

Minnesota Undergraduate Tournament 2013

Questions by Rob Carson, Mike Cheyne, Andrew Hart, Gaurav Kandlikar, Matt Menard, and Bernadette Spencer

Round 3: Heroin! Peppermint-Flavored Heroin!

Tossups

1. **This athlete was the first non-wrestling personality to enter the WWE Hall of Fame, in honor of three straight WrestleMania appearances in which he was assaulted by Kane. He is currently dating *Playboy* model Kiana Kim and appearing on the TLC series *Hits & Mrs.* This subject of the Dowd Report is the author of *My Prison Without Bars*. After he slid (*) hard into second, this player got into a fight in the playoffs with the Mets' Bud Harrelson, and he barreled into catcher Ray Fosse when scoring a run in the 1970 All-Star Game. He was a player-manager when he broke a Ty Cobb record in 1985. For 10 points, name this baseball player known as "Charlie Hustle," the all-time leader in hits, who has a lifetime ban due to his gambling activities.**

ANSWER: Pete Rose [or Peter Edward Rose; accept Charlie Hustle until mentioned]

2. **An essay titled for "delusion" and one of these events discusses one involving Hanold and the destruction of Pompeii in Wilhelm Jensen's novel *Gradiva*. One of these episodes included a burning house and Ida Bauer's mother's attempts to save a jewel box. One of these events, as related by Sergei Pankejeff, involved six or seven stark white wolves sitting in a walnut tree outside of a window. Another of these episodes included a (*) woman with a white scab on her neck and a "dull area down on the left" of her shoulder, which Leopold treats with a propionic acid shot. These episodes, which include "Irma's Injection," are labeled forms of "wish fulfillment." For 10 points, name these nocturnal episodes whose "interpretation" titles a Sigmund Freud work.**

ANSWER: dreams [or traum; or träume; accept *The Interpretation of Dreams*; or *Die Traumdeutung*]

3. **Phosphate plays this role in a solution which is used to disengage clumped cells and maintain osmolarity; that solution is sometimes avoided because it can lead to the precipitation of calcium. A parameter that describes these compounds is calculated as the ratio of \ln to the change in cologarithm of ionic concentration. When studying proteins, (*) Tricine and MES are used as these compounds. In an equation that describes these compounds, the \log of the ratio of the ionic form to the undissociated form is added to the pK_a to yield pH. These compounds are composed of weak conjugate acid/base pairs. For 10 points, name these compounds that resist drastic changes in pH.**

ANSWER: buffers

4. **One myth claims that this god hung out with a tribe of pirates called the Sintians, while another asserts that he spent nine years in a grotto with Eurynome and Thetis. Most sources agree that the mysterious Cabeiri were his children, as was a one-eyed wielder of a bronze club who was killed by Theseus. This father of Periphetes arranged for his servant Cedalion to guide the blinded Orion and failed in his attempt to rape Athena, which resulted in his fathering (*) Erichthonius on Gaia. In one myth, Dionysus gets him drunk and puts him on the back of a mule, which carried him back to Olympus. He married the Grace Aglaea after finding Ares in bed with his wife Aphrodite. His creations include Pelops's shoulder, Hermes's winged sandals, and the Aegis. For 10 points, name this son of Zeus and Hera, the Greek god of fire and the forge.**

ANSWER: Hephaestus [or Hephaistos; prompt on "Vulkan"]

5. **A 500 pound bounty was placed on pirate Henry Every's head after he raided one of this empire's treasure ships, jeopardizing its alliance with England. The Sayyid Brothers were kingmakers during the rule of this dynasty, and made emperor Farrukhsiyar a figurehead. After the battle of Samugarh, one of this empire's rulers placed his own father in house arrest for eight years. Another one of its rulers defeated the forces of Hemu by using an army commanded by Bairam (*) Khan. This empire was founded by the man who defeated the Lodi Empire at Panipat, where it would fight two more battles. One of its rulers constructed the Peacock Throne and built a tomb for his wife at Agra called the Taj Mahal. For 10 points, name this Indian empire whose emperors included Akbar the Great and Shah Jahan.**

