

**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 6: Tossups**

1. In one play by this author, a sister spots a lock of hair on her father's tomb, which prompts her brother and her cousin Pylades to emerge from a hiding place to help her conjure a spirit. The title character of another of this man's plays tells the outcast Io that her offspring will rescue him from a torment inflicted by Kratos, Bia, and Hephaestus on the orders of (\*) Zeus. The title man is persuaded to step on a purple tapestry signifying his hubris, and is then murdered in his bath, in the first of three plays this man wrote about a man who kills his murderous mother Clytemnestra. For 10 points, name this earliest of the three great Athenian tragedians, who wrote *Prometheus Bound* and *Agamemnon*, *The Libation Bearers*, and the *Eumenides*, which comprise his *Oresteia* trilogy.

ANSWER: Aeschylus

2. One proponent of this school of thought outlined how the intellect grows from the material to the active stage through a "syllogistic method of reasoning". Robert Brandom's study guide for an essay with this word in its title claims that that essay's goal was to dismantle this school of thought. That essay examines the myth of the given and was written by Wilfrid (\*) Sellars. This idea supported by Avicenna partially titles an essay that rejected the analytic/synthetic distinction. This philosophical idea was outlined by an English philosopher who claimed the mind was a blank slate, and WVO Quine examined "two dogmas" of it. For 10 points, name this philosophical view supported by John Locke, often contrasted with rationalism, that holds that knowledge comes primarily from sense experience.

ANSWER: empiricism

3. The anisotropy of the composition of this region can be explained by vertically propagating Rossby waves causing a circulation partially named for Brewer. In this region, nitric acid and water condense into iridescent nacreous clouds around temperatures of -80 degrees Celsius. This is the lowest layer in which the lapse rate becomes negative, leading to a temperature (\*) inversion, leading to a stable atmosphere with low vertical convective mixing. In this region, chlorine radicals react to produce chlorine monoxide and diatomic oxygen. The lower boundary of this region is the tropopause. Lying just below the mesosphere and above the troposphere, for 10 points, name this layer of Earth's atmosphere which contains the ozone layer.

ANSWER: stratosphere [if they buzz with "ozone layer," prompt them by asking them to be less specific]

4. A sub-conflict in this war featured Pierre Landais trying to capture the leader of the eventual winning side. A naval leader for one side was the so-called "Bastard of Fauconberg." A monarch gained power during it through the *Titulus Regius*. Shortly after this war, the winning side won the Battle of Stoke Field to defeat a failed uprising meant to place (\*) Lambert Simnel on the throne. During it, the "Princes in the Tower" were controversially imprisoned and various schemes were implemented by Richard Neville, the "Kingmaker." It included such battles as First St. Albans and Tewkesbury. This war effectively ended with the Battle of Bosworth Field, where Henry VII defeated Richard III. For 10 points, name this English war fought between the Houses of York and Lancaster.

ANSWER: Wars of the Roses

5. An early artwork of this type does not contain a discus, but does depict an unusually asymmetrical, bearded, wreath-wearing kouros and is attributed to the anonymous "Rampin Master". Another artwork of this type, found in the Piazza del Santo in Padua, is accompanied by two bas reliefs that show its subject's coat of arms and two angels holding up battle armor. A bronze artwork of this type now found in the Capitoline Museums depicts the raised-hand (\*) *adlocutio* gesture of its subject, Emperor Marcus Aurelius. The condottiere Bartolomeo Colleoni was depicted in a statue of this type by Verrocchio that was made about 25 years after a Donatello artwork of this type depicting Erasmo de Narni, a man nicknamed "Honey Cat" or "Gattamelata." For 10 points, name this type of statue that shows its subject on horseback.

ANSWER: equestrian statue [accept horseback statue or equivalents suggesting statue of a man riding a horse until "horseback"; prompt on "sculpture" or "statue" before "statue"]

6. One person of this name is the namesake of the most commonly used Byzantine rite of the Divine Liturgy. With Gregory Nazianus and Basil the Great, that man of this name is one of the Three Holy Hierarchs of Eastern Christianity. Another man with this name founded the Discalced Carmelites with Teresa of Avila and wrote of the difficult journey towards “divine union” with God’s Love. In addition to the aforementioned “golden (\*) mouthed” orator, this first name belonged to a man whose gospel contains seven discourses and an other who prophesied the fall of the whore of Babylon and the opening of the seventh seal. For 10 points, give this shared first name of men “of Chrysostom”, “of Patmos”, and the author of the last of the four canonical Gospels.

