

## 2016 “stanford housewrite”

Edited by Stephen Liu

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### PACKET 9

#### TOSSUPS

- Deceased members of this religion may have their frontal bones removed from their skulls, packed in ice, and stored in a Swiss bank vault in preparation for their eventual resurrection. This religion promotes the practice of “sensual meditation” and holds four annual “seminars” that feature an initiation ritual called “transmission of the cellular plan.” This religion advocates the creation of a world government with 144 divisions based on the doctrines of “economic humanitarianism” and (\*) “geniocracy.”** In 2002, a member of this religion’s all-female Order of Angels named Brigitte Boisselier claimed to have facilitated the birth of the first human clone. While hiking in the volcanic crater of Puy de Lassolas, this religion’s founder supposedly met a four-foot tall humanoid who asked him to build an embassy and prepare for the return of the Elohim to Earth. For 10 points, name this UFO cult founded by French race car driver Claude Vorilhon.  
ANSWER: Raëlism [or Raëlianism; or International Raëlian Movement]
- Dr. Kislyany treats two characters suffering from this condition in a short story written as a flashback from a plane ride, on which Alexander soils his pants and is rebuked by the other passengers. This medical condition is the subject of David Benioff’s short story “Merde for Luck.” A mysterious epidemic of this condition sets in motion the events of a work in which Felix Turner dies from it, while the polio survivor Emma Brookner tries to study it. The lawyer Ben declines to help his brother Ned Weeks fight this condition in that play, (\*) Larry Kramer’s *The Normal Heart*. A character tells about how a healing fountain was created in Jerusalem where a being named Bethesda walked in the epilogue of a work about this condition, in which a sufferer of it meets the ghost of Ethel Rosenberg. That play is split into sections called “Millennium Approaches” and “Perestroika.”** For 10 points, name this condition that Roy Cohn and Prior Walter suffer from in Tony Kushner’s *Angels in America*.  
ANSWER: AIDS [accept HIV infection]
- This thinker posited that individual well-being arises from the “five necessities” of life, intellect, property, offspring, and religion and advocated “disciplining the soul” via the rational control of negative character traits. This thinker is the subject of an essay by Karen Harding that examines the similarities between his philosophy and the Copenhagen interpretation of quantum mechanics. A work by this thinker claims that there is a finite probability that cotton brought into contact with fire will not burn because God may choose not to follow His “custom” in its (\*) seventeenth section, which discusses causality. That work by this thinker uses the standard of “demonstrative proof,” or *burhan*, to expose the logical shortcomings of twenty different teachings of the falsafa movement.** For 10 points, name this Ash’arite Muslim theologian who wrote *The Revival of Religious Sciences* and attacked followers of Aristotelianism in *The Incoherence of the Philosophers*.  
ANSWER: Abū Ḥāmid Muḥammad ibn Muḥammad al-Ghazālī [or Algazelus]
- One of these events ended with one of its participants looking like a snake that was left for dead after being hit by a stone or run over by a cart. According to legend the symbol of the Red Hand originated in one of these events, during which a participant, sometimes identified as Niall of the Nine Hostages, cut off his hand and threw it at the ground in order to win the throne of Ulster. At one of these events, a figure who had vowed to sacrifice a white bull to Portunus received a purple scarf depicting Zeus’ abduction of Ganymede. That event, which took place during the funeral games of Anchises, saw the use of the objects (\*) *Pristis*, *Chimaera*, and the dark blue *Scylla*. Mnestheus beat Sergestus and Gyas but finished behind Cloanthus in that event. During another of these events, Set cut off the top of a mountain and became a hippopotamus, but lost the throne of Egypt.** For 10 points, name this kind of race that Horus won by painting his craft to look like stone so that Set’s would sink into the Nile.  
ANSWER: boat races [or sailing contests; or regattas; prompt on “races”]