ANSWER: Mughal Empire

6. One of this musician's albums features Hermeto Pascoal's early compositions such as "Nem Um Talvez." In his later career, this artist often collaborated with the electric guitarist John McLaughlin, who is the subject of this artist's song "Go Ahead John," which appears on *Big Fun*. This man's second namesake quintet featured Wayne Shorter and Herbie Hancock, and his earlier quintet featured John Coltrane and was expanded to a (*) sextet with the addition of Cannonball Adderley. An arrangement of Joaquin Rodrigo's *Concierto de Aranjuez* opens this artist's album *Sketches of Spain*. He collaborated with Gil Evans on "Boplicity", which appeared on his seminal album *Birth of the Cool*. For 10 points, name this jazz trumpeter whose "Freddie Freeloader" and "So What" appeared on the album *Kind of Blue*.

ANSWER: Miles Davis

7. Michael Frayn's *Wild Honey* is an adaptation of an early, untitled play by this man. His one-act plays include one in which Smirnov tears a chair in half while demanding money from, then falling in love with, Mrs. Popov. Another of his plays features a governess named Charlotta who performs magic tricks and an eccentric manservant named Firs. Another play this author of *The Boor* met with little success until it was staged by the MAT under the direction of Constantin (*) Stanislavsky; that play ends with Irinia Arkadina's son Treplev committing suicide partly because of his jealousy regarding the writer Trigorin. In another of his plays, Lopakhin buys Madame Ranevskaya's estate and plans to cut down the title landmark. For 10 points, name this Russian playwright of *The Seagull* and *The Cherry Orchard*.

ANSWER: Anton Pavlovich Chekhov

8. In an early speech, this man declared he was a socialist because "it stands for cooperation, not confrontation." He won an early election with the help of his mother-in-law, soap actress Pat Phoenix. This man's communications director put together a document known as the "Dodgy Dossier." The *Sun* once asked "Is This the Most Dangerous Man in Britain?" in response to his policies regarding the (*) Euro. Early in his premiership, the Good Friday Agreement set up a peaceful framework to govern Northern Ireland. This man was Prime Minister during a series of terrorist bombings of London's public transportation system. For 10 points, name this longest-serving Labour Party Prime Minister, who led the UK from 1997 to 2007 and was a staunch ally of George W. Bush.

ANSWER: Anthony Charles "Tony" Lynton Blair

9. This process can be studied by RLGs and by using Bisulfite Conversion based assays. HDACs preferentially bind to areas that have been subjected to this process, and Enzymes that catalyze this process are classified as "de novo" or "maintenance" types. Bacterial DNA mismatch repair systems distinguish between parent and daughter (*) strand on the basis of this process, which occurs at high levels in Barr bodies. This processes most often occurs at CpG ("c-p-g") islands, and regions of the genome subjected to high levels of this process become heterochromatin. For 10 points, name this process in which cytosine or adenine residues of DNA are modified by the attachment of a CH₃ group.

ANSWER: DNA methylation [prompt on partial answer; accept "methylation" by itself after "DNA" is read]

10. This author wrote a novel in which Charlie Norris and Peter Thomas and their wives are among the aging Welsh couples whose lives are disrupted by the return of Rhiannon and Alun Weaver. In another of his novels, Adriane Alexandrou helps the protagonist reach Vrakonisi, where he confronts Von Richter and the title Chinese military officer in order to rescue the kidnapped M. This author, who won the Booker Prize for *The Old Devils*, used the pseudonym "Robert Markham" for his (*) James Bond novel *Colonel Sun*. The protagonist of his most famous novel juggles relationships with Margaret Peel and Christine Callaghan and eventually drunkenly savages his department head, Professor Welch, during a lecture on "Merrie England". For 10 points, identify this father of fellow novelist Martin, the British author of *Lucky Jim*.

