Minnesota Undergraduate Tournament 2014: We're Not Happy 'til You're Not Happy
Questions by Billy Busse, Rob Carson, Mike Cheyne, Andrew Hart, Melanie Keating, and Bernadette Spencer
Round 4: Tossups

1. **One section of this work tells of a blacksmith and a carpenter who are "wasting their time… feeding on ashes" since they refuse to acknowledge that "there is no God" but God himself. The last third of this book contains four poems that about a "suffering servant" of the Lord. Another part of this book describes a figure who "took up our pain and bore our sufferings". In the sixth chapter of this work, the narrator is visited by fiery angels who cleanse his (*)** mouth of wickedness with a hot coal, after which this book's narrator volunteers himself as a prophet to Israel. This book describes a voice "crying out in the wilderness" in this book predicts the coming one born of a young girl called "Immanuel". For 10 points, name this major prophetical book of the Old Testament that foretells the coming of Christ.
ANSWER: Book of **Isaiah**

2. **This man apocryphally told a dying subordinate that "Breisach is ours." That agent of this man was an operative known as Father Joseph. The Marquis of Cinq-Mars unsuccessfully tried to get him executed, and in a play by Bulwer-Lytton, he utters the infamous sentence "The pen is mightier than the sword." He personally commanded the siege of La (*)** Rochelle and was almost toppled in the Day of the Dupes, although his nemesis, the queen mother Marie de'Medici, was defeated instead. This man officially established *L'Academie francaise* and crushed a Huguenot rebellion in 1628. This man, known as the Red Eminence, was succeeded as minister by his pupil, Jules Mazarin. For 10 points, name this French cardinal, the chief minister to Louis XIII.
ANSWER: Cardinal **Richelieu** [or Armand Jean **du Plessis**]

3. **This deity helped Dexicreon become rich by advising him to buy jars of water and was assisted in the birth of her daughter Beroe by Themis. This goddess, who saved the Argonaut Butes from the Sirens, eventually came to be worshipped in two forms, one of which was labeled "Pandemos". Angering this deity was indirectly the cause of death for both Glaucus of Corinth and (*)** Hippolytus. Homer unusually describes her as a daughter of the Titaness Dione, who consoles her after she is wounded by Diomedes. Major sites of her worship included the Cypriot city Paphos and the island of Cythera. This child of Uranus had an affair with Anchises that produced Aeneas, and she was caught sleeping with Ares by her husband Hephaestus. For 10 points, name this mother of Eros, the Greek goddess of love.
ANSWER: **Aphrodite**

4. **This author described a place which was "no playhouse but a house in earnest" in a poem whose speaker tells the reader of a "broken drinking goblet like the Grail" and commands "Here are your waters and your watering place. Drink and be whole again beyond confusion." He mused about whether his coming sleep is like that of the woodchuck, "or just some human sleep", in a poem that begins "my long two-pointed (*)** ladder's sticking through a tree / toward heaven still". This author of "Directive" and "After Apple-Picking" quipped that "one could do worse than be a swinger of" the title objects of one poem, and claimed to have "promises to keep, and miles to go before I sleep" in another. For 10 points, name this American poet of "Birches" and "Stopping by Woods on a Snowy Evening".
ANSWER: Robert Lee **Frost**

5. **This type of reaction is the rate-determining step of the Monsanto process. This type of reaction occurs in the first step of the catalytic cycles of Wilkinson's catalyst and the Suzuki coupling in an oxidative fashion. The reaction between an enolate and an alpha-beta-unsaturated carbonyl is this type of reaction. Gilman reagents are useful for forming the 1,4 product in this type of reaction. Performing this type of reaction on a carbonyl forms a tetrahedral intermediate. In this type of reaction between an (*)** alkene and HBr, the bromine becomes bonded to the most substituted carbon according to Markovnikov's rule. The Diels-Alder reaction is a cyclic variant of this general type of reaction. For 10 points, name this type of reaction that is the opposite of an elimination, in which two molecules combine to form one molecule.
ANSWER: **addition** reaction [prompt on "oxidation" until "oxidative"; accept "oxidative **addition**"; accept cyclo**addition** after "Diels-Alder" is read]