ANSWER: Saint John [or Iannos; or Juan; or any other form of John, really]

7. In one appearance, this character arranges the marriage of a friend’s son and a billionaire’s daughter in the New York Port Authority Bus Terminal. He spends much of the second half of another novel searching for his ex-lover Luciana. He refuses to eat fruit because of his supposed “Garnett-Fleischaker syndrome”, and he trades a package of dates for a quarter of a bedsheet belonging to McWatt. He is horrified by being unable to prevent the gruesome death of (\*) Snowden, and at the end of the novel makes a deal with Colonels Korn and Cathcart. He is stabbed by Nately’s whore while AWOL in Rome with Milo Minderbinder. For 10 points, identify this Air Force captain who resents continually being forced to fly more missions, the protagonist of Joseph Heller’s *Catch-22*.

ANSWER: Captain John Yossarian

8. One group of compounds whose concentrations rise in response to this process includes serum amyloid A and C-reactive protein--those are APRs. This process is stimulated when C3a and C5a cause one type of cell to degranulate. One class of drugs used to inhibit this process work by inhibiting a cyclo-oxygenase which seeks to convert arachidonic acid into a type of eicosanoid known as the prostaglandins. This process is initiated when (\*) IgE binds to mast cells, prompting the release of histamine. Inhibited by NSAIDs and coming in “acute” and “chronic” types, this process leads to airway constriction in asthmatics, and it is a major component of an allergic reaction. For 10 points, name this process which can cause tissues to turn red and swell up.

ANSWER: inflammation [accept word forms like “the inflammatory response,” prompt on “allergies,” prompt on “shock” or “septic shock”]

9. After ravaging the Phrygian kingdom of Teleutas, a character of this name was able to father Eurysaces with his war prize, the concubine Tecmessa. Another character of this name was shipwrecked on the *gurai petrai* but would have survived had he not boasted of his superiority to Poseidon. One man of this name exchanged a purple sash for a sharp sword after knocking down Hector with a huge boulder in a duel. The man who raped (\*) Cassandra in a temple of Athena shared this name with a man who used a massive seven-layer shield to defend his archer brother Teucer. The most famous character of this name slaughtered a flock of sheep and committed suicide after the loss of Achilles’s armor to Odysseus drove him mad. For 10 points, give this name shared by a Locrian king and a son of Telamon who were known, respectively, as “the Lesser” and “the Greater”.

ANSWER: Ajax [or Aias]

10. This man employed such officials as the poet Paul the Silentiary, and a notable account of his reign was written by Agathias. He ended the Lazic War by dispatching his envoy Peter the Patrician, and during his reign, Totila was slain at the Battle of Taginae. This man ordered the officer Mundus to attack the supporters of Anastasius’ nephew, (\*) Hypatius. This monarch, a supporter of the “Blues” faction of chariot racing enthusiasts, employed such scholars as Tribonian, who helped to compile the legislative collection *Corpus juris civilis*. This husband of Theodora was the target of the Nika riots and the ruler who dispatched his general Belisarius to retake Western Roman lands. For 10 points, name this Byzantine ruler who built the Hagia Sophia.

ANSWER: Justinian I [or Justinian the Great; prompt on “Justinian”]

11. In a 2004 film directed by Zak Penn, this thing attacks Werner Herzog and apparently kills Penn's assistant director. In a *Gargoyles* episode, Dr. Anton Sevarius tries to capture it and its mate, "Big Daddy," only to apparently die in the process. This thing states "I need about three-fifty," when trying to bum money from Chef's parents in a *South Park* episode. It was the subject of the "Surgeon's Photograph," which was eventually revealed to be a (\*) hoax perpetrated using a toy. In the *Futurama* film "Bender's Big Score," this creature is supposedly on display at the aquarium Fry works at, although it is just a log with a mask stapled to it. Skeptics maintain that photographic evidence of this beast is actually depicting a long-necked seal or a swimming elephant. For 10 points, name this monster supposedly found in a Scottish lake.

