Numerous photographs were taken in this country by Ernest “Red” Hallen on behalf of the ICC. When talking about this country, Philander C. Knox legendarily advised the president not to be bound by “any taint of legality”. An oft-told story states that, on behalf of this country, an agent sent U.S. senators a stamp showing a volcano exploding in another country. The U.S. Army continually and loudly played (\*) songs by the Clash and Guns N' Roses to capture a leader of this country during Operation Nifty Package, which was part of an overall invasion called Operation Just Cause. The U.S. signed the Hay-Bunau-Varilla Treaty with this country after helping it become independent from Colombia. For 10 points, name this Central American country where the U.S. built a canal in the 1900s.

ANSWER: Republic of Panama <Cheyne>

17. After a merchant was cheated in this city, various leaders made a secret vow to form the League of the Virtuous to ensure fair commercial practices. This city's boycott of the Hashemites coincided with two deaths in the Year of Sorrows, including Abu Talib, a leader of the Quraysh [koo-RYESH] tribe. This city was the site of the beginning of the Night Journey, a trip culminating in a visit to the seven stages of heaven in which a man rode on the human-faced steed (\*) Buraq. A widow merchant from this city, Khadijah, married a man later visited at Mount Hira by the angel Gabriel. The Hegira occurred when the founder of a religion left this city that is the home of the Kaaba and the destination of the pilgrims on the Hajj. For 10 points, name this Middle Eastern city, the holiest in Islam.

ANSWER: Mecca [or Makkah] <Cheyne>

18. In *Oxy•tricha*, a protein with 41 and 56 kilo•dalton subunits saves these structures from digestion by Bal31 (BAL-"thirty one"). TPP1 (T-P-P-1) contributes to the processivity of an enzyme that acts on these structures, and proteins including POT1 ("pot"-1), TIN2 ("tin"-2), and TRF1 (T-R-F-1) form the shelter•in complex, which protects the T-loop of these structures. The size of these structures can be determined in white blood cells with Flow-FISH ("flow fish"). Dysker•in, the RNA template TERC ("Turk"), and the reverse tran•script•ase TERT (tert) constitute a (\*) namesake enzyme, first discovered in *Tetra•hymena*, that can enlarge these structures, thus avoiding the Hayflick limit. These structures consist of guanine-rich simple tandem repeats, which in humans have the sequence TTAGGG (T-T-A-G-G-G). For 10 points, name these structures that prevent end-to-end fusion or degradation of genetic material and are found at the ends of chromosomes.

ANSWER: telomeres <Kothari>

19. Langston Hughes wrote that "perhaps / you will remember" this man in a poem claiming he "died / for your sake" titled in part for "October 16". This man's son Owen is contacted by Miss Mayo, an assistant to this man's real-life biographer Oswald Garrison Villard, in Russell Banks's historical novel *Cloudsplitter*. This man is called "weird" in Herman Melville's short poem "The Portent", which called this man "the meteor of the war". This man's soul is "marching on" while his (\*) corpse "lies a-mouldering in the grave" in a song whose tune was reused for "The Battle Hymn of the Republic". That song, which inspired the title of an epic poem about the Civil War by Stephen Vincent Benet, is titled for this man's "body". For 10 points, name this radical abolitionist who carried out a raid on a federal arsenal at Harpers Ferry.

ANSWER: John Brown [accept *John Brown's Body*; accept "October 16: The Raid" before "this man" is read] <Hart>

20. One of this artist's paintings had its background architecture replaced with "barbarous" Gothic buildings in a parody by Joshua Reynolds. He painted two portraits of his mistress Margarita Luti, who was also known as "la fornarina". A scene in which the Apostles attempt to cure a demon-possessed boy unusually appears in the lower section, beneath a radiant white-clad Christ, of this man's last major painting, his *Transfiguration*. For another project, he represented poetry with a scene of Apollo playing his lyre on a mountain, religion with a scene of theologians (\*) debating transubstantiation, and philosophy with a painting centering on a man who points to the sky with one hand and holds a copy of *Timaeus* with the other as he converses with his student. *Parnassus* and *La Disputa* are two of this man's frescos in the Stanza della Segnatura. For 10 points, name this Italian Renaissance artist who depicted Plato and Aristotle in *The School of Athens*.