5. After leading a rebellion against Gregory V, Crescentius the Younger hid in this place before he was captured and executed. According to legend, Decio Azzolino's lateness to a meeting with Christina of Sweden led her to fire a cannonball at the Villa Medici from the roof of this building. Yves d'Allègre's meeting with a woman at this location in 1501 led to her renouncement of Forlì and Imola. Earlier, that wife of Girolamo Riario held this building while seven months pregnant, attempting to control the succession of Sixtus IV. This place was held by Caterina Sforza, and was renamed when the end of a plague in 590 was signaled by the (\*) appearance of the Archangel Michael. Vibia Sabina, Julia Domna, and Caracalla are buried in this structure, which was built as a mausoleum for Hadrian. Later, this building was used as a Papal prison for people like Benvenuto Cellini, who famously escaped. For 10 points, name this cylindrical fortress in Rome located just outside the Vatican.  
ANSWER: Castel Sant'Angelo [accept Castle of the Holy Angel; accept Mausoleum of Hadrian early]
6. One revolt during this period protested a law allowing sanitary workers to forcibly vaccinate people against smallpox. Another revolt during this period ended after the remaining 29 participants cut a flag into 29 pieces and left the fort they had been occupying. The government that ruled during this period commissioned a ship that later became the HMS *Agincourt*, and dealt with an economic bubble whose name meant "saddling up." A preacher named "Anthony the Counselor" founded a socialist community that was active in this period and is the subject of Euclides (\*) da Cunha's *Rebellion in the Backlands*. That War of Canudos took place during this period, which was the heyday of the coronelismo system. This period ended with the overthrow of Washington Luís, who failed to designate a successor from the state of Minas Gerais. For 10 points, name this period from Brazilian history that preceded Getúlio Vargas' Estado Novo and takes its common name from a pair of agricultural products.  
ANSWER: coffee with milk period [or café com leite; accept Old Republic or First Brazilian Republic; accept Republica Velha; prompt on partial answers]
7. The narrator of this story likens an insufficient comparison to "the blind man's description of the elephant." Later in this story, the narrator saves a girl from getting raped by an unknown assailant after her pet drags him to her room. A character in this story asks his apprentice to strip naked and chain himself to a chair, but grudgingly unchains him after he is attacked by a black snake. An artwork described in this story includes an image of an ox-carriage falling towards a group of sword-like trees as its passenger, a beautiful woman, is (\*) burned alive. This short story ends with the protagonist hanging himself out of guilt for his daughter's death. In this story, a pet monkey belonging to that daughter, Yuzuki, dies with her after the Grand Lord of Horikawa grants her court-painter father's request to sketch a burning carriage for the title horrifying artwork. For 10 points, name this Akutagawa story in which Yoshihide paints a depiction of the Buddhist underworld.  
ANSWER: "Hell Screen" [or "Jigokuhen"]
8. The most energetic variety of these phenomena does not occur in regions with box-counting fractal dimension less than 1.25. Monica Bobra and Sebastien Couvidat developed a machine learning algorithm to analyze the world's largest data set of these phenomena, and they are the subject of the HTCS and Heyvaerts-Priest-Rust models. These phenomena generate supra-arcade downflows and Moreton waves. Each of these phenomena is classified with one of five letters: A, B, C, M or (\*) X. The Neupert effect is the observed correlation between the hard X-ray flux of these phenomena and the derivative of their soft X-ray flux. The RHESSI mission observes these phenomena, instances of which were responsible for the Carrington and Bastille Day events. For 10 points, name these phenomena that are often followed by coronal mass ejections and release lots of energy from the Sun's atmosphere.  
ANSWER: solar flares
9. Steven Verhelst's "A Song for Japan" was originally commissioned for an ensemble of these instruments. Players of this instrument are often asked to perform a boisterous excerpt from Hector Berlioz's "Hungarian March" in *The Damnation of Faust* at auditions. After the completion of a theme modeled on a theme from the finale of Brahms' First Symphony, one of these instruments plays a notable solo in "Pan Awakens, Summer Marches In," the first movement of Gustav Mahler's Third Symphony. Well-known contemporary players of this instrument include Joseph Alessi and Christian Lindberg. A solo for this instrument opens the (\*) "Tuba mirum" section of Mozart's *Requiem*. Modern versions of this instrument, which descended from the medieval sackbut, often include an F-attachment. Players of this brass instrument can effortlessly perform glissandi. For 10 points, name this brass instrument that changes pitch by moving a slide.  
ANSWER: slide tenor trombone