ANSWER: Kingsley Amis

11. A story about this war featured a “messenger from God” praying for enemy soldiers to be torn “to bloody sheds” and is titled “The War Prayer.” Before war was declared, Vermont Senator Redfield Proctor declared his travels had shown him “the worst misgovernment” and “barbarity” he had seen. A cartoon mocking it featured two men pushing blocks labeled “War” while wearing the smocks of the Yellow Kid. Prior to this war, (*) newspapers labeled Valeriano Weyler the “Butcher,” and the Teller Amendment promised the U.S. would not annex land. Called “a splendid little war” by John Hay, its decisive battle was won by George Dewey at Manila Bay. For 10 points, name this 1898 war sparked by the explosion of the *Maine*, in which Teddy Roosevelt’s Rough Riders won the Battle of San Juan Hill.
ANSWER: Spanish-American War [prompt on Cuban independence]

12. This work contends that friendships with those we detest with “a thousand pores” are nothing but “madness and folly”. Another part of this work argues that youth is the “seedtime of good habits” in order to justify the timing of its political goals. One section of this work asserts that human goodness leads to society but government is a result of wickedness. Another chapter of this work claims that a certain (*) monarch did little but “make war and give away places”. This work points out the absurdity of an island ruling an entire continent in a section that outlines a Continental Charter that will replace the Magna Carta. The last chapter of this work asserts that the Colonies have more than enough resources to best the armed forces of their ruler, Great Britain. For 10 points, name this pamphlet that supported the American Revolution and was written by Thomas Paine.
ANSWER: “Common Sense”

13. A highlight of the Indianapolis Museum of Art’s collection is a late painting by this man depicting the lighthouse of Petit-Fort-Philippe in the harbor of Gravelines. In one of his paintings, the foreground is dominated by a cello player’s back and features several people observing a pair of high-kicking dancing couples. This artist of *Le Chahut* depicted a group of shirtless men lounging on the bank of the Seine in his *Bathers at* (*) *Asnieres*. The work of Michel Chevreul inspired his development of “chromoluminarism”, a technique he used in his masterpiece, a huge painting that features a pink-skirted woman holding a young girl’s hand and a woman with a huge bustle accompanied by a leashed monkey. For 10 points, name this French pioneer of pointillism who painted *Sunday Afternoon on the Island of La Grande Jatte*.
ANSWER: Georges Pierre Seurat

14. The use of a computation model containing one of these elements allows one to prove the version of the pumping lemma that replicates two sections of a string in parallel. A deterministic finite automaton with two of these elements is equivalent to a Turing machine, while the set of context free languages can be recognized by a DFA with one of these modifications, a model known as a PDA. Allocating memory in a region with this name relies on its namesake (*) frames and is contrasted with dynamic memory allocation, which uses the heap. The data structure of this name supports operations like “peek”, which looks at the top element without removing it. For 10 points, name this data structure which uses operations like “push” and “pop” to support last-in first-out access.
ANSWER: stacks

15. This character says “This is a torch song. Touch me and you’ll burn” at the end of a Margaret Atwood poem in which she “does Countertop Dancing”. This character “becomes a scold, haggard with virtue” after bearing “child on legitimate child” in a Rupert Brooke poem, and she is the subject of a 1954 feminist epic by H.D that places her “in Egypt”. In another appearance, she is rescued by Phorkyas and taken to a man with whom she has a child named (*) Euphorion. In a Christopher Marlowe play, that man asks if this character has “the face that launched a thousand ships / and burnt the topless towers of Ilium”. For 10 points, name this object of Faust’s affection, a mythical woman whose kidnap by Paris sparked the Trojan War.
ANSWER: Helen of Troy

16. In October 2011, England's Prince Charles claimed to be related to this ruler as part of a national tourism campaign. This man's first wife reportedly threw herself into the Arges River during the siege of Poenari Castle. This man carried out the 1462 "Night Attack" at Targoviste in a conflict sparked after he refused to pay a tax on non-Muslims. This ruler married the cousin of his one-time ally, Matthias Corvinus. He was opposed by his own younger brother, (*) Radu the Handsome, who led a Janissary force, and his father had been killed by boyars loyal to Hungarian regent Janos Hunyadi. This man outraged Mehmed II by nailing Ottoman envoys' turbans to their heads. For 10 points, name this Transylvanian prince noted for skewering his enemies, one of the inspirations for Count Dracula.