ANSWER: Loch Ness Monster [or Nessie]

12. One poem partly titled for this place describes Elvira requesting of her lover a smile "that would shine with the sweetness of his first promises" and depicts the title character "unmoved, leaning on his rapier" and "gazing at the wake". A longer poem partly titled for this place describes the "modern Ecclesiastes" crying "Nothing is vanity; on toward knowledge!" in the section "Lightning". That poem titled for this place contains two sections titled "Delirium", the second of which features the speaker's exclamation "I invented the (\*) color of the vowels!" This place titles a poem which opens with the line "Once, if my memory serves me well", and sees the speaker lament his Gaulish ancestry in the section "Bad Blood". For 10 points, name this place in which Charles Baudelaire depicted Don Juan, and which Arthur Rimbaud described a "season in".

ANSWER: hell [or enfers; or "Don Juan in Hell"; or "Don Juan aux Enfers"; or "A Season in Hell"; or "Une Saison en Enfer"; accept Hades since that's how the Baudelaire poem is translated sometimes]

13. This country was the site of the failed 1956 uprising called the "Conspiracy of the Pure." One dissident political movement from here is the Ladies in White. This country sent troops to a different continent to fight the Battle of Cuito Cuanavale as part of Operation Carlota, and it was the target of an attack by Brigade 2506. It fought alongside the MPLA in Angola, and it publishes the newspaper (\*) *Granma*. A future leader of this country led the 26<sup>th</sup> of July Movement and gave the "History Will Absolve Me" speech after his attack on the Moncada Barracks. On New Year's Day, 1959, Fulgencio Batista fled this country in the wake of a successful rebellion that included Che Guevara. For 10 points, name this Communist country led for many years by Fidel Castro.

ANSWER: Republic of Cuba [or Republica de Cuba]

14. One proponent of this idea wrote *The Mentality of Apes* while in Tenerife, where he also studied how people matched the words "takete" and "baluba" to spiky and rounded shapes, respectively. Another proponent of this idea illustrated the pitfalls of blindly obeying rules to solve problems in his book *Productive Thinking*. Fritz Perls developed a type of therapy based on this concept. Proximity, continuity, closure, and symmetry are among the tendencies explained by this idea's principle of (\*) Prägnanz. A proponent of this idea defined the apparent movement caused by a changing static image as the phi phenomenon. It was first theorized by the trio of Kurt Koffka, Max Wertheimer, and Wolfgang Köhler. For 10 points, name this school of psychology that examines the brain's tendency to perceive the whole.

ANSWER: gestalt psychology [or gestaltism, or the gestalt movement, etc.]

15. Crystals with a periodically varying dielectric constant can be engineered to have a band gap restricting the propagation of these particles. The self-force caused by a particle emitting one of these particles is given by the Abraham-Lorentz formula. Neutral pions primarily decay into two of these particles. In quantum electrodynamics, interactions mediated by the electromagnetic force are accompanied with the exchange of a virtual one of these particles, since these particles are the (\*) gauge boson of the electromagnetic force. These particles lose energy during Compton scattering. The energy of one of these particles equals Planck's constant times its frequency. For 10 points, name these massless particles which are the quanta of light.

ANSWER: photons [accept "photonic crystals," "virtual photons," etc.]

16. In one section of this work, a horn and two bassoons play a melody over a droning clarinet and horn. In addition to that nocturne, it contains the vocal piece “Ye Spotted Snakes”. This work incorporates its composer’s earlier Opus 21, a concert overture on the same themes written when the composer was only 17. Another of its pieces contains a bergomask dance in which the recently-invented ophicleide represents the (\*) braying of a donkey. It includes two melodramas called “The Spells” and “Removal of the Spells”, while its most famous piece is often performed separately alongside Richard Wagner’s *Bridal Chorus*. For 10 points, name this collection of music by Felix Mendelssohn that features a famous “Wedding March”, written to accompany a Shakespeare play that features the fairies Oberon and Titania.

