Chicago Open 2015
Packet by Scale Abrasions Produced by Unexpected Shifts in Rock Formations (Jordan Brownstein, Selene Koo, John Lawrence, and Seth Teitler)

1. The decorations on this structure quote local sculptures of "Big Barbarians" known through copies found near Rome, and the pose of the Farnese Hercules is echoed in its depiction of Hercules finding a baby exposed on Mount Parthenion. This structure was built on a terrace flanked by a higher terrace holding the temple of Athena Polias Nikephoros and a lower terrace holding the upper agora and the temple of Hermes. It includes depictions of King Teuthras meeting the princess Auge, of a hero founding the cult of Dionysus Kathegemon, and of that same hero being wounded by Achilles at the River Kaikos. (*) This structure inspired an enormous dais that was surrounded by powerful searchlights pointed straight up to produce a "Cathedral of Light" during nighttime rallies. In addition to a series depicting its home city's mythical founder Telephus, it was decorated with a frieze depicting the Gigantomachy. The *Zeppelintribune* in Nuremberg was modeled in part on this artifact, which Albert Speer studied at its current home on Museum Island in Berlin. For 10 points, name this huge structure commissioned by Eumenes II, a king of its namesake city in Asia Minor.
ANSWER: **Pergamon Altar** [or Great **Altar** of Zeus and Athena at **Pergamon** or **Pergamene Altar**; accept **Pergamum** in place of Pergamon] [ST]

2. The essay "Fame" recounts this author's failed attempt to tell a columnist about the publication of her first book, which resulted in a note that Mr. and Mrs. Farrar-straus of New York City would soon be visited by Mrs. Stanley Hyman and family. In a short story by this author, Mr. Malkin realizes that his wife is "the most terrible women he had ever seen" from her reaction after she kills a pregnant mouse. The first paragraph of one of her novels begins "No live organism can continue for long to exist sanely under conditions of absolute reality," and declares that at the title location, (*) "whatever walked there, walked alone." John Philip Johnson feeds a young boy the title snacks in a story by this author which reveals that he and his wife swap between helping and hurting others. She also wrote a novel about Eleanor Vance, who participates in an experiment to find evidence of the supernatural at the title mansion. For 10 points, name this author of "One Ordinary Day, With Peanuts" and *The Haunting of Hill House*.
ANSWER: Shirley (Hardie) **Jackson**

3. This thinker argued that the numinous, the moral ought, and the moral guardian are the three strands of all religious impulse, but the fourth strand of the "historical event" is unique to Christianity. This thinker's argument that naturalism is self-defeating led to a 1948 debate at the Oxford Socratic Club with G.E.M. Anscombe about his book, *Miracles*. He claimed that Christianity is the story of a rightful king arriving incognito in enemy-occupied territory to fight the devil in a lecture titled (*) "What Christians Believe". He borrowed from Vincentius of Lerins the concept of reducing Christianity to only those principles that were believed "always, everywhere, by everybody", and he adapted a term from Richard Baxter to describe that form of Christianity. The argument that Jesus was either a lunatic, a fiend, or the Son of God is this man's "trilemma", which he presented in a series of BBC radio broadcasts delivered during World War II. For 10 points, name this English Christian apologist of *The Problem of Pain* and *Mere Christianity*.
ANSWER: C(live) S(taples) **Lewis**

4. With the alleged goal of "Development through Cooperation," this group forced thousands of students to educate peasants in the zemecha campaign. Following its nationalization of urban lands, this group and the associated MEISON party organized city dwellers into associations called kebeles. On "Bloody Saturday," this group ordered the execution of sixty imprisoned government officials and sent gunmen to kill the head of PMAC, General Aman. This group seized full power after the airing of a BBC documentary about the Tigray and (*) Wollo famines, though it would later ignore a famine which inspired Bob Geldof's Live Aid concert. This regime defeated Siad Barre in the Ogaden War. This government began a "Red Terror" campaign against dissident groups after a shootout with supporters

of Tafari Banti left Mengistu Haile Mariam in charge. For 10 points, name this Communist regime that overthrew Haile Selassie in 1974 and ruled Ethiopia until 1987.
ANSWER: The **Derg** [JB]