ANSWER: Vlad the Impaler [accept Vlad III, Vlad Tepes, or Vlad Dracula; DO NOT accept "Vlad Dracul", which is this guy's father]

17. The commutator of the Hamiltonian and an object with this name is equal to $i\hbar$ times the time derivative of that object, according to an equation named for von Neumann and Liouville. That matrix with this name describes mixed states in quantum mechanics. The continuity equation in fluid dynamics states that the negative partial of this quantity with respect to time is equal to the divergence of the product of this quantity and the (*) fluid velocity; that is a consequence of the conservation of mass. The conductivity times the electric field gives this quantity for electric current, according to Ohm's law. This quantity for electric current is equal to the electric current per unit area. For 10 points, name this quantity usually symbolized rho, whose average value is given by mass divided by volume.

ANSWER: density

18. The definitive history of this event is German historian Hubert Jedin's four-volume treatment. The papal bull *Benedictus Deus* upheld the outcome of this event, which authorized a list of prohibited books and standardized the procedure for mass. This event, which resulted in the production of the Roman Catechism, lasted for (*) twenty-five sessions under Paul III, Julius III, and Pius IV. This council was called to define Catholic doctrine, especially the relationship between works and faith in light of the "sola fide" argument of Martin Luther. For 10 points, name this ecumenical council of the mid-1500s that outlined the principles of the Counter-Reformation.

ANSWER: Council of Trent [or Council of Trento; or Concilium Tridentinum]

19. The penultimate one of these pieces by this composer contains a 21-note theme that had earlier appeared in the first-movement cadenza of the composer's Piano Concerto No. 21. The fourth and final movement of the last composition of this type by this composer ends with a five-voice fugato recapitulating the piece's five major themes. The penultimate of these pieces was nicknamed the (*) "Great G minor" to distinguish it from the only other of these pieces in a minor key. A nickname coined by Johann Peter Salomon is commonly given to the 41st and final one of them. For 10 points, name these orchestral compositions, including the *Jupiter*, composed by the man who wrote *The Magic Flute*.

ANSWER: Wolfgang Amadeus Mozart's symphonies [prompt on symphonies; accept Johannes Chrysostomus Wolfgangus Theophilus Mozart's symphonies]

20. In the seventh chapter of this novel, one character is revealed to have been romantically linked with both Lord Hubert and Prince Varigliano. In one scene in this novel, Carry Fisher organises a *tableaux vivante* at a party in the Brys's conservatory. A social-climbing Jewish banker offers money to this novel's protagonist when she loses her job in a millinery. During a cruise on the yacht *Sabrina*, one character in this novel covers up an affair with Ned (*) Silverton by accusing the bridge-addicted protagonist of sleeping with her husband George Dorset. At the end of this novel, both a large check written to Gus Trenor and the protagonist's death by sleeping draught overdose are discovered by Lawrence Selden. For 10 points, identify this 1905 novel of manners about Lily Bart, the first major success for Edith Wharton.

ANSWER: *The* House of Mirth

21. This man was accused of having an affair when he went on a golf trip with Paula Parkinson. The first chair of the National Space Council, he wrote the memoirs *Standing Firm and Worth Fighting For*. This man gave a notorious speech titled "Reflections on Urban America" to the Commonwealth Club where he discussed the L.A. Riots. In that speech, he used as an example of declining moral values the depiction of a single mother on the (*) TV show *Murphy Brown*. In a debate, after Lloyd Bentsen mentioned that a certain president "was a friend of mine," this man was told he was "no Jack Kennedy." He embarrassingly misspelled the word "potato" in 1992. For 10 points, name this Vice-President for George H.W. Bush.