ANSWER: Felix Mendelssohn’s incidental music to *A Midsummer Night’s Dream* [or Felix Mendelssohn’s Opus 61; Mendelssohn’s name is not needed after it is read]

17. This event featured such participants as Georgia Gilmore’s “Club from Nowhere,” which produced meals. The best known participant had earlier investigated the gang rape of Recy Taylor. The organizers of this event, including Clifford Durr and E.D. Nixon, decided not to initially involve Claudette Colvin because she was pregnant and unmarried. It achieved its goal in the Supreme Court case *Browder v. Gayle*. This event was led by the pastor at the (\*) Dexter Avenue Baptist Church, who would found the SCLC soon afterwards. It began when a seamstress and NAACP secretary was arrested. For 10 points, name this 1950’s event in an Alabama city which began when Rosa Parks refused to surrender her seat to a white person.

ANSWER: Montgomery bus boycott

18. This author of the autobiography *A Better Class of Person* helped end the censorship of the theater in his country with the play *A Patriot for Me*, a goal also sought by his supporter Kenneth Tynan. Laurence Olivier commissioned a play from this man that features songs like “Why should I care” and “Thank God I’m normal”, which are performed at a music hall by Archie Rice. The protagonist reminisces about his old girlfriend Madeline and kisses (\*) Helena Charles in his most famous play, which ends with a reconciliatory game of “bears and squirrels” involving Colonel Redfern’s daughter. Cliff Lewis attempts to mediate between Alison and Jimmy Porter in that play by this man. For 10 points, identify this author of *The Entertainer* who kicked off the “angry young men” movement with his play *Look Back in Anger*.

ANSWER: John James Osborne

19. Barbara Deimling asserted that this painting once hung directly to the right of one in which a woman carrying a halberd pulls the hair of a bow-wielding centaur. On the far left side of this painting, a male figure wearing a flame-bedecked red cloak who may have been modeled on Lorenzo di Pierfrancesco de’ Medici points at a small patch of clouds with his caduceus. This painting also contains a woman in a diaphanous gown with (\*) flowers falling out of her mouth who is the target of a swooping blue winged figure. In addition to those depictions of Chloris and Zephyrus, this painting features Cupid pointing his arrow at three intertwined dancing women. For 10 points, name this painting that depicts Mercury, the Graces, and Venus in an orange grove, a work of Botticelli that is also known as *Allegory of Spring*.

ANSWER: Primavera [accept Allegory of Spring before it is read; prompt on “Spring”]

20. The partial derivative of this quantity over temperature with respect to temperature equals minus enthalpy divided by temperature squared. For ideal mixing, the change in this quantity is equal to the total moles of substance times the gas constant times temperature times the sum over all components of the mole fraction times the natural log of the mole fraction. This quantity’s natural variables are temperature and pressure. This quantity equals minus the (\*) ideal gas constant times temperature times the natural log of the equilibrium constant. Equal to enthalpy minus the product of temperature and entropy, for 10 points, name this quantity which determines whether or not a reaction is spontaneous, named for an American chemist.

ANSWER: Gibbs free energy [accept answers indicating the change in Gibbs free energy; prompt on just “free energy,” “G,” or “delta G”]

TB. This man praised volunteerism in his book *Lessons Learned the Hard Way*. According to one of his former aides, he justified leaving his first wife with the statement “she’s not young enough or pretty enough” to be First Lady, while adding “she has cancer.” This man was parodied in a cartoon showing him as a baby with the caption “he closed down the government because Clinton made him sit at the back of a plane.” During this man’s (\*) 2012 presidential campaign, his campaign staff resigned *en masse* in 2011, complaining about the influence of his wife Callista. He was named *Time*’s Man of the Year after his Contract with America bolstered his party to success in the 1994 election. For 10 points, name this former Republican Speaker of the House from Georgia.

ANSWER: Newt Gingrich [or Newton McPherson]

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**Round 6: Bonuses**

1. The sine-Gordon and the Korteweg-de Vries equations possess solutions corresponding to these phenomena. For 10 points each:

[10] Name these bizarre waves, which maintain their shape while moving translationally. Even after a collision between two of them, they maintain their original shapes.

ANSWER: **solitons**

[10] Solitons can occur in real life when nonlinear effects on a wave exactly cancel the effects given this name, which arise from the phase velocity of a medium having a frequency dependence. This phenomenon causes white light to split into many colors upon entering a prism.