5. These cells contain cytoplasmic Charcot-Bottcher bodies and express the transcription factor ERM. Patients with Carney complex and Peutz-Jeghers syndrome may have large cell calcifying tumors of these cells, which can form small nodules called Pick's adenomas in a condition that may be caused by improper development of the gubernaculum. High levels of FGF9 and SOX9 contribute to differentiation of these cells, whose basal ectoplasmic specializations, tight junctions, and desmosomes form a barrier with blood. They produce anti-Mullerian hormone and secrete (*) androgen-binding protein and inhibin, and their development is directed by SRY. These cells phagocytose residual bodies after acrosome and tail formation in adjacent haploid gametes. For 10 points, name these "nurse" cells that support spermatogenesis in the testicle.
ANSWER: **Sertoli** cells [SK]

6. This philosopher built on the ideas of P.F. Strawson in a work that distinguishes between "attribution" as the logical joining of predicates to individuals and "ascription" which imputes agency to the individual's action. He suggested that Nietzsche was responsible for making "I think, therefore I am" unviable as a basis for philosophical knowledge, a state that he called the "shattered *cogito*", and he grouped Nietzsche with Freud and Marx as the three progenitors of what he called the "hermeneutics of suspicion." (*) One work by him discusses "sameness" and "selfhood" as the two components of "identity". In one work, he identified the calendar, the succession of generations, and the archive as the three conditions of "historical time", a concept opposed to "human time". In another work, this author of *Oneself as Another* suggested that the disproportionation between *logos* and *bios* is what creates man's capacity for evil. For 10 points, name this French hermeneutic philosopher of *Fallible Man* and *Time and Narrative.*
ANSWER: Paul **Ricoeur**

7. The finale of one of these works by this composer is a fugue whose subject begins with a chromatic descent from D to E a seventh below. That piece is the first of two of these works by this composer in D minor, which are the only two of these works in a minor key. The line "I know what I like in [their composer]" concludes an 1832 analysis by Gottfried Weber of the opening measures of one of these works. That one of these works by this composer opens with the instruments entering on the following pitches, in ascending order: C - A-flat - E-flat - A-natural. They are not by Beethoven, but the imitation of horn calls in the opening movement of the (*) seventeenth of these works, in B-flat, earns it the nickname "The Hunt". The discordant opening of the nineteenth of these, in C major, has earned it the nickname "Dissonance". Six of these pieces were named for and dedicated to Joseph Haydn, beginning with K. 387 in G major. For 10 points, name these chamber works for two violins, viola, and cello, by the composer of the *Jupiter Symphony*.
ANSWER: **string quartets** by Wolfgang Amadeus **Mozart** [prompt on partial answer] [JL]

8. Clayton Eshleman used "Rednuhtetum" as an English version of the nonsense word "Odumodneurtse" in his translation of a poem by this author which begins "I think about your sex." This author responded to Ruben Dario's poem "I'm searching for a form" with a poem in which the missing arm of the Venus de Milo reminds him of the imperfection of existence. Another of this author's poems begins and ends with the line "there are blows in life so powerful … I don't know!" He declared "These are the witnesses: the Thursdays, and the bones of my arms, the solitude, and the rain, and the roads" in a poem which predicts "I will die in Paris on a rainy day," (*) "Black Stone Lying on a White Stone." This author of the poetry collections *The Black Heralds* and *Spain, Take this Cup from Me* wrote the poems in his most famous book after being imprisoned in 1920. For 10 points, name this author of the modernist poetry collection *Trilce*, an early 20th century poet from Peru.
ANSWER: Cesar **Vallejo**

9. Donald Martin proved the Borel determinacy theorem, which holds when this value's namesake set is a Borel set. The characteristic function becomes vector-valued when this value is

nontransferable. The Shapley value is the only method for choosing this value for each member in a coalition in a way that has the desirable properties of being symmetric, linear, and efficient, and ignoring members who generate no surplus. This value for an individual sets the individual's best alternative to a negotiated agreement; summing this value for each individual in a coalition and adding the surplus gives its value for the coalition. A pair of inequalities on these values gives the conditions for an evolutionarily stable strategy, (*) a result worked out by George Price and John Maynard Smith. These values are listed at the terminal nodes of extensive form representations, while a normal form representation consists of a matrix whose entries are these values, facilitating identification and iterated deletion of dominated strategies. For 10 points, name these values which, for a given strategy profile, indicate the rewards to each player in a game.
ANSWER: **payoff**s [accept **utility** to a player]

10. In this country, didactic images like "Watch Yourself or You'll Be a Product for Sale" advised women against prostitution. A former actress from this country became a leader of a radical group called the "Enraged Ones." In this country, Etta Palm founded a women's rights group called the Confederation of the Friends of the Truth. During a religious ceremony in this country, Sophie Momoro (*) was enthroned as the personification of a Goddess. The term "fishwives" is often applied to a group of women from this country who responded to rumors about a "famine plot" and to high bread prices by leading a march during which two Swiss Guards were killed. A female playwright from this country authored the *Declaration of the Rights of Woman and the Female Citizen*. A political leader from this country was assassinated by Charlotte Corday, a Girondist sympathizer. For 10 points, name this country where women marched on Versailles early in the Revolution.
ANSWER: **France** [JB]