6. **The fact that the short-term form of this quantity cannot fall below zero is known as the ZLB or zero lower bound problem. A linear approximation usually written as *i* approximately equals *r* plus *pi* relates the real and nominal forms of this quantity and is known as the Fisher equation. The LIBOR is an average of several of these quantities that, in another context, can be measured in basis points. A simple rule of thumb holds that, if one knows this quantity, one can (*)** divide 72 by its value to calculate the doubling period. Banks with low reserves may apply to the Fed to receive the "discount" form of this quantity, which is charged at the "federal funds" level between banks. For 10 points, name this rate that may be computed in a "simple" or "compound" fashion, which denotes how much a lender charges a borrower.
ANSWER: **interest** rates [prompt on "rate of return" or "return (on investment)" or equivalents if the answerer appears to be a bank or creditor]

7. **In one of this man's paintings, a man wearing a purple robe and a gold chain adopts a St. Francis-like pose as a painter brandishes a gun at him. An ancient fresco of Hercules and Telephus inspired the central figure's cheek-touching pose in his portrait of Madame Moitessier. This painter of *Aretino and Tintoretto* depicted a nude in front of a rock wall pouring water from a jug in *The Source* and painted a tondo in which a woman plays mandolin for a group of nudes called *The (*) Turkish Bath*.** Moliere holds a mask near the feet of a green-clad woman with an oar in a painting by this man that depicts Herodotus burning incense as the Universe lowers a laurel wreath onto its subject's head. For 10 points, name this French painter of *The Apotheosis of Homer*, who depicted a woman with a few too many vertebrae in his *Grande Odalisque*.
ANSWER: Jean Auguste Dominique **Ingres** [AHN-gruh, basically, but phonetic pronunciations are fine]

8. **Richard Browning made a 1985 translation of the diary and poetic memoirs of this author, who inspired a study of "poetics" titled *The Bridge of Dreams*. This author's pen name was taken from a character who is called "The Lady of the West Wing" and nicknamed for a "little wild plant" that sports a deep purple flower. This author, whose real name is unknown, was known as "Our (*)** Lady of the Chronicles," and by a name that combined the rank of her father, the Minister of Ceremonials, with the name of a character she created who is loved by a prince whose childhood crush was Lady Fujitsubo. This rival of Sei Shonagon wrote of that prince around 1000 CE in what is sometimes called the world's first novel. For 10 points, name this Heian period lady-in-waiting who wrote *The Tale of Genji*.
ANSWER: Lady **Murasaki** Shikibu [prompt on "Shikibu"]

9. **This dynasty is the subject of the final volumes of the history *Meadows of Gold*. Civil war consumed it during the Anarchy at Samarra. This dynasty legendarily sent a clock that performed magic tricks every hour to a European king. A ruler of this dynasty employed such advisers as Ja'far ibn Yahya, a Barmakid. It secured its power by winning the Battle of the Zab and defeating the (*)** Tang Dynasty at the battle of the Talas River. This dynasty employed the author of the book that coined the word "algebra", who worked in the House of Wisdom established by one of its rulers, Harun al-Rashid. It moved to Cairo after Hulagu Khan and the Mongols sacked this dynasty's capital of Baghdad in 1258. For 10 points, name this Islamic caliphate that followed the Umayyads.
ANSWER: **Abbasid**s [or **Abbasid** Caliphate]

10. **The number of changes needed to convert from one of these objects to another one is measured by the Levenshtein distance. A set of these objects is generated by the Kleene star operation. These objects are the inputs to the Knuth-Morris-Pratt and Rabin-Karp algorithms. P-examples of these variables are length prefixed, while C-style examples of these variables are (*)** null-terminated. Two of them can be joined into one via concatenation. In C these variables are enclosed in double quotes during declaration. In Linux, these variables can be searched using the "grep" operation. For 10 points, name this data type consisting of a sequence of characters, which is often used to store text.
ANSWER: **string**s [prompt on "str"]

11. **This author wrote a story in which the policeman Balducci forces a teacher named Daru to take custody of a prisoner. In another of his stories, a tired sailor fails to carry the title object to a church, and his task is taken up by the engineer d'Arrast. This author of "The Guest" and "The Growing Stone" penned a novel whose protagonist is punched by a motorcyclist while waiting at a stoplight and compares the canals of Amsterdam to the circles of hell. The (*)** "judge-penitent" Jean-Baptiste Clemence is the protagonist of one novel by this author, while the protagonist of another refuses advice to Salamano, begins a relationship with Marie Cardona one day after the death of his mother, and shoots an Arab on the beach. For 10 points, name this author of *The Fall* who created Meursault in *The Stranger*.
ANSWER: Albert **Camus**