ANSWER: **dispersion** [accept word forms]

[10] Dispersion occurs when this quantity is wavelength-dependent. This quantity acquires a directional dependence in birefringence.

ANSWER: **index of refraction** [prompt on “n”]

2. The commander of this ship, Corcoran, says he never—well, hardly ever—uses bad language. For 10 points each:

[10] Name this ship which, while docked off Portsmouth, is boarded by Little Buttercup. Dick Deadeye works here, and Sir Joseph Porter, the First Lord, also arrives here.

ANSWER: The H.M.S. **Pinafore**

[10] The H.M.S. *Pinafore* is a comic opera by this British duo, who are also responsible for *The Mikado* and *The Pirates of Penzance*.

ANSWER: William Schwenck **Gilbert** and Arthur Seymour **Sullivan** [both are needed, in any order]

[10] *Pinafore* is described as “infernal nonsense” in a song sung by Stanley, a character with this rank in *Pirates of Penzance*. Stanley boasts he is “well acquainted, with matters mathematical.”

ANSWER: **Major-General** [prompt on “general”]

3. Reta Winters’s daughter Norah drops out of college to sit on a street corner holding a sign reading “goodness” in this author’s final novel, *Unless*. For 10 points each:

[10] Name this author whose most famous work is a fictional autobiography of Daisy Goodwill Flett called *The Stone Diaries*.

ANSWER: Carol Ann **Shields**

[10] In the pantheon of female Canadian Anglophone authors, Shields ranks behind only this author of *The Blind Assassin* and *Alias Grace*, who wrote about the dystopian Republic of Gilead in *The Handmaid’s Tale*.

ANSWER: Margaret Eleanor **Atwood**

[10] Atwood’s *In Other Worlds* contains an essay on this Kazuo Ishiguro novel set at the boarding school Hailsham, in which Ruth, Tommy, and Kathy learn that they are clones, destined to serve as organ donors.

ANSWER: **Never Let Me Go**

4. Crystal field theory is used to describe the splitting of these orbitals in compounds. For 10 points each:

[10] Name these orbitals which are partially filled in the transition metals. These orbitals have an azimuthal or angular momentum quantum number of two, putting them between the p and f orbitals.

ANSWER: **d** orbitals

[10] There are this many d orbitals for each allowable value of the principal quantum number n.

ANSWER: **5**

[10] The 5 d orbitals are named the d-sub-xy, d-sub-xz, d-sub-yz, d-sub-z squared, and d-sub-*this*.

ANSWER: **x squared minus y squared**

5. This government was decisively defeated at the Battle of Toba-Fushimi. For 10 points each:

[10] Name this government whose founder and namesake won the Battle of Sekigahara. It lost to supporters of imperial rule in the Boshin War.

ANSWER: **Tokugawa** shogunate

[10] In the Tokugawa shogunate, the *daimyo* were at the top, followed by this warrior-caste. People in this class followed the warrior code of *bushido*.

ANSWER: **samurai** [prompt on “*bushi*”; prompt on “*buke*”]

[10] From 1614 to 1615, the Tokugawa shogunate destroyed the Toyotomi clan by besieging this castle, whose namesake city was a major rice trading center in the Edo period.

ANSWER: **Osaka**

6. Identify the following about Thomas Love Peacock, for 10 points each.

[10] Peacock’s article “The Four Ages of Poetry” prompted a response in the form of the essay “A Defense of Poetry” from this man, whose own poetic works include “Alastor”, “To a Skylark”, and “Ozymandias”.

ANSWER: Percy Bysshe **Shelley**

[10] Peacock’s novel *Nightmare Abbey* takes as its epigraph a quotation about a “dark lantern of the spirit” from *Hudibras*, a long poem by this author, who shares his first and last names with the author of *The Way of All Flesh*.

ANSWER: Samuel **Butler**

[10] Peacock described the pleasures gained from contemplating “the universal mutability of things” in a poem titled for “The Philosophy of” this emotional state, also the subject of a Robert Burton book about its “Anatomy”.