11. 102 members of this ethnic group arrived on the ship SS Gaelic. One member of this ethnic group was a member of the House of Representatives succeeded by Gary Miller who illegally received 230 thousand dollars of campaign contributions for his 1992 election. A protest against a business owned by a member of this ethnic group was boycotted at the instigation of Sonny Carson, and was not resolved by Mayor David Dinkins visiting the store; that event occurred in Flatbush and was called the Red Apple Boycott. One member of this ethnic group and member of the US military came out of the closet on the (*) Rachel Maddow show. One member of this ethnic group shot Latasha Harlins after seeing her put a bottle of orange juice in her backpack. Several members of this ethnic group were known as Western Princesses. During an event referred to by members of this ethnic group as "4-2-9", members of this ethnicity were pictured standing on the roof of a store with assault rifles. For 10 points, name this ethnic group, several of whose members owned shops that were attacked during the 1992 Los Angeles Riots.
ANSWER: **Korean**-Americans

12. Three of these figures meet at each edge of the 120-cell, which consists of a total of 120 of these figures. The Poincaré homology sphere and the Weber-Seifert space are constructed by applying two different amounts of twisting, and then gluing opposite portions of this figure. The Schläfli symbol {5,3} corresponds to this figure. Three of the four objects named for Kepler and Poinsot are named for and derived from this figure, including the small and great stellated variants of it. It is possible to find a path that visits each of this figure's vertices precisely once and then ends back at the starting point, (*) a task that is the goal set by William Hamilton in the icosian game. For a prescribed volume, this figure has the smallest edge length of any regular, convex polyhedron. For 10 points, name this Platonic solid with 30 edges, which is the dual of the icosahedron, has faces that are regular pentagons, and has 12 faces.
ANSWER: (regular) **dodecahedron** [ST]

13. One play by this author contains a story in which a girl kills her abusive father by hiding razor blades in figurines carved out of apples, which she begs her father not to eat. In that play by him, two parents torture one of their sons at night while the other sleeps, so that the latter son will have disturbing nightmares that will improve his imagination. Two characters created by this author try to use shoe polish to paint an animal named Sir Roger, (*) to replace an animal one of them thinks he

ran over with a bicycle. This author wrote a play set in a dystopian state, in which detectives Ariel and Tupolski interrogate Katurin about the connection between his dark fairy tales and a series of child murders. In another play by him, the supposed death of the cat Wee Thomas sends the title INLA operative Mad Padraic on a murder spree. For 10 points, name this contemporary Irish playwright of extremely dark comedies like *The Pillowman*, who included *The Lieutenant of Inishmore* in his *Aran Islands* trilogy.
ANSWER: Martin **McDonagh**

14. An artist with this last name painted four murals, including *Discovery of the Land*, for the Library of Congress. That artist also created the double mural *War and Peace* for the UN Headquarters in New York City and decorated Pampulha's Chapel of São Francisco, which was built by Oscar Niemeyer. Brazilian artist Cândido shared this surname with Folco, the founder of the Hospital of Santa Maria Nuova, where Leonardo da Vinci carried out early dissections. A woman with this surname stands on a chariot drawn by a griffin, accompanied by the four Apostles, in one of a set of 102 watercolors made at the end of William Blake's life; the same woman and her companion see the (*) heavenly host in two of the last entries in a series of engravings by Gustave Doré. This was the married last name of Maria Baroncelli, who appears with her husband Tommaso and their children kneeling on either side of a panel depicting the Adoration of the Shepherds in a triptych that was sent to Florence after it was painted in Bruges. For 10 points, give the surname shared by the commissioner of a Hugo van der Goes altarpiece, and by Dante's beloved Beatrice.
ANSWER: **Portinari** [accept Cândido or Folco or Beatrice or Maria or Tommaso **Portinari** or **Portinari** Altarpiece] [ST]