12. **One section of this work claims that ethics is mystical and transcendental and distinguishes between "showing" and "speaking about" things. The fourth section of this book argues that philosophy is not a natural science since it is a method of inquiry, not a doctrine. This work describes logic as the "scaffolding" of the world and uses the example of a toy car to illustrate how (*)** propositions are representational depictions of the world. This book introduced the "picture theory" of language, and its final proposition states "that of which we cannot speak, we must pass over in silence". For 10 points, name this work that was later refuted in its author's *Philosophical Investigations*, the first book of Ludwig Wittgenstein.
ANSWER: ***Tractatus Logico-Philosophicus*** [or ***Logisch-Philosophische Abhandlung**; accept **Wittgenstein**'s *Tractatus* before he's mentioned; prompt on "Tractatus"]*

13. **It's not serine, but histidine activates this amino acid in the catalytic centers of interleukin-1-beta-converting enzyme and papain. In *E. coli*, this amino acid is synthesized using the enzymes serine acetyltransferase and O-acetylserine lyase. Two residues of this amino acid and two histidine residues coordinate a zinc atom in the most common type of zinc finger. Human (*)** keratin's structural rigidity comes from the fact that it contains this amino acid in over 10% abundance. Along with methionine, there is an alternate version of this amino acid that replaces its most notable atom with a selenium atom. PDI catalyzes the formation of bonds between two residues of this amino acid inside the endoplasmic reticulum. For 10 points, name this amino acid whose thiol group allows it to form disulfide bridges.
ANSWER: **cysteine** [prompt on "Cys" or "C"]

14. **One work for this instrument and chamber ensemble includes the movements "The Perilous Shore" and "Hoedown (Mad Cow)" and is John Adams's *Gnarly Buttons*. The keys of F and E major struggle for dominance in the snare drum-heavy concerto for this instrument composed by Carl Nielsen. Conductor Osmo Vanska plays this instrument, which was the solo instrument in a concerto Mozart wrote for Anton Stadler. Hyacinthe Klosé developed a (*)** fingering system for this instrument that he named after a man who'd done similar work on the flute, Theodore Boehm. Players of this instrument play higher notes by using its register key. Stravinsky's *Ebony Concerto* for this instrument was dedicated to Woody Herman and later recorded by Benny Goodman. For 10 points, name this woodwind instrument, usually pitched in B-flat.
ANSWER: **clarinet** [accept bass **clarinet**, basset **clarinet**, or **basset horn**]

15. **A dyslexic senator from this state used aides to help read the Pentagon Papers, leading to a 1972 Supreme Court ruling that Congressional aides fell under the Speech or Debate Clause. It's not Oregon, but a senator from here cast a vote against the Gulf of Tonkin Resolution. This state had a governor who fired Public Safety Commissioner Walt Monegan, who said he refused to fire State (*)** Trooper Mike Wooten, the governor's ex-brother-in-law. A senator from here infamously described the Internet as a "series of tubes" and died in a 2010 plane crash. Ted Stevens was from this state, which was once governed by the author of the book *Going Rogue*, a former mayor of Wasilla. It was the site of the 1989 *Exxon Valdez* oil spill. For 10 points, name this state once governed by Sarah Palin.
ANSWER: **Alaska**

16. **This character describes a Neapolitan as "a colt indeed, for he doth nothing but talk of his horse". Later, she orders the playing of a song which opens by asking "Tell me, where is fancy bred?" First appearing in Belmont, this character later describes an entity which "is twice blest", blessing "him that gives and him that takes", and which "droppeth as the gentle rain from heaven" in her most famous speech, which begins "the (*) quality of mercy is not strained".** She spends much of the last two acts with her maid Nerissa, disguised as the lawyer Balthazar. Her portrait is hidden in a lead cask, which is correctly chosen by her suitor Bassanio. For 10 points, identify this heiress who finds a loophole in the contract between Antonio and Shylock, the heroine of *The Merchant of Venice*.
ANSWER: **Portia**