ANSWER: **melancholy** [accept “The Philosophy of **Melancholy**”; or “The Anatomy of **Melancholy**”]

7. Gastroenteritis is often falsely referred to as the “stomach” version of this disease. For 10 points each:

[10] Name this type of disease caused by an orthomyxovirus whose names are determined using HN nomenclature. For example, its H1N1 type is known as the “swine” type and produced a pandemic in 2009.

ANSWER: **influenza**

[10] The H in H1N1 stands for this protein located on the surface of the flu virus. This protein binds the flu virus to sialic acid residues on the surface of the target cell, initiating the infection process.

ANSWER: **hemagglutinin**

[10] Sialic acid is one of these monomers, which are linked together by ether linkages which are cleaved by neuraminidase. These compounds are commonly depicted using Fischer and Haworth projections, and they are characterized by a 6-membered ring with 5 carbons and one oxygen.

ANSWER: **monosaccharides** [prompt on “sugars”; or “carbohydrates”; or “saccharides”]

8. The steamboat *Enterprise* was dispatched to aid the winning side at this battle. For 10 points each:

[10] Name this battle in which American forces defeated a force under General Edward Pakenham, who was slain during it. Preceded by the Battle of Lake Borgne, this battle featured pirates such as Jean Lafitte aiding the Americans.

ANSWER: Battle of **New Orleans**

[10] This winning American commander at the Battle of New Orleans was known as “Old Hickory” and would later become the first Democratic Party candidate to be elected president.

ANSWER: Andrew **Jackson**

[10] During the 1828 presidential election, Charles Hammond created a handbill attacking Jackson which displayed multiple images of this object. It was a reference to Jackson’s treatment of deserters during the Creek War and War of 1812.

ANSWER: **coffin** [accept synonyms, like **casket**]

9. The words of Christ in this oratorio are almost always accompanied by the entire string section from the first of its two orchestras, creating a “halo” effect”. For 10 points each:

[10] Identify this choral work which opens with the chorus “Kommt, ihr Töchter, helft mir klagen” and depicts the crucifixion of Jesus. Felix Mendelssohn’s 1829 performance of it in Berlin revived interest in its composer.

ANSWER: St. Matthew’s Passion [or Matthäus-Passion; or the Passion of St. Matthew]

[10] The *St. Matthew Passion* was composed by this German, whose other famous choral compositions include the *Mass in B minor*. He also wrote the *Brandenburg Concertos*.

ANSWER: Johann Sebastian Bach

[10] The tenor part in Bach’s oratorios and Passions, responsible for narrating the words of Luther’s translation of the Bible accompanied only by basso continuo, is referred to by this term.

ANSWER: the Evangelist

10. This character poses as a high school student while staying with her Aunt Eloise in Florida. For 10 points each:

[10] Name this character, who began an endless series of point and click PC games produced by Her Interactive, with the 1998 edition *Secrets Can Kill*. She has also appeared in such games as *Ghost of Thornton Hall*, *Curse of Blackmoor Manor*, and *The White Wolf of Icicle Creek*.

ANSWER: Nancy Drew [accept either part]

[10] Earlier Nancy Drew appearances saw her played by Pamela Sue Martin on a 1970’s series pairing her with these male siblings who also solve crimes. Their adventures were also produced by the same syndicate that published Nancy Drew’s adventures.

ANSWER: The Hardy Boyz [or Frank and Joe Hardy; accept Frank and Joe, must have both; I guess accept Francis and Joseph if you’re Aunt Gertrude]

[10] This lawyer is Nancy’s father and is generally a supporter of her sleuthing antics. For some reason, he was played by Tate Donovan in the 2007 film.

ANSWER: Carson Drew

11. One of these creatures creates day and night by opening and closing his eyes, while another was employed to kill the warlike Chi You by the Yellow Emperor and also killed the demon Kua Fu. For 10 points each:

[10] Name these mythical creatures, examples of which include the aforementioned Zhulong and Yinglong. In China, they were depicted as being much more serpentlike than their fire-breathing European equivalents.

ANSWER: Chinese dragons [prompt on “long”]

[10] Chinese dragons are generally considered to be male; their feminine counterparts are these mythical phoenix-like birds.

ANSWER: fenghuang

[10] Chinese spirits called “huli jing”, one of which possessed King Zhou’s concubine Da Ji, took the form of a nine-tailed version of this animal. In Japanese mythology, the kitsune who served Inari were this type of animal.