15. Sulfonating this compound creates the water-soluble compound TPPTS. Chloride, carbon monoxide, and two of this molecule are the four ligands for one compound that reacts reversibly with dioxygen and dihydrogen and has a central iridium atom. Three molecules of it are ligands in a 16-electron rhodium-containing homogeneous catalyst for hydrogenation. In addition to Vaska's complex and (*) Wilkinson's catalyst, this molecule with a cone angle of 145 degrees reacts with diethylazodicarboxylate to form an intermediate that activates the oxygen atom of an alcohol as a leaving group in the Mitsunobu reaction, and converts azides to primary amines in the Staudinger reaction. It reacts with an alkyl halide, then with a strong base, to generate a phosphorane commonly used in a reaction that may proceed through a betaine intermediate. For 10 points, name this bulky phosphine used in the Wittig reaction.
ANSWER: **triphenylphosphine** or **triphenylphosphane** or **PPh$_3$** or **Ph$_3$P** [SK]

16. A queen of this realm, whose epithet referred to her "furzy hair," had an affair with one of her husband's poets, who was condemned to death, asked to be drowned, and then repeatedly recited a poem that caused water to drain away every time he was brought to a lake to carry out the sentence. In one tale, the men of this kingdom saw the Sun darken and the Moon turn the color of blood at the moment of the Crucifixion; upon hearing the cause, this realm's king went into a rage, and died a Christian when he was baptized by the gush of blood from his seven-year-old head wound. The name of this kingdom's capital stemmed from an incident in which all but one man of this kingdom was cursed when a woman pregnant with twins was forced to (*) race against the king's horses. Woe came to this kingdom when its king ordered the treacherous killing of the sons of Uisneach so he could reclaim the most beautiful woman in the world, Deirdre. For 10 points, Conchobar was the ruler of what Irish kingdom whose hero Cuchulainn features prominently in its namesake mythic cycle?
ANSWER: **Ulster**

17. A holder of his position almost went to war after receiving horse dung wrapped in a blanket instead of gold as tribute. Individuals with this position are listed on a "Name-List," or "nominalia," manuscript which also preserves a calendar with divisions like Mouse, Ram, and Boar. A holder of this position commissioned a rock relief of a lion-hunting horseman called the Madara Rider. That holder of this position, named Tervel, won the first Battle of Anchialus and later helped end a siege conducted by Maslama ibn Abd al-Malik. The *Chronographia* (*) of Theophanes the Confessor details a 17-day standoff between Constantine VI and a holder of this position named Kardam. The first holder of this position, Asparukh, was the son of the chieftain Kubrat. After the sacking of his capital at Pliska, a

holder of this position known as the "New Sennacherib" defeated Nicephorus I and made a drinking cup out of his skull. For 10 points, name this position held by Krum, whose holders ruled a Balkan people that often warred with the Byzantines.
ANSWER: **Khan** of **Bulgaria** [accept terms like **king**, **monarch**, **emperor**, etc. for "khan"; accept the **Bulgar**s or the **Bulgarian**s for "Bulgaria"] [JB]

18. A factor of the square root of the density of states translates from discrete to continuous eigenfunctions, and from discrete to continuous amplitudes of this quantity, when the box normalization is employed for an operator whose eigenvalue spectrum includes a set of discrete values and a continuous range of values. The continuity equation for this quantity contains a term equal to the divergence of the real part of the conjugate of the wavefunction times minus i h-bar over m times the gradient of the wavefunction; (*) the expression acted on by the divergence defines this quantity's current density. When this quantity is well-defined, it must be conserved, a requirement that implies that the Hamiltonian must be Hermitian. This quantity is not well-defined for systems described by plane waves and other non-square-integrable wavefunctions. For 10 points, the square of the wavefunction was interpreted by Max Born as the density of what quantity, the likelihood of a given state?
ANSWER: **probability** density [ST]

19. Jesse Byock cited a passage describing this man's exceptionally large, heavy skull as being ridged all over like a scallop shell, and strong enough to survive an axe blow, as one piece of evidence supporting the hypothesis that this man suffered from Paget's disease. When a ten-year-old bests him at a ball-game, he responds like any normal seven-year-old, picking up a halberd and putting the blade through the skull of his opponent. As a child, he wins three sea-snail shells and a duck's egg for composing a stave (*) describing his ride to Swan-ness. When he is handed a poisoned drinking horn, he pricks his palm, scratches runes on the horn, smears blood on them, then recites a poem that causes the horn to burst. That horn was poisoned by his nemesis, a daughter of Auzur Toti named Gunnhilda who marries Eric Bloodaxe. For 10 points, name this famed skald, the title character of an Icelandic saga, who was the son of Skallagrim.
ANSWER: **Egil** Skallagrimsson [accept "**Egil Skallagrimsson's Saga**" or other equivalents]