ANSWER: Raphael [or Raffaello Sanzio da Urbino] <Carson>

Tiebreaker. In 1984, this man raised a stir by calling a proposed architectural design a "monstrous carbuncle". His reputation was improved by a Mark Bolland-orchestrated media strategy begun in 1999 that depicted him with his future wife at places like the Ritz Hotel and Highgrove House. This man's first wife was recorded having conversations with a friend in "Squidgygate", and that wife had an affair with a cavalry officer named James Hewitt. This man's official residence is (\*) Clarence House, which is located in the city of Westminster. This man first married in 1981 at St. Paul's Cathedral in an event billed as the "wedding of the century", and he was married again in 2005 to Camilla Parker Bowles. For 10 points, name this former husband of Princess Diana and eldest son of Elizabeth II.

ANSWER: Prince Charles [prompt on "Prince of Wales"] <Cheyne>

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**Packet 13/Finals 1: Bonuses**

1. According to Wikipedia, this man's father dropped him off at a school with 50 cents and a sack of clothes.  
For 10 points each:

[10] Name this railroad magnate who boasted he could hire one half of the working class to kill the other half.  
A one-time head of the Erie Railroad, he is best known for recruiting the President's brother-in-law, Abel  
Corbin, as part of a speculation scheme.

ANSWER: Jason "Jay" **Gould**

[10] Around the same time as Gould's scheme was this scandal in which Congressmen received shares of  
stock in a construction company that was building the eastern portion of the Transcontinental Railroad. It  
implicated Vice-President Schuyler Colfax.

ANSWER: **Credit Mobilier** of America scandal

[10] Gould's attempt to corner the gold market and the Credit Mobilier scandals both took place in the  
administration of this President, a scandal-plagued former Civil War general.

ANSWER: Ulysses S. **Grant** [or Hiram Ulysses **Grant**] <Cheyne>

2. Answer the following about the chemical compound TEMPO, for 10 points each.

[10] TEMPO is an example of the "persistent" or "stable" type of these compounds, which are atoms,  
molecules, or ions that have unpaired valence electrons.

ANSWER: free **radicals**

[10] TEMPO can be used to carry out radical-mediated reactions of this type. Radical reactions of this type are  
an example of a "chain growth" technique for carrying out this kind of reaction.

ANSWER: **polymerizations** [accept answers mentioning **polymers** and the idea of making them]

[10] A common variant of TEMPO has this kind of group at the four position of the ring. In biochemistry,  
cytochrome P450 (**P "four fifty"**) enzymes drive reactions that result in the creation of this functional group.

ANSWER: **hydroxyl** group [or **hydroxy** group or **-OH** group; accept **hydroxylation** or **hydroxylated**] <Hart>

3. Brian Evenson was censured by leaders of this religion for the violence in his first novel, *Altmann's Tongue*.  
For 10 points each:

[10] Name this religion whose history was recounted in the 1983 novel *Saints*, which was written by Orson  
Scott Card, a practicing member of this religion. Card's novel is told the eyes of a woman named Dinah  
Kirkham, who becomes one of the many wives of this religion's founder.

ANSWER: **Mormonism** [accept **Mormons** or **Mormon** Church or The Church of Jesus Christ of **Latter Day**  
**Saints** or **LDS** movement or church]

[10] This author of the nonfiction books *Into the Wild* and *Into Thin Air* wrote about the history of  
Mormonism in *Under the Banner of Heaven*.

ANSWER: Jon **Krakauer**

[10] This chronicler of the American West wrote about "the history of the Mormon Trail" in his nonfiction  
work *The Gathering of Zion*. His novels include *The Big Rock Candy Mountain* and *Angle of Repose*.

ANSWER: Wallace **Stegner** [or Wallace Earle **Stegner**] <Hart>

4. This man used people's reactions to a story about incestuous siblings as evidence that moral reasoning follows intuitive judgments. For 10 points each:

[10] Name this proponent of social intuitionism. He tabulated six principles underlying most morality systems in *The Righteous Mind*.