ANSWER: foxes [accept volpines]

12. Identify the following Leo Tolstoy characters, for 10 points each.

[10] This central character of *War and Peace* abandons Princess Helene after shooting Dolokohov in a duel. Despite becoming convinced that he is destined to assassinate Napoleon, he survives the Crimean War (spoilers!) and eventually marries Natasha Rostova.

ANSWER: Pierre Bezukhov [accept either underlined portion; accept Count Pyotr Kirillovich Bezukhov; prompt on “Pyotr”]

[10] This woman has her heart broken when Count Vronsky chooses to dance with Anna Karenina instead of her. While at a German spa, she meets Madame Stahl and Varenka, and she eventually marries Konstantin Levin.

ANSWER: Kitty Shcherbatskaya [accept either underlined portion; accept Princess Ekaterina Alexandrovna Shcherbatskaya]

[10] This crotchety-breaking young man from a Tolstoy short story falls in love with, but is forbidden from marrying, a young girl named Ustinya. Later, he falls off a ladder while clearing snow and dies. How bleak.

ANSWER: Alvasha the Pot



13. An adviser of this man was the former librarian Emile Banning. For 10 points each:

[10] Name this ruler who hired Henry Stanley to establish what would become this man's personal fiefdom, the Congo Free State. Many countries were appalled by this man's brutal control of that colony.

ANSWER: **Leopold II** [or **Léopold** Louis Philippe Marie Victor; or **Leopold** Lodewijk Filips Maria Victor]

[10] Leopold II was king of this European country, which controlled what would become the Democratic Republic of the Congo.

ANSWER: **Belgium** [or **Belgique**; or **Belgie**; or **Belgius**]

[10] This Irish diplomat wrote a namesake 1904 report chronicling the Congo Free State abuses. He would later be executed after being arrested shortly before the Easter Rising.

ANSWER: Roger **Casement**

14. This group displays their poetry skills during Hola Mohalla, and those who violate its code must undergo *pesh*. For 10 points each:

[10] Name this group of believers who adhere to the 52 hukams and have undergone the amrit ceremony.

ANSWER: **khalsa**

[10] Sikhs believe that faith and meditation must be augmented with the *tan*, *man*, and *dhan* forms of this sort of behavior, exemplified by things like feeding and clothing the poor.

ANSWER: **charity** [or **good works**; or community **service**]

[10] Members of the khalsa must adhere to the Panj Kakar, or Five Ks, the first of which prohibits this action. In other religions, this action is performed to create a tonsure.

ANSWER: **cutting** one's **hair** [accept **shaving**]

15. Answer the following about horrible, horrible, programming languages, for 10 points each.

[10] The god-awful language of Brainfuck pretty much works by being able to only increment this data type, which is a variable that is a reference to another variable. In C, you can declare one using an asterisk.

ANSWER: **pointer**

[10] Because it is incredibly esoteric, it took about eight years before the first one of these constructs was implemented in Malebolge. In C++, one type of them can be declared using the word "for."

ANSWER: **loops**

[10] The language Whitespace, in which the only valid commands are space, tab, and new line, follows this programming paradigm, the opposite of declarative programming. In this paradigm, statements in a computer program change the state of computation.

ANSWER: **imperative** programming

16. He depicted a number of handsome young men perched on, and diving off of, a rocky outcrop in *The Swimming Hole* and showed a friend rowing in the Schuylkill River in *Max Schmitt in a Single Scull*. For 10 points each:

[10] Name this American artist who depicted the title surgeon performing an operation for the students of Jefferson Medical College in his most famous painting, *The Gross Clinic*.

ANSWER: Thomas Cowperthwaite **Eakins**

[10] The men Eakins painted in *The Swimming Hole* were his students at this school, founded by William Rush and C.W. Peale. Eakins was forced to resign from teaching here because of his controversial use of nudity in classes.

ANSWER: **Pennsylvania Academy** of the **Fine Arts** [accept **PAFA**; don't worry too much about the conjunctions]

[10] Eakins's painting *Salutat* depicts a practitioner of this activity waving to a crowd. George Bellows depicted this activity in paintings like *Both Members of This Club* and *Dempsey and Firpo*.