20. David Hartley claimed that this process worked through the creation of traces by "vibratiuncles". Robert Hooke compared this process to phosphorescence's re-emission of light from a no longer present source, in a 1682 treatise on a "Hypothetical Explication of" this process. Participants were asked to retell the Canadian Indian "War of the Ghosts" story in a study by Frederic Bartlett that suggested that this process is reconstructive rather than reproductive. In the Roman Empire, lawyers owned slaves called *graeculi* whose sole job was to employ this process. Henri Bergson divided this into a "pure" form (*) that preserves the spiritual essence of an occurrence and a "habit" form that reproduces an idea as a biological mechanism. The *Rhetorica ad Herennium* influenced Quintillian and Cicero's advocacy of the "method of loci" in which this process is improved by mentally placing objects in rooms within a palace. For 10 points, name this process of storing and retrieving information in the mind.
ANSWER: **memory** [accept obvious equivalents like "**remember**ing"]

Extra/TB

Dagenham Couriers employs people trained in this technique in a 1956 novel whose protagonist performs an advanced form of this technique six months before his distress signal is ignored by the *Vorga*. A real-life form of this technique built on the idea that global measurements of the double trine ensemble outperform any sequence of local measurements, a conjecture advanced by Asher Peres and William Wootters; Charles Bennett was lead author on the paper describing how that form of this technique could proceed through use of "Dual Classical and EPR Channels." Fictional variants of this technique are performed by Gully Foyle in Alfred Bester's novel *The Stars My Destination*, and by André Delambre, whose wife Helene crushes his head and arm in a hydraulic press in a short story by George Langelaan. That story inspired a 1986 film in which this technique causes trouble for scientist Seth Brundle, played by Jeff Goldblum. For 10 points, a

technique for sending exact information on a quantum state from one point to another is named for what process that triggers the events of David Cronenberg's *The Fly*?
ANSWER: **teleportation** [accept **quantum teleportation**; accept space-**jaunting** before "global"] [ST]

1. This empire's greatest king, Krishnadevaraya, patronized eight poets called the "elephants in eight directions." For 10 points each:
[10] Name this South Indian empire founded by Harihara. It was beaten by an alliance of Deccan sultanates at the Battle of Talikota.
ANSWER: **Vijayanagar**a Empire [or **Karnata** Empire; or Kingdom of **Bisnegar**]
[10] This sultanate with a capital at Bidar warred with the Vijayanagara empire before breaking into the Deccan sultanates. The administration of this sultanate was reformed by the Persian vizier Mahmud Gawan.
ANSWER: **Bahmani** Sultanate
[10] Vijayanagar was described as "the best provided city in the world" by Domingo Paes, a traveller from this country. The empire had earlier formed an alliance with Afonso de Albuquerque, the Duke of this country's colony in Goa.
ANSWER: **Portugal** [JB]

2. The protagonist of this operetta instills the spirit of the French Revolution into his comrades with the marching song "Stouthearted Men." For 10 points each:
[10] Name this operetta with music by Sigmund Romberg, in which Robert Misson founds a republic near New Orleans after being rescued from the title ship. Its songs "Lover Come Back to Me" and "Softly as in a Morning Sunrise" became jazz standards.
ANSWER: *The **New Moon***
[10] This lyricist co-wrote the libretto to *The New Moon* along with Frank Mandel and Laurence Schwab. He collaborated with Richard Rodgers on such shows as *Oklahoma, Carousel*, and *The Sound of Music*.
ANSWER: Oscar **Hammerstein** II
[10] The songs "Ol' Man River" and "Can't Help Lovin' Dat Man" appear in *Show Boat*, a 1927 musical with words by Hammerstein and music by this composer, who wrote "The Way You Look Tonight" for the Fred Astaire and Ginger Rogers film *Swing Time*.
ANSWER: Jerome **Kern**

3. Many notable conductors of the composer's works, such as Leonard Bernstein and Rafael Kubelik, opted to record this symphony's Adagio movement, but none of the remaining music. For 10 points each:
[10] Name this symphony in F-sharp major, whose five movements were intended to included two scherzos flanking a middle "Purgatorio" movement.
ANSWER: Gustav **Mahler**'s Symphony No. **10**
[10] The standard performing version of Mahler's Tenth Symphony was prepared by this English musicologist and author of *The Language of Music*, who coined the term "Bruckner Problem" in response to the many editions of that composer's work.
ANSWER: Deryck **Cooke**
[10] Colin Matthews, who collaborated with Cooke on one edition of Mahler's Tenth, is perhaps better known for writing an additional "Pluto" movement for this English composer's suite *The Planets*. Unfortunately for Matthews, Pluto lost its status as a planet six years later.
ANSWER: Gustav **Holst** [JL]

4. This website's official mascot is an alien named Snoo. For 10 points each:
[10] Name this website, the so-called "front page of the internet". Banned sections of this website include one devoted to hating on fat people.
ANSWER: **Reddit**
[10] A huge controversy erupted over the appointment of this person as interim CEO of Reddit. She previously achieved some notoriety for filing a gender discrimination suit against her former employer, Kleiner Perkins.