ANSWER: Jonathan **Haidt**

[10] Haidt criticized rationalist models of moral development such as the one developed by this man. Carol Gilligan criticized this psychologist for his stages of moral development being male-centered.

ANSWER: Lawrence **Kohlberg**

[10] One of the scenarios Kohlberg asked children to respond to involved a man named Heinz stealing this kind of thing for his wife.

ANSWER: **drug** [or **medicine** or **cancer treatment** or **radium**; accept equivalents in the vein of **drug** or **medicine**] <Bailey>

5. This film's antagonist knows the identity of the pilot of a nearby ship because the radar has been jammed and "there's only one man who would *dare* give me the raspberry". For 10 points each:

[10] Name this 1987 film in which President Skroob is the leader of a planet facing an air shortage.

ANSWER: ***Spaceballs***

[10] Skroob was portrayed in *Spaceballs* by this director of the film. He also directed *The Producers*, *Blazing Saddles*, and *Young Frankenstein*.

ANSWER: Mel **Brooks** [or Melvin James **Brooks** or Melvin James **Kaminsky**]

[10] In *Spaceballs*, after the airlock code of Druidia is revealed to be this series of digits, Dark Helmet remarks "that's the kinda thing an idiot would have on his luggage!" Immediately thereafter, President Skroob reveals that this series of digits is his actual luggage combination.

ANSWER: **1-2-3-4-5** <Hart>

6. Three European poets engaged in a notable epistolary correspondence in the summer of 1926. For 10 points each:

[10] One of the participants was this German-language poet of *Sonnets to Orpheus* and the *Duino Elegies*, who was slowly dying of leukemia in a Swiss sanatorium at the time.

ANSWER: Rainer Maria **Rilke** [or René Karl Wilhelm Johann Josef Maria **Rilke**]

[10] Another correspondent was this author of the collection *My Sister, Life*, who was forced by Soviet authorities to turn down the 1958 Nobel Prize for Literature. His most famous novel is about the enduring but inconsistently requited love between the title physician and a woman named Lara.

ANSWER: Boris **Pasternak** [or Boris Leonidovich **Pasternak**]

[10] Pasternak asked Rilke to send a copy of the *Duino Elegies* to this Russian symbolist, who was living in exile in Paris. Collections of her poetry include *The Girlfriend*, *Mileposts*, and *Psyche*, the last of which contains the pro-White Army poem "The Swans' Encampment".

ANSWER: Marina **Tsvetaeva** [or Marina Ivanovna **Tsvetaeva**] <Carson>

7. The cityscape painter Maurice Utrillo was born in this neighborhood. For 10 points each:

[10] Name this bohemian district of Paris that contained the nightclub Le Chat Noir made famous by a Theophile Steinlen poster. It is named after a hill atop which sits the Basilica of the Sacré Coeur.

ANSWER: **Montmartre**

[10] This painter of Italian-Jewish origins lived in the Le Bateau-Lavoir commune in Montmartre. He painted many thin-faced women, many of them reclining nudes, before dying of tubercular meningitis at age 35.

ANSWER: Amedeo **Modigliani** [or Amedeo Clemente **Modigliani**]

[10] This Spanish painter, who painted *The Old Guitarist* during his "blue period", spent some time living in Le Bateau-Lavoir in Montmartre.

ANSWER: Pablo **Picasso** [or Pablo Ruiz y **Picasso**] <Hart>

8. Answer the following about the universe immediately after the Big Bang, for 10 points each.

[10] These two types of particles have color charge, which causes them to be confined in normal matter. A “soup” or “plasma” of these two types particles existed immediately after the Big Bang.

ANSWER: quarks and gluons [accept in either order; prompt on “partons”; do not accept or prompt on partial answers]

[10] Photons with an energy greater than 1.02 mega-electron volts can undergo this process to create matter and anti-matter simultaneously. After the Big Bang, this process produced around one proton for every billion photons.