17. **Magnetic impurities lead to a log temperature term in the equation for this quantity at low temperatures. This quantity can be negative for a tunnel diode within its operating region. This quantity is quantized in units of Planck's constant divided by the square of the electron charge. For thermal conduction, the temperature difference divided by the heat flux gives the thermal form of this quantity. For a material with a uniform cross-section, this quantity is proportional to the (*) length** of the material divided by the cross-sectional area. This quantity adds normally in series, but not in parallel. Electric power equals current squared times this quantity. For 10 points, name this quantity which is the constant of proportionality between voltage and current in Ohm's Law, which is measured in ohms.
ANSWER: **resistance** [accept **resistivity** before "length"]

18. **One song by this band discusses showing up "late one night with a neon light for a visa" and describes how the singer "drunk myself blind to the sound of old T. Rex." One of their albums reused material from the abandoned multimedia *Lifehouse* project and contains a song whose singer claims to "know that the hypnotized never lie". The couplet "Meet the new boss, same as the old boss" appears just before the end of another of their songs, whose chorus contains the lines "I'll (*) tip my hat to the new constitution / Take a bow** for the new revolution". An Indian mystic and the composer of *In C* inspired a song by this band which advises the listener "don't cry, don't raise your eye, it's only teenage wasteland". "You Better You Bet" is a song by, for 10 points, which Roger Daltrey-fronted band who recorded "Baba O'Riley" and "Won't Get Fooled Again"?
ANSWER: The **Who**

19. **In one opera by this man, a character steals a boat after lulling another to sleep, prompting the chorus to sing that he has "tamed the sea with fragile wood." In another opera by this man, an elderly former tutor commits suicide in a steam bath. The aria "Possente Spirito" appears in an opera by this man, which begins with the pastoral marriage of the two central characters. He wrote an opera in which (*) Drusilla** confesses to an attempted assassination to protect her lover Ottone, who acted on the orders of Empress Ottavia in an attempt to kill the title future wife of Nero. A figure from Greek myth tries to rescue his wife Eurydice from the underworld in a 1607 opera by this man. For 10 points, name this early Italian opera composer of *The Coronation of Poppea* and *L'Orfeo*.
ANSWER: Claudio **Monteverdi**

20. **This man's longtime bodyguard was the ex-grocer Walter H. Thompson. During a gunfight that killed a gang led by "Peter the Painter," this man was criticized for his interest in observing the Siege of Sidney Street. During that incident, he reportedly ordered the fire brigade to not douse flames so no lives would be lost trying to save anarchists. After hearing about a military victory, this leader claimed it was not the (*)** beginning of the end, but "the end of the beginning." This man noted that never "was so much owed by so many to so few" when praising pilots. Soon after taking his highest post, he proclaimed "we shall fight on the beaches" and "we shall never surrender." For 10 points, name this Conservative British Prime Minister for most of World War II.
ANSWER: Winston Leonard **Churchill** [or Winston **Spencer-Churchill**]

TB. **At one point in this novel, a would-be highwayman with an unloaded pistol botches his first robbery, but the victim gives him two guineas anyway. Its protagonist beats up Ensign Northerton shortly after listening to the life story of the Man of the Hill. A character in this novel is interrupted while reading Thomas Southerne's** *The Fatal Marriage* **by Lord Fellamar, who attempts to ravish her as part of a scheme arranged by Lady Bellaston. Its protagonist refuses to reveal that (*)** Black George was with him when he shot a partridge, an offense that resulted in a beating from Mr. Thwackum, who like the tutor Square favors the protagonist's rival Master Blifil. For 10 points, name this novel in which the title ward of Squire Allworthy eventually marries Sophia Western, a work of Henry Fielding.
ANSWER: ***Tom Jones*** [or *The History of **Tom Jones**, a Foundling*]