ANSWER: Ellen **Pao**
[10] One of the developers of Reddit was this person, who also helped developed RSS. He committed suicide after he was arrested at MIT for downloading large amounts of academic papers from JSTOR.
ANSWER: Aaron **Swartz**

5. The originator of this concept proposed it in a 1989 paper of the same name in which she gave the example of beavers splashing their tails to warn of danger and bees dancing to indicate the location of honey. For 10 points each:
[10] Identify this concept developed by Ruth Millikan which explains intentionality in terms of its function for its "consumer," meaning, the organism that makes use of it.
ANSWER: **biosemantics**
[10] Millikan was a student of this philosopher who taught at the University of Pittsburgh and criticized the "Myth of the Given" in his *Empiricism and the Philosophy of Mind*.
ANSWER: Wilfrid Stalker **Sellars**
[10] In books such as *White Queen Psychology*, Millikan has argued for a naturalistic development of this kind of theory of truth, which holds that the truth of a proposition depends on how it relates to the facts about the world.
ANSWER: **correspondence** theory

6. Name these ejecta and deposits produced by volcanoes, for 10 points each:
[10] This term denotes the smallest class of pyroclasts, consisting of fragments less than 2 millimeters in diameter. Eruption columns loft this opaque material and aerosols into the atmosphere, in some cases into the stratosphere, where it can cause a volcanic winter.
ANSWER: **ash**
[10] Lithified deposits of ash are known by this term. If the deposits include lots of angular fragments the resulting rock is instead a breccia, while if the deposits include larger pyroclasts the rock is called an agglomeration.
ANSWER: **tuff**s
[10] Some tuffs are examples of these pyroclastic flow deposits. They are mostly made of pumice and ash.
ANSWER: **ignimbrite**s [ST]

7. An attempt to kill Aziz Nesin for doing this led to the death of thirty-seven people in the Sivas massacre in Turkey. For 10 points each:
[10] Name this literary action for which Hitoshi Igarashi was killed and for which Ettore Capriolo was stabbed.
ANSWER: **translating *The Satanic Verses***
[10] *The Satanic Verses* was originally published by The Viking Press, an imprint of this publisher, whose other imprints include Puffin Books for children and its Classics imprint, which features a black band at the bottom.
ANSWER: **Penguin** Group [or **Penguin Random House**]
[10] In 1963, Penguin's African Writers series published *Mine Boy*, a novel by this South African author of *A Wreath for Udomo* and the memoir *Tell Freedom*.
ANSWER: Peter **Abrahams**

8. The lid of a vessel containing this substance is connected to a vessel of water with a cotton thread during a seven hour purification ceremony. For 10 points each:
[10] Name this fluid known as *gomez*, which becomes nirang after being consecrated by priests in the *nirangdeen* ritual.
ANSWER: **bull urine** [or obvious equivalents; prompt on partial answers]
[10] After the body of a dead Zoroastrian is washed in bull urine, one of these animals is sent to examine the corpse in the Sagdid ceremony.
ANSWER: **dog**s
[10] The body can then be carried on an iron bier to one of these places, where it is disposed of by vultures.
ANSWER: **Towers of Silence** [or **dakhma**s]

9. Answer some questions about stolen objects from British novels, for 10 points each.
[10] The title gem in this Wilkie Collins novel was originally stolen from a temple in India, and then is stolen again during the celebrations for Rachel Verinder's eighteenth birthday.
ANSWER: The *__Moonstone__*
[10] Reverend Josiah Crawley is blamed for stealing a check worth 20 pounds in this novel by Anthony Trollope, which follows *The Small House at Allington*.
ANSWER: The *__Last Chronicle of Barset__*
[10] P.G. Wodehouse's *The Code of the Woosters* centers around Bertie and Jeeves' attempts to steal this silver collector's object from Sir Watkyn Bassett, who'd bamboozled Bertie's Uncle Tom out of it by enticing him to eat lobster, leading to a massive indigestion attack.
ANSWER: __cow creamer__ [JL]