10. The bacterium *M. capsulatus* can produce this compound from its primary substrate via a diiron-containing oxidoreductase called MMO. Oxidation of this [emphasize] non-aldehyde produces a powerful inhibitor of cytochrome *c* oxidase that also binds strongly to tetrahydrofolate. This compound's dehydrogenation can be slowed by fomepizole, which competitively inhibits the enzyme (\*) ADH. The hydrolysis of pectin by pectinesterase produces polygalacturonate and this compound, explaining why elevated levels of this compound are detected after fruit consumption. Vitamin B3 is often administered to mitigate the metabolism of this compound to formate; otherwise, formic acid buildup causes acidosis, inhibits nerve cell respiration, and causes blindness in this compound's namesake "toxicity." For 10 points, name this poisonous compound that is oxidized to produce formaldehyde and is the simplest alcohol, having formula  $\text{CH}_3\text{OH}$ .  
ANSWER: methanol
11. *N*-oxoammonium salt species are used to catalyze reactions of this type in either the stoichiometric or catalytic mode. TEMPO and BAIB are among the compounds used to perform such a reaction. A reagent that is used to perform this kind of reaction on wastewater consists of hydrogen peroxide and ferrous iron. That is Fenton's reagent. One notably non-toxic reaction of this type reacts oxalyl acetate with (\*) DMSO to form an intermediate that is attacked by an alcohol. Potassium permanganate is a commonly used reagent for performing this type of reaction. Another example of this type of reaction uses chromium trioxide to turn alcohols into either carboxylic acids or ketones. Examples of this kind of reaction include ones named for Swern and Jones, and these reactions occur in the anodes of electrodes. For 10 points, name this type of reaction that results in a loss of electrons, unlike a reduction.  
ANSWER: oxidation
12. According to Plutarch, this man built a bridge of garlanded boats between Rheneia and Delos for a festival in honor of Dionysus. This man seized the island of Minoa in 427, strengthening the blockade of Megara. After consulting soothsayers about a lunar eclipse, this general delayed a retreat, leading to the destruction of his fleet and the death of Eurymedon. Having amassed a great fortune from his father's silver mines in Laurium, this man won enough influence to oppose Cleon until the latter died at Amphipolis. This man led an initiative that was hindered by an alliance with Argos, and collapsed when Agis II won the 418 Battle of (\*) Mantinea. Against the will of Gylippus, this man and Demosthenes were executed by Syracusans after the disastrous Sicilian Expedition. This leader of the moderate faction was often opposed by Alcibiades. For 10 points, name this leader of the anti-war party in Athens who names a relatively peaceful interlude in the middle of the Peloponnesian War.  
ANSWER: Nicias
13. This quantity's value under the random phase approximation is given by the Lindhard function. Nitrided hafnium silicates belong to a class of materials named for having a high value for this quantity, which makes them useful in the fabrication of nanoscale MOSFET gates. This quantity is the dependent variable of the Kohlrausch-Williams-Watts and Havrilak-Negami relaxation models. This quantity alternates between high and low values in the layers of a (\*) photonic crystal. This quantity minus one, divided by this quantity plus two, is proportional to molecular polarizability according to the Clausius-Mossotti relation. In non-magnetic materials, this quantity equals the square of the index of refraction. This dimensionless quantity equals one plus electric susceptibility and is denoted  $\epsilon_r$ . For 10 points, name this constant of proportionality between the vacuum permittivity and the permittivity of its namesake kind of insulating material.  
ANSWER: dielectric constant [or relative permittivity; accept absolute permittivity before "minus one," but do not accept or prompt thereafter; prompt on "epsilon," "epsilon-sub-r," "kappa," or "k"]
14. A recent book by this thinker heralds *Revenge of the Sith* as the greatest movie of all time because of its masterful synthesis of technology and art. This thinker claimed that the Marquis de Sade is underappreciated in contemporary culture and that he should be understood as a satirist of Rousseau. This author of *Glittering Images* compiled 43 of the world's so-called greatest poems, beginning with Shakespeare's Sonnet 73 and ending with Joni Mitchell's "Woodstock" in (\*) *Break, Blow, Burn*. This thinker replaced the word "Dionysian" in the Apollonian-Dionysian dichotomy with "Chthonic" as the latter better represented the idea of nature's chaos. The female vampire and the beautiful boy are among the title archetypes in a work by this thinker that closely examines pieces of art like the bust of Nefertiti and asserts that Western culture arose out of men's fear of vaginas. For 10 points, name this feminist culture theorist who authored *Sexual Personae*.  
ANSWER: Camille Paglia