ANSWER: Dan Quayle [or James Danforth Quayle]

Bonuses

1. Wikipedia claims one member of this family owned a “famed St. Bernard” named Scipio. For 10 points each:
[10] Name this family, whose most famous members were two brothers noted for their pioneering early flights at Kitty Hawk, North Carolina.

ANSWER: **Wright** [Orville and/or Wilbur, of course]

[10] This man, the third Secretary of the Smithsonian Institution, designed a piloted airplane called the “Aerodrome” and had a feud with the Wright Brothers over airplane patents. He names a U.S. Air Force base combined with Fort Eustis near Newport News, Virginia and a NASA research center in Hampton, Virginia.

ANSWER: Samuel Pierpont **Langley**

[10] This later aviation hero was the first pilot to travel faster than sound when piloting the Bell X-1 in 1947. He later served on a commission to investigate the *Challenger* disaster.

ANSWER: Charles Elwood “Chuck” **Yeager**

2. While wandering across a heath during a storm, this character shouts “Blow, winds, and crack your cheeks! rage! blow!” and describes himself as a “poor, infirm, weak, and despised old man”. For 10 points each:

[10] Identify this title character of a 1608 play, who in that scene also encounters Edgar disguised as Tom o’Bedlam. His children marry the Duke of Cornwall, the Duke of Albany, and the King of France.

ANSWER: King **Lear**

[10] The play *King Lear* was written by this ludicrously famous English playwright, who also wrote *Hamlet*.

ANSWER: William **Shakespeare**

[10] Lear is accompanied through much of the play by both his Fool and this faithful nobleman, who returns disguised as “Caius” after Lear exiles him early in the play.

ANSWER: the Earl of **Kent** [prompt on “Caius”]

3. Answer the following about espionage, for 10 points each.

[10] This was the stage name of the Dutch exotic dancer Margaretha Zelle, who was accused of being a spy for the Germans during World War I, resulting in her being executed in 1917.

ANSWER: **Mata Hari**

[10] This was the name given to various German encryption machines during World War II. In a major boost for the Allies, British codebreakers, using intelligence code-named Ultra, broke the codes created by this machine.

ANSWER: **Enigma**

[10] This man was a pioneer of espionage, having been the spymaster for Elizabeth I. He obtained crucial intelligence regarding the Spanish Armada and helped entrap Mary, Queen of Scots.

ANSWER: Sir Francis **Walsingham**

4. One entry in this film series was set in 2455 and had the antagonist kill a woman by shoving her head into liquid nitrogen. For 10 points each:

[10] Name this horror film series, named after an unlucky date, which generally features the hockey mask-wearing Jason Voorhees carving up unlucky teenagers.

ANSWER: **Friday the 13th**

[10] In the first *Friday the 13th* film, Jason is not the antagonist; instead, this figure is the one committing the murders. Either the name or a general description of this character is okay.

ANSWER: **Pamela** Voorhees or **Mrs. Voorhees** or Jason’s **mother** or anything to suggest that relationship

[10] The underrated *Jason X* inexplicably features this director in a cameo as Dr. Wimmer. This director’s own films include a bizarre science-fiction film about television called *Videodrome* as well as a movie in which Jeff Goldblum plays the hideously mutating Seth Brundle.

ANSWER: David **Cronenberg**

5. In one novel by this man, Kikuji Mitani decides to pursue Yukiko after seeing the title pattern on a handkerchief, while in another, Shimamura has an affair with the geisha Komako while visiting an *onsen* in the title location. For 10 points each:

[10] Identify this Japanese author of *Master of Go*, who won the 1968 Literature Nobel on the strength of such novels as *Thousand Cranes* and *Snow Country*.

ANSWER: Yasunari **Kawabata** [accept names in either order]

[10] Shingo Ogata begins obsessing about his mortality after being awoken by the title phenomenon of this Kawabata novel, in which Shingo's son Shuichi is revealed to be cheating on his wife Kikuko.