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Round 4: Bonuses

1. Answer the following about very hard videogame scenarios for 10 points each.
[10] Urban Dictionary cites the "Water Temple" level from *Ocarina of Time* as "the equivalent to a complete rectal examination." *Ocarina of Time* was, of course, an entry in this popular Nintendo series starring Link.
ANSWER: *The Legend of Zelda*
[10] Many people on the Internet complain about the "electric lock" puzzle from the *Pokemon* series run by this gym leader, in which the player must randomly flip switches in trash cans to open the lock. This character runs the Vermilion Gym and as his name indicates, likes electric-type Pokemon.
ANSWER: Lieutenant **Surge** [or **Matis**; accept "The **Lightning American**!"]
[10] This Super Nintendo RPG featured the inscrutable hint to "walk the seasons from spring to winter and back to spring again." The hero tries to re-energize the title sword by visiting eight temples and is opposed by the sorcerer Thanatos.
ANSWER: *Secret of Mana* [or *Seiken Densetsu 2*, or *Legend of the Sacred Sword 2*]

2. The Gibbs free energy is minimized for a reaction in this state. For 10 points each:
[10] Name this state, in which the rates of the forward and reverse reactions are identical.
ANSWER: chemical **equilibrium**
[10] Equilibrium reactions can be analyzed by constructing these tables, which can be used to determine the concentrations of each chemical in equilibrium if the initial concentrations and the equilibrium constant are known.
ANSWER: R**ICE** tables [or Reaction, **Initial, Change, Equilibrium** tables; accept words like "diagram," "chart," etc. in place of table]
[10] The equilibrium constant in terms of pressures is equal to the equilibrium constant in terms of concentrations times the quantity RT raised to the change in this quantity for the reaction. For a reaction in which all reactants and products are gases, increasing pressure shifts the equilibrium to the side where this quantity is smaller.
ANSWER: the total **number** of **mole**s [or the **sum** of the **stoichiometric coefficient**s]

3. It is 1572, and you are a very rich Muslim ruler. Name some of the responsibilities you now have, for 10 points each.
[10] You, like most Muslims you rule, are compelled by the Quran to pay this tithe on your excess income that helps those in need.
ANSWER: **zakat**
[10] Since you belong to this sect of Islam, your zakat contribution is part of the khums, or "fifth" of your income you must give to charity. This sect of Islam also means you believe Ali and his descendents are the true successors of Muhammad.
ANSWER: **Shi'a** Islam [or **Shi'a**s; or **Shi'i**]
[10] You do rule over some people exempt from zakat, including this group of non-Muslims, who you protect as long as they pay the Jizya tax to make up for their infidelity.
ANSWER: **dhimmi** [or ahl al-**dhimma**]

4. The arrangement of figures in this painting suggests a possible familiarity with Pieter Bruegel the Elder's *The Blind Leading the Blind*. For 10 points each:
[10] Name this 1919 painting, in which a row of nine wounded World War I soldiers with bandages over their eyes walk in a line along a duckboard towards a dressing station.
ANSWER: *Gassed*
[10] *Gassed* is a work of this expatriate American painter of *Carnation, Lily, Lily, Rose* and *The Daughters of Edward Darley Boit*, who scandalized Paris Salon-goers with a portrait of Virginie Gautreau called *Madame X*.
ANSWER: John Singer **Sargent**
[10] Sargent painted murals for the Public Library and the Museum of Fine Arts in this New England city. His *El Jaleo* is in its Isabella Stewart Gardner Museum.
ANSWER: **Boston**, Massachusetts

5. This author's essay "De Vulgari Eloquentia", or "On Eloquence in the Vernacular", expands on a subject he'd discussed earlier in the first book of his *Convivio*. For 10 points each:
[10] Name this Florentine author who expressed his love for Beatrice Portinari in *La Vita Nuova* and was guided through Hell by Virgil in *Inferno*, the first part of his *Divine Comedy*.
ANSWER: **Dante Alighieri** [accept either underlined portion; accept Durante degli **Alighieri**]
[10] One of Dante's best friends was Guido, the poet of "Donna me prega", who was a member of this family. Dante depicted Guido's father, an atheist merchant, in the sixth circle of Hell.
ANSWER: **Cavalcanti** family [accept Guido **Cavalcanti** or Cavalcante de' **Cavalcanti**]
[10] Guido Cavalcanti also appears in a story narrated by Elissa in a collection by this author of *On Famous Women*, *Teseida*, and *Filostrato*.
ANSWER: Giovanni **Boccaccio**