ANSWER: pair production

[10] Spontaneous symmetry breaking triggered the inflationary period following the Big Bang because it differentiated the strong force from the electroweak force. Spontaneous symmetry breaking also causes the W and Z bosons to have this property, according to the Higgs mechanism

ANSWER: mass <Garg>

9. This conflict is frequently said to begin with Pelagius's victory at the Battle of Covadonga. For 10 points each:

[10] Name this conflict that lasted over 700 years and ended with the fall of Granada and the defeat of the Almohads.

ANSWER: Reconquista [or Reconquest]

[10] The fall of Granada occurred in what year, which was also when Christopher Columbus set sail on his first voyage to America?

ANSWER: 1492

[10] This 1212 battle was a huge defeat for the Almohads in Andalusia at the hands of various Christian Iberian kingdoms. It set in motion a process that, by the end of the century, reduced Muslim presence in Spain to basically just Granada.

ANSWER: Battle of Las Navas de Tolosa <Cheyne>

10. The success of this man's 1885 *Symphonic Variations* likely inspired him to produce his *Symphony in D minor* three years later. For 10 points each:

[10] Name this Belgian-born French composer of the symphonic poem *Le chasseur maudit*. His students at the Paris Conservatoire included Henri Duparc, Ernest Chausson, and Vincent D'Indy.

ANSWER: César Franck [or César-Auguste-Jean-Guillaume-Hubert Franck]

[10] One of Franck's best-regarded works is an F minor piece in this genre dedicated to Camille Saint-Saens, though a minor scandal ensued when Saint-Saens abruptly left the stage at the end of its premiere with the score still open. Franz Schubert based a piece in this genre on his earlier lied “Die Forelle”.

ANSWER: piano quintet [prompt on partial answer]

[10] Franck and Saint-Saens both professionally played this keyboard instrument, which prominently figures in Saint-Saens's third symphony. This instrument is operated using pedals, manuals, and stops and can often be found in churches.

ANSWER: pipe organ <Carson>

11. Like their brothers, they were cast by their father Uranus into a pit in Tartarus, where they were guarded by the dragon Campe. For 10 points each:

[10] Identify these characters whose names were Kottos, Briareos, and Gyges. They fought on the side of the Olympians in the Titanomachy, during which they used their unique talents to heave huge rocks at the Titans.

ANSWER: the Hecatoncheires (heh-kah-ton-KYE-urs) [or the Centimanes; or the Hundred-Handed Ones]

[10] The aforementioned brothers of the Hecatoncheires were these giants, who forged the thunderbolts thrown by Zeus. They were immediately recognizable by the single eye set in the middle of their foreheads.

ANSWER: the Cyclopes [or the Cyclopes]

[10] Another cyclops of note is Polyphemus, who crushed a shepherd named Acis with a gigantic boulder due to his obsession with Acis's lover, a sea-nymph with this name. Post-classical writers gave this name to an ivory statue of a woman that came to life in response to its creator's love.

ANSWER: Galatea <Carson>



12. Answer the following about game engines, for 10 points each.

[10] Game engines often support ambient occlusion, which is an advanced way to perform this task that involves assigning a color to a shape to create the illusion of depth. The programmable parts of the graphic pipeline were originally so-named because they perform this task on vertices and pixels.

ANSWER: **shading** [accept vertex **shaders** or pixel **shaders** or word forms such as **shade** or **shaders**]

[10] Game engines rarely support this method of global illumination, in which the namesake half-lines are recursively examined to determine the amount of light at a point in an image.

ANSWER: **ray tracing** [or **ray casting**]

[10] High-end engines may support the real time use of this special effect, in which objects appear to “streak” in a still frame to give the illusion of movement.

ANSWER: **motion blurring** [prompt on “**blurring**”] <Jose>

13. This controversy led to the brutal execution of Stephen the Younger. For 10 points each:

[10] Name this tumultuous controversy that began with the policies of Emperor Leo III the Isaurian, who believed the empire was losing God's favor. The empress Theodora settled this controversy with the “Triumph of Orthodoxy”.