ANSWER: *The **Sound of the Mountain*** [or ***Yama no Oto***]

[10] A lonely old man named Eguchi details his visits to the title unusual establishment in this 1961 novella by Kawabata.

ANSWER: ***House of the Sleeping Beauties*** [or ***Nemureru Bijo***]

6. Answer the following about research conducted in Antarctica, for 10 points each:

[10] Data from Antarctica's Halley Research Station revealed the "hole" in this layer of the atmosphere. This layer is composed of triatomic oxygen.

ANSWER: **ozone** layer

[10] The hole in the ozone layer is hypothesized to have been formed due to high levels of these compounds, common examples of which include refrigerants sold under the brand name Freon.

ANSWER: **chloro-fluoro-carbons** [or **CFCs**]

[10] Most American researchers in Antarctica are based in this research station on Ross Island, which shares a name with a nearby sound.

ANSWER: **McMurdo** Research Station

7. Answer the following about a 1204 swerve that really surprised Byzantine-era observers for 10 points each.

[10] During the Fourth Crusade, crusaders broke from tradition in April 1204 by sacking this city, the capital of the Byzantine Empire as part of a scheme to obtain money promised to them.

ANSWER: **Constantinople** [or **Istanbul**]

[10] A key leader of the Fourth Crusade was the old blind dude Enrico Dandolo, who held this position in Venice. This post was the chief magistrate of the Most Serene Republic of Venice.

ANSWER: **doge** [accept **doxe**]

[10] An early event in the Fourth Crusade featured crusaders attacking this rival of Venice in November 1202. Pope Innocent III pointed out this city was a Catholic city and excommunicated the crusaders for going rogue.

ANSWER: **Zara** [accept **Zadar**]

8. This work, which was partly commissioned by the Lincoln Center's anonymous Great Performers, is scored for orchestra, children's chorus, chorus, and tape. For 10 points each:

[10] Name this Pulitzer-winning composition that memorializes the 9/11 attacks.

ANSWER: ***On the Transmigration of Souls***

[10] This composer of *Short Ride in a Fast Machine*, who operatically commemorated Nixon's visit to China, wrote *On the Transmigration of Souls*.

ANSWER: John Coolidge **Adams** [do not accept "John Luther Adams"]

[10] In the piece, a solo for this instrument evokes Charles Ives's *Unanswered Question*, which is "asked" by this instrument. Jeremiah Clarke's *Prince of Denmark's March* is a "voluntary" for this brass instrument.

ANSWER: **trumpet**

9. This man was involved in an imbroglio that resulted in the publication of his *Beyond Chutzpah*. For 10 points each:

[10] Name this man who was denied tenure at DePaul following his criticism of Alan Dershowitz's *The Case for Israel* in 2005.

ANSWER: Norman Gary Finkelstein

[10] The Anti-Defamation League put Finkelstein on its shit list after the publication of a 2000 book titled after the "industry" of this event, in which millions of Jews perished at the hands of the Nazis.

ANSWER: the Holocaust [or Shoah; accept *The Holocaust Industry*]

[10] This German-American thinker, who analyzed Nazi Germany in *The Origins of Totalitarianism*, discussed the "banality of evil" in her analysis of the Holocaust, *Eichmann in Jerusalem*.

ANSWER: Hannah Arendt [or Johanna Arendt]

10. It is sometimes known as *prospettiva melozziana*, after its pioneer Melozzo da Forlì, and it is not to be confused with the similar technique of *quadratura*. For 10 points each:

[10] Identify this *trompe-l'oeil* painting technique often used on ceiling frescoes, which produces the illusion of space above the ceiling itself. Its name translates as "from below, upward".

ANSWER: di sotto in su

[10] Perhaps the most famous example of *di sotto in su* is this man's ceiling painting in the Camera degli Sposi in the Ducal Palace in Mantua. This man's most famous painting also features some notable foreshortening.