ANSWER: **boxing** [accept word forms of that or of equivalents like **pugilism**, **prize fighting**, the **sweet science**, etc.]

17. This book is dedicated to “the socialists of all parties.” For 10 points each:

[10] Name this 1940’s book which is meant to warn “of the danger of tyranny that inevitably results from government control of economic decision-making through central planning.” This libertarian text was written by one of the chief leaders of the Austrian school of economics.

ANSWER: The **Road to Serfdom**

[10] *The Road to Serfdom*’s author, Friedrich von Hayek, taught during the 1950’s at this American university. Its namesake economic school rejects Keynesianism, and includes scholars like Milton Friedman and Ronald Coase.

ANSWER: University of **Chicago**

[10] Hayek and other thinkers formed this think tank in 1947 that is dedicated to free market economic policies. This society is named for a Swiss resort and was originally going to be named the “Acton-Tocqueville” Society.

ANSWER: **Mont Pelerin** Society

18. This city was conquered in the Battle of Blue Waters. For 10 points each:

[10] Name this city, which achieved a golden age under Yaroslav the Wise, the former Prince of Novgorod. Also led by Vladimir the Great, it was the capital of a similarly sounding federation ruled by the Ruriks before the founding of Russia.

ANSWER: **Kiev** [or **Kievan Rus**]

[10] Kiev had to pay a tribute for many years to a Mongol khanate also known as the Kipchak Khanate. That khanate, which ruled much of Eastern Europe, has a more familiar name labeling them a “horde” of this color.

ANSWER: **golden**

[10] Kiev was absorbed into the newly created Polish-Lithuanian Commonwealth created in a 1569 union named for this Polish city. It was known as the “Jewish Oxford” for its famous yeshiva.

ANSWER: **Lublin**

19. Aquinas loved God so much that he summarized five different ways to prove God’s existence. Name some things about them, for 10 points each:

[10] This second argument for God’s existence is essentially a variation of Aquinas’ first, the “unmoved mover”. It claims that there must be a “first cause” of the universe, which, of course, is God.

ANSWER: **cosmological** argument

[10] Like much of his philosophy, Aquinas cribbed his cosmological argument from the work of this Greek dude, who wrote *De Anima* and *Rhetoric* and was Plato’s most famous pupil.

ANSWER: **Aristotle** [or **Aristotles**]

[10] While Aquinas was a concurrentist, many of his influences, like Al-Ghazali, held this position that believes natural actors merely appear to cause effects but all sensation, and movement is really caused by God.

ANSWER: **occasionalism**

20. Two minor characters in this novel, the junk-collecting maid Maria and the scrap dealer Zerkow, marry but are later found dead by the title character’s miserly wife, who rolls around in a pile of gold coins in a memorable scene. For 10 points each:

[10] Name this novel which ends with the title character, a former unlicensed dentist, in Death Valley, handcuffed to the body of his friend Marcus Schouler.

ANSWER: **McTeague: A Story of San Francisco**

[10] *McTeague* was written by this American naturalist, who used the Mussel Slough Tragedy as the basis for his 1901 novel *The Octopus*.

ANSWER: Frank **Norris** [or Benjamin Franklin **Norris**]

[10] In this posthumously-published Norris novel, Curtis Jadwin’s attempts to corner the Chicago wheat market strain his marriage to Laura Dearborn.

ANSWER: The **Pit**: A Story of Chicago

Extra. This type of function is always infinitely differentiable, and all holomorphic functions also have this property. For 10 points each:

[10] Name this property possessed by functions that can be expanded around any arbitrary point using a convergent power series.

ANSWER: **analytic** [accept word forms]

[10] This type of series is a power series used to approximate a generic function around a point  $a$  using the values of the first, second, and so on derivatives of the function evaluated at the point  $a$ . A Maclaurin series is one of these series centered around zero.

ANSWER: **Taylor** series

[10] The Maclaurin series for this function equals one plus  $x$  plus  $x$  squared over two plus  $x$  cubed over six and so on, or equivalently, the sum from  $n$  equals zero to infinity of  $x$  raised to the  $n$  over  $n$  factorial.

ANSWER: **exponential** function [or  **$e$  to the  $x$** ]