10. The most perfect sphere ever created is made of fused quartz coated with a thin layer of niobium. For 10 points each:
[10] The sphere was made for use as a gyroscope in this satellite mission launched in 2004, which found that the geodetic effect and frame-dragging effect agree with the predictions of general relativity.
ANSWER: __Gravity Probe B__
[10] A single crystal of silicon has been fashioned into a sphere that is almost as perfect, as part of the Avogadro Project, an effort to redefine this SI base unit, the last one to be defined by an artifact.
ANSWER: __kilogram__
[10] An alternative approach to redefining the kilogram by fixing the value of Planck's constant draws on these two effects, which join the single-electron transport effect to form the quantum metrology triangle.
ANSWER: __Josephson__ effect and integer __quantum Hall__ effect [accept answers in either order] [ST]

11. After recovering from a near-fatal illness, this artist began a series of religious paintings, including *The Crucifixion*, *The Mocking of Christ*, *Pentecost*, and a version of *The Last Supper* in which the faces of Christ and the Apostles are strikingly rendered in yellow, green, and red. For 10 points each:
[10] Name this artist whose last works were primarily oil-paintings that gave expanded treatments of a series of small watercolors that he referred to as his "unpainted pictures," which he made in secret during World War II while he was forbidden from painting.
ANSWER: Emil __Nolde__ [accept Emil __Hansen__]
[10] Nolde was briefly a member of this German Expressionist group whose founders included Fritz Bleyl, Erich Heckel, and Ernst Kirchner.
ANSWER: Die __Brücke__ or The __Bridge__
[10] Perhaps Nolde's most famous woodcut is this rough, black-and-white image of the title religious man's gaunt face, made in 1912. It is now part of MoMA's collection.
ANSWER: *The __Prophet__* [or *Der __Prophet__*]

12. The founder of this company, John Blunt, operated the Hollow Sword Blade Company before suggesting that this company be used to finance government debts. For 10 points each:
[10] Name this joint-stock trading company which names a 1720 "bubble" that occurred in England when thousands bought this company's worthless stocks.
ANSWER: __South Sea__ Company
[10] The South Sea Bubble, with Tulip mania and the Mississippi Bubble, is described in the first volume of this work about various instances of mob mentality and superstition by Charles MacKay.
ANSWER: *Memoirs of __Extraordinary Popular Delusions__ and the __Madness of Crowds__* [accept either underlined portion]
[10] The increased activity of poachers following the collapse of the South Sea Bubble inspired this Robert Walpole-supported act, which introduced the death penalty for being found in disguise in a forest.
ANSWER: __Black__ Act [JB]

13. A suspension with this substance can be placed between two sodium chloride discs. For 10 points each:

[10] Name this mix of alkanes made by Plough. It has characteristic peaks at 1380 and 1470 and between 2950 and 2800 nm^{-1} [inverse nanometers].
ANSWER: **Nujol** (prompt on "mineral oil")
[10] Nujol mulls and potassium bromide pellets are sample preparation techniques for this spectroscopic technique that requires a change in a molecule's dipole moment. The readout has a fingerprint region.
ANSWER: **infrared** spectroscopy or **IR** spectroscopy
[10] If the dispersion of sample particles in Nujol is nonuniform and the particles are too large, IR absorbance bands may become distorted due to this type of scattering, which depends on the refractive indices of the sample and matrix.
ANSWER: **Christiansen** scattering or effect [SK]

14. She runs off to the woods and lives as a Bacchante after she is infected with rage by a serpent plucked from the head of Allecto. For 10 points each:
[10] Name this queen who hangs herself in despair when she believes her chosen son-in-law is dead.
ANSWER: **Amata**
[10] This prince of the Rutuli and foe of Aeneas is Amata's choice to marry her daughter Lavinia. The last lines of the *Aeneid* describe his shade moaning resentfully as it flees to the underworld.
ANSWER: **Turnus**
[10] Latinus resists Amata's efforts to give Lavinia to Turnus in part because of a prophecy delivered by this god, stating that Lavinia should marry a foreign prince. During the climactic final battle, Aeneas's spear is temporarily stuck in the stump of a tree sacred to this god.
ANSWER: **Faunus** [ST]

15. The ninth of these works lambasts the slaveowners of Charleston, South Carolina, while the fourth through eighth ones describe Martha's Vineyard and Nantucket. For 10 points each:
[10] Name this collection published in 1782 about the fictional correspondence between the title character, James, and the English gentleman Mr. F. B.
ANSWER: *Letters from an American Farmer*
[10] After emigrating to New York, this French author wrote *Letters from an American Farmer*.
ANSWER: John Hector St. John de **Crevecoeur**
[10] The title of American farmer's third letter asks this question. Crevecoeur observes that in the United States, "individuals from all nations are melted into a new race of men" in his lengthy answer to this question, and explicitly identifies the answer as "a new man, who acts upon new principles."
ANSWER: *What is an American?* [or *What is the American?*]