ANSWER: **iconoclasm** [accept any answer involving controversy over veneration of **icons**]

[10] Leo III's iconoclastic policies were supported by his son and successor, the fifth Byzantine ruler to have this name. The “great” ruler with this name defeated Maxentius at the Battle of the Milvian Bridge after allegedly seeing a cross in the sky.

ANSWER: **Constantine**

[10] Constantine V was mocked by his opponents, who gave him an epithet with this embarrassing meaning, perhaps related to an incident during his baptism.

ANSWER: **dung**-named [or **Kopronymos**; or **kopros**; or **feces**; or **defecation**; or anything in this vein] <Cheyne>

14. This thinker analogized the difference between sensations and thought to the difference between individual notes in a musical piece and the piece's melody as a whole in an essay that also investigates the concepts of hardness, weight, and force. For 10 points each:

[10] Name this American philosopher who examined “the very first lesson that we have a right to demand that logic shall teach us” in his essay “How to Make Our Ideas Clear”, which was written for *Popular Science Monthly*.

ANSWER: Charles Sanders **Peirce** (“**purse**”) [accept Charles Santiago Sanders **Peirce** or Charles Santiago **Peirce**]

[10] “How to Make Our Ideas Clear” was a fundamental text in this philosophical movement, founded in part by Peirce. It was dubbed “a new name for some old ways of thinking” in the subtitle of William James's book on it.

ANSWER: **pragmatism** [accept word forms; accept **pragmaticism**]

[10] Peirce's views on metaphysics were informed by the concept of “objective idealism”, an outlook he shared with this American philosopher who later reconceived of his metaphysics as “absolute pragmatism”. This guy wrote *The World and the Individual* and *The Problem of Christianity*.

ANSWER: Josiah **Royce** <Carson>

15. Identify the following authors of literary nonfiction books composed largely of interviews, for 10 points each.

[10] Sales of Keith Gessen's English translation of this Belarusian author's oral history *Voices from Chernobyl* spiked after she was awarded the 2015 Nobel Prize in Literature.

ANSWER: Svetlana Alexievich [or Svetlana Alexandrovna Alexievich]

[10] This Japanese author chronicled the sarin gas attacks carried out by Aum Shinrikyo in the Tokyo subway system in his 1998 book *Underground*. His best-known novels include *The Wind-Up Bird Chronicle*, *Kafka on the Shore*, and *1Q84*.

ANSWER: Haruki Murakami [accept names in either order]

[10] David Barsamian and Anthony Armove are among the interlocutors whose conversations with this Indian author were collected in 2008's *The Shape of the Beast*. This author won a Booker Prize for her novel *The God of Small Things*.

ANSWER: Arundhati Roy [or Suzanna Arundhati Roy] <Carson>

16. A leader of this country was known as "bottlecaps" for wearing lots of medals. For 10 points each:

[10] Name this Latin American country whose dictator was killed in a roadside ambush in May 1961; that man's brutal regime perpetrated the Parsley Massacre on migrants from a neighboring country and was responsible for the death of the dissident Mirabal sisters.

ANSWER: Dominican Republic [or La Dominicana]

[10] The Parsley Massacre was perpetrated against migrants from this other Caribbean country, which shares the island of Hispaniola with the Dominican Republic.

ANSWER: Republic of Haiti [or Ayiti]

[10] After one leader of this country, Romulo Betancourt, denounced Dominican dictator Rafael Trujillo, Trujillo's goons tried to kill Betancourt with a car bomb in 1960; however, the bomb only wounded Betancourt.

ANSWER: Bolivarian Republic of Venezuela <Cheyne>

17. This character is given a model elephant when she tours a factory. For 10 points each:

[10] Name this female character who sings the aria "This is prophetic". She mistakes events in the ballet-opera *The Red Detachment of Women* for reality and tries to help a girl being whipped.

ANSWER: Pat Nixon [or Patricia Nixon; or Thelma Nixon; or Thelma Ryan; accept answers like Mrs. Nixon; prompt on "Nixon"]

[10] Pat Nixon is a character in a John Adams opera about President Nixon's visit to this country.