6. WMAP and COBE are projects devoted to observing this entity. For 10 points each:
[10] Name this type of blackbody radiation with a temperature of approximately 2.7 Kelvin which fills the universe almost uniformly. It was created in the early universe during the era of recombination when photons became decoupled from matter as the first atoms were formed.
ANSWER: **C**osmic **M**icrowave **B**ackground Radiation
[10] The CMBR serves as one of the main pieces of evidence for this theory popularly attributed to Fred Hoyle, which holds that the universe was formed via expansion from an infinitely dense state over 13 billion years ago.
ANSWER: **Big Bang** theory
[10] The temperature of the CMBR is approximately equal to 2.725 Kelvin times one plus this parameter, symbolized z. This quantity is very high for quasars since their great distances from the Earth exacerbate the effects of the expanding universe, causing them to travel away from the Earth more quickly than less distant objects.
ANSWER: **redshift**

7. On the Trobriand Islands, only chiefs can really participate in this system, while it is open to all men on the island of Dobu. For 10 points each:
[10] Name this ceremonial system in modern day Papua New Guinea in which participants exchange things such as necklaces or armshells. It was studied extensively by Bronislaw Malinowski in *Argonauts of the Western Pacific*.
ANSWER: **Kula** ring
[10] The Trobriand Islanders, like many societies, have form of taboo against this practice, which consists of sexual relations between blood relatives.
ANSWER: **incest**
[10] The concept of gift exchange was analyzed in *The Gift* by Marcel Mauss. Mauss claimed that the gift was this two word object which had "spiritual mechanisms" affecting both giver and receiver. As this term implies, the gift represents all of a specific society.
ANSWER: **total prestation** [or *prestation totale*]

8. This leader was married to the Austrian Franziska Donner. For 10 points each:
[10] Name this leader, the first president of his country to occupy the Blue House. His autocratic tenure was marked by conflict with a Communist neighbor separated by the 38th Parallel.
ANSWER: Syngman **Rhee**
[10] Rhee was the first leader of what country, an arch-enemy of a northern neighbor currently led by Kim Jong-un? As opposed to that nation, this country is *not* Communist.
ANSWER: **South Korea** [or **Republic of Korea**, do not accept "Democratic People's Republic of Korea"]
[10] This man led North Korea during the Korean War. Despite dying in 1994, he continues to hold the title of "Eternal President" of North Korea.
ANSWER: **Kim Il-sung** [prompt on "Kim"]

9. William Dean Howells claimed that one character's impulsive near-marriage to Stephen Guest, not this event, is the true climax of the novel in which it occurs. For 10 points each:
[10] Identify this event which destroys Dorlcote Mill and causes the death of the recently-reconciled Tom and Maggie Tulliver.
ANSWER: the **flood** of the River Floss at the end of *The Mill on the Floss* [the River Ripple also floods, so accept answers involving that too]
[10] Tom and Maggie are the protagonists of *The Mill on the Floss*, a novel by this pseudonymous British author of "Silly Novels by Lady Novelists" and *Middlemarch*.
ANSWER: George **Eliot** [or Mary Anne **Evans**; or Marian Evans **Lewes**]
[10] In *Middlemarch*, this idealistic woman voluntarily forsakes the inheritance from her late husband Edward Causabon in order to marry Will Ladislaw.
ANSWER: **Dorothea** Brooke [or **D**orothea **Brooke**; prompt on "Brooke"]

10. After the events for which he was most famous, this man earned five dollars by suing Alvin Hovey for false imprisonment. For 10 points each:
[10] Name this Indiana leader of the Knights of the Golden Circle who was given a capital sentence for supposedly planning a conspiracy during the Civil War. He names an 1866 Supreme Court case that rules military tribunals cannot try citizens when civilian courts are still operating.
ANSWER: Lambdin Purdy **Milligan**
[10] *Ex parte Milligan* should not be confused with the earlier *Ex parte Merryman*, in which the Supreme Court ruled the president could not suspend what legal principle, in which court orders require people under arrest be brought before a judge?
ANSWER: *habeas corpus* [or issuing writs of *habeas corpus*, etc.]
[10] *Ex parte Merryman*'s decision was written by this Chief Justice, who was miffed that Lincoln ignored it. Lincoln may have attempted to arrest this justice in response to that decision.
ANSWER: Roger Brooke **Taney**