ANSWER: Andrea Mantegna

[10] That most famous Mantegna painting depicts the dead body of this religious figure, displaying prominently the wounds in his hands and feet caused by his crucifixion.

ANSWER: Jesus Christ [accept either; also accept *The Lamentation over the Dead Christ* or *The Lamentation of Christ*]

11. Name some feminist thinkers, for 10 points each.

[10] This author of *Utilitarianism* and *On Liberty* argued for women's equality in *The Subjection of Women*.

ANSWER: John Stuart Mill

[10] This author of *Thoughts on the Education of Daughters* argued that women only appear lesser than men because they lacked proper educations in *The Vindication of the Rights of Woman*.

ANSWER: Mary Wollstonecraft

[10] This American feminist who wrote *Vagina: A New Biography* argued that conventions of appearance are created and sustained by the patriarchy in her book *The Beauty Myth*.

ANSWER: Naomi Wolf

12. Microbes come in many different shapes. Name some, for 10 points each:

[10] This term describes spherical microbes. In the name of a genus whose microbes are clustered in a grape-like arrangement, this word is modified with the prefix "staphylo-."

ANSWER: coccus [accept staphylococcus]

[10] Rod shaped bacteria like *E. coli* are described by this word. This word also names a genus of bacteria that includes the oft studied *subtilis* species.

ANSWER: bacillus [accept bacilli]

[10] Microbes that have a rigid helical structure are described by this word, which contrasts with the flexible and more motile spirochete form.

ANSWER: spirillum

13. Identify the following about Nile River mythology, for 10 points each:

[10] Set tricked this god into getting into a box fitted to his body, then sealed the box with lead and threw it into the Nile. This god's body was later recovered from a tree in Byblos by his wife Isis.

ANSWER: **Osiris** [or **Usiris**; or **Asari**; or **Aser**; or **Ausare**; or **Wesir**; or **Usire**]

[10] The crocodile god Sobek, who regularly hung out in the Nile, once used a net to rescue the four canopic jar-guarding sons of this deity.

ANSWER: **Horus**

[10] This early god was worshipped as both the source of the Nile and the creator of humanity, which he made out of clay on his potter's wheel.

ANSWER: **Khnum** [or **Khnemu**]

14. One of these sculptures was commissioned for a stairwell in the Museum of Modern Art and is titled *Lobster Trap and Fish Tail*. For 10 points each:

[10] Name these kinetic sculptures originated by Alexander Calder, who also made stabiles ["stay-biles"].

ANSWER: **mobiles**

[10] This American sculptor is known for making ridiculously large versions of household items, such as a huge lipstick he made for Yale's campus and an upside down ice cream cone on top of a shopping mall in Germany.

ANSWER: Claes **Oldenburg**

[10] This minimalist sculptor often uses large sheets of metal in his works, such as *Tilted Arc*, which was commissioned for a New York City plaza but removed after people thought it was too obnoxious.

ANSWER: Richard **Serra**

15. Identify the following about the short story collection *Mosses from an Old Manse*, for 10 points each.

[10] It was written by this early American author, who also penned such novels as *The House of the Seven Gables* and *The Scarlet Letter*.

ANSWER: Nathaniel **Hawthorne**

[10] It contains this story, set in medieval Padua, in which the title character is forced by her scientist father to raise poisonous plants and ends up becoming poisonous herself.

ANSWER: "**Rappacini's Daughter**"

[10] It was the subject of this author's critical essay *Hawthorne and His Mosses*. This man's own short works include a collection that contains the stories "The Lightning-Rod Man" and the novella *The Encantadas*.

ANSWER: Herman **Melville**

16. A compound in which four atoms of this element are bonded to a central xenon atom was the first known compound to include a noble gas and another element. For 10 points:

[10] Name this halogen which appears above chlorine on the periodic table. It is the most electronegative element.

ANSWER: **fluorine** [or **F**]

[10] Prior to its enrichment, this element is converted into its hexafluoride, after which it is stored as a dioxide. This element has atomic number 92.