15. **Bilal Kareem Tawwab is the superintendent of this jurisdiction's school district, where Eileen Tomasi is the only nurse. Justin Amash believes that "the U.S. Constitution does not authorize the federal government to intervene in an intrastate matter like" the one in this place, while Valerie Brader wrote to Dennis Muchmore in an email about this city "I have not copied DEQ on this message for FOIA reasons." This city's resident Lee-Anne Walters contacted engineering professor (\*) Marc Edwards, who conducted an investigation in this city concurrent with a study by Mona Hanna-Attisha. According to Reuters, this city had the most expensive water bills in the United States in January 2015, less than a year after switching supply from a neighboring city to a local river. This hometown of documentary filmmaker Michael Moore is led by Mayor Karen Weaver. For 10 points, name this city in Michigan where pipe corrosion from April 2014 through October 2015 caused high lead levels in drinking water.**  
ANSWER: **Flint**, Michigan
16. **This poet wrote of how "Paspus' long nose snores harsh as a hautbois, marshy-weak," and how his thoughts "escape like geese till he, their gooseherd, sets up chase." The first of this poet's *Nine Bucolic Poems* opens, "Turn again, turn again, Goose Clothilda, Goosie Jane." This woman wrote that, "for his sake, more proudly will that Sisypheus the heart of Man Roll the Sun up the steep of heaven" in a poem that addresses the "Black Venus of the Dead," her "Elegy for Dylan Thomas." With her brothers, she edited an anthology titled *Wheels*. At the end of her best-known poem, the voice of Christ cries out, "Still do I love, still shed my innocent light, my Blood, for thee." In that poem, the title action occurs in "the (\*) Field of Blood and "the Potter's Field," "blind as the nineteen hundred and forty nails upon the Cross." For 10 points, name this English poet who wrote the abstract poems for William Walton's *Façade* and imagined World War II as the Crucifixion in "Still Falls the Rain."**  
ANSWER: Edith **Sitwell**
17. **This man wrote the music to a song in which a character nostalgically remembers the Bill's Beer Hall in Bilbao. Nina Simone notably covered a composition by this man in which a woman describes "a ship / a Black Freighter / with a skull on its masthead." Harold Paulsen originated the lead role in a work composed by this man whose Act II Finale asks "what keeps mankind alive?" The Doors popularized a song by this composer with the lyrics (\*) "show me the way to the next whisky bar." The lyrics "oh it's a long long while / from May to December" open a standard composed by this man entitled "September Song." This composer of the musicals *Happy End* and *Rise and Fall of the City of Mahagonny* frequently wrote parts for his wife, Lotte Lenya. He wrote the music to a "murder-ballad" whose English lyrics begin, "When the shark bites with his teeth dear." For 10 points, name this composer who wrote the music to "Mack the Knife" and collaborated on *The Threepenny Opera* with Bertolt Brecht.**  
ANSWER: Kurt **Weill** [or Kurt Julian **Weill**]
18. **William Thompson, a worker in this industry, survived a scalping and traversed the lecture circuit displaying his detached scalp in a jar. A famous legend about a group of workers in this industry working at Cape Horn in California states that they won permission from James Strobridge to weave baskets that they would enter in order to be raised or lowered. The *Overland Monthly* published an article that predicted that this industry "will not be a benefit to all, but only to a portion." That article, written by Henry George, is entitled, "What [this industry] Will Bring Us." A violent clash between a company in this industry and (\*) ranchers in the San Joaquin Valley is known as the Mussel Slough Tragedy. Charles Crocker, Collis Huntington, and two other men in this industry became known as the "Big Four." This industry set up makeshift towns called "Hell-On-Wheels." For 10 points, name this industry in which Leland Stanford became wealthy as President of the Central Pacific.**  
ANSWER: **railroad** industry
19. **This character deduces that a man claiming to have paid back a loan is actually hiding the money in his cane because he hands the cane to his creditor, swears an oath, and then takes the cane back again. This character cuts short a story about a shepherdess and a goatherd because his audience cannot keep track of the number of goats. In one scene, this man agrees to receive 3,300 lashes on his buttocks because the wizard Merlin tells him that it is the only way to make a cursed woman regain her beauty. This man frequently complains of an incident in which a group of men had (\*) tossed him in the air with a blanket as punishment for his refusal to pay for lodging at an inn on behalf of his master. This illiterate man is offered the fictional island of Barataria and must dictate the letters that he sends to his wife Teresa. This man asks, "What giants?" when his companion suggests they attack windmills. For 10 points, name this proverb-quoting, pot-bellied peasant who serves as Don Quixote's squire.**  
ANSWER: **Sancho Panza** [accept either name]