ANSWER: People's Republic of China [or PRC; do not accept "Republic of China"]

[10] The villainous character in *The Red Detachment of Women* seen in the opera looks identical to this real life person who also appears in the opera *Nixon in China*, with the same performer frequently playing both parts.

ANSWER: Henry Kissinger [or Heinz Kissinger] <Cheyne>

18. The structure of Zadie Smith's novel *On Beauty* is loosely based on that of this novel. For 10 points each:

[10] Name this novel in which the well-meaning Schlegel sisters interfere with the life of the lower-class Leonard Bast, with disastrous consequences.

ANSWER: Howards End

[10] *Howards End* is a novel by this British author, whose other works include *A Passage to India* and *A Room with a View*.

ANSWER: E. M. Forster [or Edward Morgan Forster]

[10] The epigraph of *Howards End* is this two-word instruction. In a section of the novel in which Margaret Schlegel attempts to teach this instruction to her fiancé, Henry Wilcox, this phrase describes the joining of the "prose and the passion".

ANSWER: only connect <Hart>

19. Ronald Melzack and Patrick Wall proposed that stimuli that do not produce this phenomenon block stimuli that do produce it in the so-called “gate control” theory of this phenomenon. For 10 points each:

[10] Name this sensation that results when stimuli interact with neurons called noci•ceptors.

ANSWER: **pain** [accept equivalents such as **hurting** or **ouchies**]

[10] The two major nerve fibers that carry painful sensations differ because the faster A-delta fibers are coated with this fatty insulating substance. Multiple sclerosis is a disease in which this coating on nerve cells becomes damaged.

ANSWER: **myelin** [accept **myelin** sheath or other answers including **myelin** such as **myelination** or **demyelination**]

[10] A-delta fibers are contrasted with these thinner, un•myelin•ated fibers, which form Remak bundles. Pain signals that travel through these fibers move more slowly but are perceived more deeply and more spread out.

ANSWER: **C** fibers [or Group **C** [nerve] fibers or **C**-group [nerve] fibers] <Hart>

20. This opinion notes that the ordinance in question was “gerrymandered with care” to avoid application to hunters. For 10 points each:

[10] “Name this 1993 Supreme Court case holding that a local ordinance forbidding the ritual slaughter of chickens evinced unconstitutional “religious animosity”.

ANSWER: *Church of [the] **Lukumi Babalu Aye** v. City of Hialeah* [prompt on “City of **Hialeah**”]

[10] Members of the Church of the Lukumi Babalu are adherents of this Afro-Caribbean religion, which is based on the worship of Orishas that are often syncretized with Catholic saints.

ANSWER: **Santería** [accept La **Regla de Ochá** or La **Regla de Ifá**]

[10] The *Lukumi Babalu* case was the Supreme Court's first significant religious ruling after *Employment Division v. Smith*, which held that Oregon could deny unemployment benefits to a person fired for consuming this psychoactive flowering cactus often used in Native American religious rituals.

ANSWER: **peyote** [or **Lophophora williamsii** or **L. williamsii** or **peyotl**] <Hart>

Extra. This author called 19th-century novels “loose, baggy monsters” in the preface to his novel about the would-be painter Nick Dormer and the aspiring actress Miriam Rooth entitled *The Tragic Muse*. For 10 points each:

[10] Name this American author who wrote that preface for the *New York Edition* of his work, which also includes his novel *The Awkward Age*.

ANSWER: Henry **James**

[10] James wrote about people in this profession in his story “The Figure in the Carpet”, “The Lesson of the Master”, and another story titled for one “of Beltraffio”. The narrator attempts to get the title “papers” of a man in this profession named Jeffrey Aspern in another James story.

ANSWER: **authors** [or **writers**; accept **novelists** or **poets** or other equivalents; accept “The **Author** of Beltraffio”]

[10] James's works “Sir Edmund Orme” and “The Jolly Corner” include climactic encounters with these types of beings. In James's novella *The Turn of the Screw*, an unnamed governess believes that she sees Peter Quint and Miss Jessel, who are both this type of fantastic being.

ANSWER: **ghosts** [accept **phantasms** or **specters** or other synonyms] <Hart>