ANSWER: **uranium** [or **U**]

[10] Fluorodeoxyglucose is often used as a radiotracer in this technique, in which gamma radiation resulting from the movement of its namesake particle is detected.

ANSWER: **PET** [or **positron emission tomography**; accept word forms]

17. This modern day country was where General Charles George “Chinese” Gordon was killed. For 10 points each:

[10] Name this African country currently led by Omar al-Bashir, which recently experienced the bloody Darfur war. Its southern portion became an independent nation in 2011.

ANSWER: Republic of the Sudan [accept North Sudan]

[10] General Gordon died fighting against the forces of Muhammad Ahmad, who proclaimed that he was the incarnation of this figure, the predicted messianic Islamic redeemer. Many Shiites believe this figure to be the Twelfth Imam.

ANSWER: the Mahdi

[10] In this September 1898 battle, Herbert Kitchener’s forces decisively defeated the Mahdist forces near Khartoum. Winston Churchill was present at it and criticized the bloody actions of the victorious British.

ANSWER: Battle of Omdurman

18. Einstein’s three *Annus Mirabilis* papers in 1905 included ones describing the photoelectric effect, Brownian motion and this theory. For 10 points each:

[10] Name this theory contrasted with a later similarly named “general” theory, a theory predicated on the observation that the speed of light is constant in all frames of reference.

ANSWER: special relativity [or SR; prompt on “relativity”]

[10] One prediction of special relativity is this phenomenon, in which objects moving near the speed of light appear shortened along the axis parallel to the direction of motion.

ANSWER: length contraction [or Lorentz-Fitzgerald contraction]

[10] The ladder paradox is used to illustrate that in the theory of special relativity, this concept is not absolute. In the paradox, two different observers disagree about whether or not the ladder hits the end of the barn before it is fully inside.

ANSWER: simultaneity [accept word forms]

19. The ninth of these poems asserts “Here is the age of the sayable; here is its home. Speak, and be witness,” while the first famously opens by asking “Who, if I cried out, would hear me among the angelic orders?” For 10 points each:

[10] Identify this cycle of ten poems, written while their author was visiting Princess Maria von Thurn und Taxis in the namesake castle in Trieste.

ANSWER: the Duino Elegies [or die Duineser Elegien]

[10] The *Duino Elegies* were written by this German-language poet of the *Sonnets to Orpheus*, who ended his poem “Archaic Torso of Apollo” with the exhortation “You must change your life.”

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

[10] This female poet wrote over two hundred poems dedicated to Collaltino di Collalto. She appears as an exemplar of unrequited love in the first *Duino Elegy*, which asks if the reader has “remembered” her “sufficiently yet”.

ANSWER: Gaspara Stampa

20. This religious man went on five journeys known as *Udasi*. For 10 points each:

[10] Name this founder of a major world religion whose holy title is currently held by a book.

ANSWER: Guru Nanak

[10] Guru Nanak is the founder of this religion, based at the Golden Temple of Amritsar, whose holy book and current guru is the *Adi Granth*.

ANSWER: Sikhism

[10] This word, which literally means “wonderful teacher,” is a Sikh term for God. The phrase *ik onkar* typically refers to this term that signifies one supreme being.

ANSWER: Waheguru [or Vahiguru]

21. In one version of this technique, samples are blotted onto a silica or alumina coating on the titular sheet, which is placed into a solvent that rises upwards. For 10 points each:

[10] Name this class of techniques that allow for the separation of mixtures into its components. The aforementioned procedure is used in its “thin layer” variant, and it also comes in “high performance liquid” type.

ANSWER: **chromatography**

[10] In most chromatography columns, the solid phase has this property while the liquid phase does not. Water expresses this property, which arises from unequal sharing of electrons in covalent bonds.

ANSWER: **polarity**

[10] The efficiency of a chromatography column is proportional to the eddy and longitudinal diffusion, linear velocity and resistance to mass transfer, according to this equation.

ANSWER: **Van Deemter** Equation