11. The protagonist of this story throws a brick through a plate-glass window, eats large meal and refuses to pay, is mistaken for a celebrating Yale football fan, and steals a silk umbrella, all to no avail. For 10 points each:
[10] Identify this story about a homeless man named Soapy, who initially fails to get himself arrested, then resolves to change his life upon hearing a church organ, but is almost immediately arrested for loitering.
ANSWER: "The **Cop and the Anthem**"
[10] In this story by the same author, Bill and Sam's plot to kidnap the title son of Ebenezer Dorset goes awry when the boy turns out to be so obnoxious that they end up paying Dorset to take him back.
ANSWER: "The **Ransom of Red Chief**"
[10] "The Cop and the Anthem" and "The Ransom of Red Chief" were written by this American short story master, whose love of twist endings is expressed most famously in "The Gift of the Magi".
ANSWER: O. **Henry** [or William Sydney **Porter**]

12. Potassium ions rushing into these cells causes their water potential to drop, allowing water to flow in. For 10 points each:
[10] Name these cells which change shape from flaccid to turgid, causing a central pore to open.
ANSWER: **guard** cells
[10] These pores surrounded by guard cells control the rates of transpiration in plants by allowing water vapor to pass through. They also allow carbon dioxide and oxygen to flow through, mediating gas exchange in leaves.
ANSWER: **stoma**ta
[10] This layer of a leaf lies just below the surface, above the spongy layer. Most of the photosynthesis of the leaf takes place in their chloroplast-rich cells.
ANSWER: **palisade** layer

13. Show Alan Hovhaness who's boss by answering the following about Aram Khachaturian, the best Armenian composer around, for 10 points each.
[10] Khachaturian is undoubtedly most famous for this hectic piece, which was written to accompany a celebratory wedding performance in his ballet *Gayane*.
ANSWER: the ***Sabre Dance***
[10] Khachaturian's third symphony features fifteen trumpets and a solo one of these instruments. Dieterich Buxtehude played it professionally, and it features in two movements of Saint-Saëns's third symphony.
ANSWER: the pipe **organ** [or **orgue**]
[10] Khachaturian allowed his violin concerto to be transcribed for flute by this famed French flautist, who brought flute music back into vogue in the 20th century. I guess someone had to.
ANSWER: Jean-Pierre Louis **Rampal**

14. This modern-day country defeated a coalition of sultanates at the Battle of Diu. For 10 points each:
[10] Name this European country that in 1510 and 1511 conquered Goa and Malacca during the Age of Exploration.
ANSWER: **Portugal** [or **Portuguese** Republic]
[10] This Portuguese prince known as the "Navigator" strongly encouraged his country's exploration. He was the third child of King John I, the founder of the Aviz dynasty.
ANSWER: **Henry** the Navigator, Duke of Viseu
[10] This ruler was almost certainly killed leading his troops in Morocco. A popular legend in Portugal is that this ruler will return to lead his country to a new golden age. The grandson of Charles V, he was succeeded by Henry the Chaste, the final Aviz ruler.
ANSWER: **Sebastian** I [or **Sebastiao**]

15. Hume stated that this mode of being was "pure philosophical fiction" since man is inherently inclined to form a society. For 10 points each:
[10] Name this hypothetical period of time of human history before the establishment of organized society or political institutions.
ANSWER: **state of nature** [prompt on "prehistory", since I am feeling generous; prompt on "nature"]
[10] The state of nature was described as "solitary, poor, nasty, brutish, and short" in one section of this English philosopher's treatise *Leviathan*.
ANSWER: Thomas **Hobbes**
[10] In *Leviathan*, Hobbes argues that societies form since man instinctively shies away from *this*. Freud argued that political aggression and childhood games like hide and seek demonstrate man's drive towards *this* in *Beyond the Pleasure Principle*.
ANSWER: **death** [or **dying**; or other word forms]

16. This author wrote about depressed Slovenian woman in his 1998 novel *Veronika Decides to Die*. For 10 points each:
[10] Name this contemporary novelist who wrote of an Andalusian author who journeys to Egypt in search of treasure in his 1988 novel *The Alchemist*.
ANSWER: Paulo **Coelho** ["ko-EY-lyoh", though a phonetic English pronunciation is fine too]
[10] Coelho wrote in this language, which his Brazilian countryman Jorge Amado used to write *Tieta the Goat Girl* and *Gabriela, Clove and Cinnamon*.
ANSWER: **Portuguese** language [or **português**; or língua **portuguesa**]
[10] Fellow Brazilian author Joaquim Machado de Assis wrote a fictional work in this genre narrated by the deceased Bras Cubas. Mark Twain's work in this genre was published in 2013, 103 years after his death.
ANSWER: an **autobiography** [or **memoir**; accept *The **Posthumous Memoirs of Bras Cubas*** or ***Memórias Póstumas de Brás Cubas***]