20. Describing the building in which this painting is set, its artist stated, “How beautiful! Like in Homeric times!” This work was created after its artist, through the influence of the actress Mademoiselle Mars, was chosen to accompany diplomat Charles de Mornay abroad. In the top left of this painting, a mirror tilts downward on a wall into which is built a red-doored cabinet containing glass vases and cups. The bottom of this work shows discarded slippers next to tongs and a basket of coals. The letters A through O title the 15 versions in a series of works by (\*) Picasso that were inspired by this painting. In this work, a black servant whose hair is wrapped in a red-orange cloth stands in front of a green and yellow curtain emblazoned with Arabic script. The title figures of this work all sit on ornately decorated mats around a hookah pipe. For 10 points, name this Orientalist work by Eugène Delacroix depicting the apartment room of three concubines in an African harem.

ANSWER: Women of Algiers in Their Apartment [or Femmes d’Alger dans leur appartement]

## BONUSES

1. This work quotes a bass aria that was to be inserted into Pasquale Anfossi's opera *Le Gelosie Fortunate*. For 10 points each:

[10] Name this symphony whose first movement quotes its composer's aria "Un bacio di mano." Its finale introduces a four-note theme consisting of the notes C-D-F-E.

ANSWER: **Jupiter** Symphony [or (DO NOT READ OUT LOUD) Wolfgang Amadeus **Mozart**'s Symphony No. **41**, K. 551]

[10] The *Jupiter* Symphony was the final one written by this composer, whose other symphonies include the *Linz* and the *Haffner*.

ANSWER: Wolfgang Amadeus **Mozart**

[10] This E-flat major Mozart symphony's minuet has a *ländler* as its trio section. Its melody is played by a solo clarinet, and its bassline is played by the second clarinet in its *chaloneau* register.

ANSWER: Symphony No. **39** K. 543
2. A comprehensive history of this continent reprints an imaginative map from Sebastian Münster's *Cosmographia* that represents this continent as the outline of a queen holding an orb and scepter. For 10 points each:

[10] Name this continent whose history is merged with that of the West at the expense of its eastern half, according to a book that contains various text boxes called "capsules" that explain terms like "Archimedes" and "Flamenco."

ANSWER: **Europe**

[10] *Europe: A History* is by this British historian who also wrote a history of the British Isles and has a secondary specialty in Poland, which he wrote about in *God's Playground* and *Rising '44: The Battle of Warsaw*.

ANSWER: Norman **Davies**

[10] Davies listed this region as one of the title places in his *Vanished Kingdoms*, in which he called this place the "House that Humbert Built." This region gives its name to the family to which the kings of unified Italy belonged.

ANSWER: **Savoy** [accept **Sabaudia** or **Savoia**]
3. Siegfried Kracauer used German works in this medium to track the rise of Nazism in *From [a certain figure] to Hitler*. For 10 points each:

[10] Name this medium studied by Michel Chion and David Bordwell. In the 1950s, a group of French scholars looking at this medium hailed artists like Alfred Hitchcock as "auteurs."

ANSWER: **film** [accept **cinema** or **movies** and other equivalents]

[10] This thinker, everyone's favorite contemporary Slovenian philosopher, collaborated with Sophie Fiennes on *The Pervert's Guide to Cinema*. He also wrote *The Sublime Object of Ideology*.

ANSWER: Slavoj **Zizek**

[10] Michel Chion, the best-known contemporary theorist in the field of film sound, introduced this term for a cinematic character that exists primarily through their voice and not their image. Famous examples of this term include HAL 9000 in *2001* and the Wizard of Oz.

ANSWER: the **acousmetre**
4. This work is interrupted by a central oculus, above which are two putti perched on branches, each holding a golden standard, while two more putti appear seated on a wall below, holding up a garland. For 10 points each:

[10] Name this painting that occupies a lunette in the Medici villa at Poggio a Caiano. Both of the title figures are depicted as rustic peasants, one holding a sickle and the other handling a basket of fruits next to a thin dog.

ANSWER: **Vertumnus and Pomona**

[10] *Vertumnus and Pomona* was painted by this Mannerist painter, who showed a child and his father ascending a spiral staircase to be blessed by the dying Jacob in one part of his *Joseph in Egypt* series.