16. This man engaged in a feud with Simon Wiesenthal after Wiesenthal criticized his support for the Freedom Party's Friedrich Peter, a former SS member. For 10 points each:
[10] Name this Chancellor of Austria who served from 1970 to 1983. He attracted the ire of Golda Meir for giving into terrorist demands by closing the Schonau transit center, a camp for Russian Jews immigrating to Israel.
ANSWER: Bruno **Kreisky**
[10] Bruno Kreisky was a member of a party by this name, which shared power in the cabinet with the OVP under the Proporz system. Another party by this name is a major party of Germany along with the sister parties of the Christian Democratic Union and the Christian Social Union.
ANSWER: **Social Democratic** Party [or **SPD**; or **Sozialdemokratische** Partei Deutschlands; or **SPA**; **Sozialdemokratische** Partei Österreichs; or **Socialist** Party of Austria; or **Sozialistische** Partei Österreichs]
[10] Kreisky strongly supported the opening of one of these places at Zwentendorf. One of these places in Britain was at the center of the Windscale incident.
ANSWER: **nuclear** power plants [or nuclear **reactor**s; or obvious equivalents] [JB]

17. At the end of this novel, the title character's hand is mutilated in an accident when a harpoon arrow pins her to the sea floor. For 10 points each:
[10] Identify this novel which ends with Darley receiving a letter from the title character whose handwriting he does not recognize because it's written with the help of a prosthesis. The letter tells of how the title character once again met Justine and Nessim.

ANSWER: **Clea**
[10] *Clea* is the last novel of the *Alexandria Quartet* of this English writer.
ANSWER: Lawrence George **Durell**
[10] In addition to the *Alexandria Quartet* and the *Avignon Quintet*, Durrell also wrote a series of "Island Novels," which are really nonfiction memoirs of his time in the Mediterranean. This first "Island Novel," tells of Durrell's time on Corfu, and was followed by *Reflections on a Marine Venus* and *Bitter Lemons*.
ANSWER: **Prospero's Cell**

18. Answer the following about archaeologist Ian Hodder, for 10 points each:
[10] Hodder is the principal excavator at this Neolithic settlement in Turkey, whose houses were built wall-to-wall, with no streets, and access generally involving climbing down a ladder through a hole in the roof.
ANSWER: **Çatalhöyük**
[10] Hodder selected Çatalhöyük as a testbed for his approach to archaeology, which is said to be "post-" this other archaeological formalism championed by Lewis Binford.
ANSWER: **processual** archaeology or **processualism**
[10] Hodder was a student of this British archaeologist, who discovered Çatalhöyük and led excavations at the site until he was banned from Turkey for allegedly smuggling the Dorak treasure.
ANSWER: James **Mellaart**

19. Identify the following about the bizarre two-leaved plant *Welwitschia*, for 10 points each:
[10] *Welwitschia* and *Ephedra* are two of three genera of plants belonging to this division of gymnosperms, whose members have xylem that contains both vessel elements and tracheids.
ANSWER: **Gnetophyta** or **gnetophyte**s
[10] Similar to angiosperms, gnetophytes like *Welwitschia* have a relatively high ratio of syringyl to guaiacyl types of this polymer found in xylem. It usually fills the gaps in cellulose and pectin.
ANSWER: **lignin**
[10] *Welwitschia*, *Ephedra*, and *Gnetum* are grouped in the division Gnetophyta because of these shared traits, which include decussate leaves and ovules with long micropyles. In cladistics, this term refers to a shared character trait that is inferred to be present in the most recent common ancestor.
ANSWER: **synapomorphy** or **synapomorphies** [SK]

20. This case resulted from an incident in which Detective Martin McFadden found revolvers on the persons of two men he suspected of planning a robbery. For 10 points each:
[10] Name this 1968 Supreme Court case originating in Ohio which allowed police officers to "stop and frisk" people if they have reasonable suspicion.
ANSWER: ***Terry** v. Ohio*
[10] Like *Mapp v. Ohio*, *Terry v. Ohio* dealt with the Fourth Amendment's protection against the "unreasonable" form of these two actions. Name both of them.
ANSWER: **search**es AND **seizure**s
[10] *Mapp* confirmed this metaphorically-named extension of the exclusionary rule which holds that illegally-obtained evidence is inadmissible in court.
ANSWER: **fruit** of the **poisonous tree** doctrine [JB]