17. In quantum mechanics, when modifying a particle's Hamiltonian to account for electromagnetism, momentum is replaced with the quantity "momentum minus charge times this quantity." For 10 points each:
[10] Name this quantity whose divergence is set to zero in the Coulomb gauge. Its curl, by definition, is equal to the magnetic field.
ANSWER: magnetic **vector potential** [prompt on "A"]
[10] The definition of the vector potential in terms of the magnetic field is similar to how the electric field is defined as equal to this operation applied to the electric potential. Minus this vector operation applied to potential energy gives force.
ANSWER: **gradient** [accept **del**]
[10] The gradient is applied to this quantity in the Navier-Stokes equations. This quantity, which is defined as a force per unit area, comes in units such as psi ("pee ess eye") and atmospheres.
ANSWER: **pressure**

18. The protagonist of this movie is nicknamed "Toto" and lives in the village of Giancaldo. For 10 points each:
[10] Name this Giuseppe Tornatore film in which the protagonist Salvatore assists Alfredo, a projectionist in the title location. Alfredo is blinded by exploding nitrate film but still mentors Salvatore.
ANSWER: *Nuovo **Cinema Paradiso*** [or *New **Paradise Cinema***]
[10] *Cinema Paradiso* is set in this country, whose other native directors include Federico Fellini.
ANSWER: **Italy** [or the **Italia**n Republic]
[10] Another Italian film director, Vittorio De Sica, made a 1948 film about a man looking for a stolen one of these objects. That film's title refers to a thief of this object.
ANSWER: **bicycle** [or **biciclette**]

19. A whole lot of people get killed in Norse mythology. Answer the following about some of them, for 10 points each.
[10] This god's continuous conflict with Jörmungandr, the Midgard Serpent, leads to their mutual destruction at Ragnarök. This god of thunder carries the hammer Mjölnir.
ANSWER: **Thor** [or **Donar**; or **Thunor**; or **Thunraz**]
[10] Loki tricks this hapless blind god into killing his brother Baldur with a dart made of mistletoe. Vali was then conceived, born, and raised to adulthood in a single day to revenge-kill this poor guy.
ANSWER: **Hödr** [or **Hod**; or **Hodur**]
[10] After Fenrir eats Odin at Ragnarök, this son of Odin uses his incredibly thick shoe to help tear Fenrir's jaws apart, killing the wolf.
ANSWER: **Vidar**r [or **Vithar**r]

20. This ruler killed his wife Fausta by putting her in an overheated bath. For 10 points each:
[10] Name this emperor who secured power by defeating Maxentius at the Battle of Milvian Bridge. As emperor, he issued the Edict of Milan.
ANSWER: **Constantine the Great** [or **Constantine I**]
[10] Constantine became the first Roman ruler to accept this religion.
ANSWER: **Christianity**
[10] The man who baptized Constantine had this name. A more famous Roman with this name was a Bishop of Caesarea who wrote an *Ecclesiastical History* of the early church.
ANSWER: **Eusebius** [or **Eusebius of Nicomedia**]

Extra. This Prime Minister appointed Lord Sandwich as his First Lord of the Admiralty. For 10 points each:
[10] Name this Prime Minister who led England during the Gordon Riots and most of the American Revolution. He was forced out of office by a motion of no confidence after the Battle of Yorktown.
ANSWER: Lord **North** [or Frederick **North**, 2ⁿᵈ Earl of Guilford]
[10] North led England during a 1770 crisis in which the British and Spanish quarreled over these islands. Britain would later fight Argentina in a 1982 war over them.
ANSWER: **Falkland** Islands [or Islas **Malvinas**]
[10] North later served as Home Secretary in a coalition government formed with this man, once his rival, in 1783. This Whig leader was a staunch opponent of William Pitt the Younger and George III. He was the Foreign Secretary in George Grenville's Ministry of All the Talents.
ANSWER: Charles James **Fox**