ANSWER: Jacopo **Pontormo** [or Jacopo **Carucci**]

[10] Pontormo's most famous work, located in the Capponi Chapel, depicts this scene, in which the body of Christ is surrounded by figures in soft blue and pink clothes. Rubens paired this scene with *The Raising of the Cross*.

ANSWER: **Deposition** [accept **descent from the Cross** and equivalents]

5. The protagonist of this play is a classics master at an English boys' school whose wife Millie is cheating on him with another teacher named Frank Hunter. For 10 points each:  
 [10] Name this play that chronicles the cold-hearted Andrew Crocker-Harris' last day as a teacher at his school. A sympathetic character named Taplow gives him the title book as a parting gift.  
 ANSWER: The **Browning Version**  
 [10] The title of Terence Rattigan's *The Browning Version* refers to Browning's translation of this classic Aeschylus play, in which the title character is betrayed by Clytemnestra.  
 ANSWER: **Agamemnon**  
 [10] An English boys' school is the setting of this other author's play which contrasts the teaching styles of Hector, Irwin, and Lintott, some of whom engage in inappropriate sexual acts with students. That play is *The History Boys*.  
 ANSWER: Alan **Bennett**
6. In the imaginal disk for this organ, *engrailed* is expressed in the posterior compartment and apterous in the dorsal compartment. For 10 points each:  
 [10] Name this complex organ, whose cells' spatial development is facilitated by diffusion of decapentaplegic, or *Dpp*, from a narrow band along the antero-posterior boundary.  
 ANSWER: the **wing**  
 [10] *Dpp* production is stimulated at short range by this other signaling protein expressed in the posterior compartment. Vertebrate analogues of this protein include *Indian*, *desert*, and *Sonic*.  
 ANSWER: **hedgehog** signaling protein [or **Hh**]  
 [10] *engrailed*, *apterous*, *hedgehog*, and *Dpp* are all morphogens expressed in the embryos of this invertebrate model organism. Thomas Hunt Morgan performed most of his experiments with this organism.  
 ANSWER: *Drosophila melanogaster* [or common **fruit fly**; prompt on *Drosophila*]
7. In Giovanni Volpato's allegorical sculpture of this geographical feature, a man leans against the Sphinx as numerous small children climb all over him, some of them playing with a crocodile at his feet. For 10 points each:  
 [10] Name this river who, in Bernini's *Fountain of the Four Rivers*, has a cloth draped around his head because the source of this river was not known at the time.  
 ANSWER: **Nile** River  
 [10] This sculptor also allegorized the continents, depicting *Africa* as a woman seated between a lion and a sphinx. An owl peeks from the folds of an enthroned woman's robes in his *Alma Mater*, located at Columbia University.  
 ANSWER: Daniel Chester **French**  
 [10] In this Frenchman's *The Four Parts of the World*, allegories of the continents dance in a ring while holding up a celestial sphere. In his most famous sculpture, a man holds up a tambourine as women dance around him.  
 ANSWER: Jean-Baptiste **Carpeaux**
8. This story ends with the narrator noting that "it was believed afterward that the man was a lunatic, because there was no sense in what he said." For 10 points each:  
 [10] Name this short story in which an old man interrupts a church service to deliver a rambling speech asking God to tear the nation's enemies "to violent shreds."  
 ANSWER: "The **War Prayer**"  
 [10] This author and member of the American Anti-Imperialist League wrote "The War Prayer" to criticize the Spanish-American War. He also wrote *The Adventures of Tom Sawyer*.  
 ANSWER: Mark **Twain** [or Samuel **Clemens**]  
 [10] Mark Twain died before completing this novel, which was completed after his death by Albert Paine. In it, Satan appears before two Austrian boys in the village of Eseldorf.  
 ANSWER: *The Mysterious Stranger*

9. Burton Richter and Samuel Ting's discovery of this particle triggered the November Revolution. For 10 points each:  
[10] Name this meson with a mass of 3.096 gigaelectronvolts that is the first excited state of charmonium.  
ANSWER: **J/psi** meson  
[10] The "melting" of the J/psi meson is a potential indicator for the formation of this mind-bogglingly hot and dense substance, which is studied in the ALICE experiment at CERN.  
ANSWER: **quark-gluon plasma** [or **QGP**]  
[10] This process is thought to have filled the universe with quark-gluon plasma about 10 to the minus 32 seconds after the Big Bang. While undergoing this process, the universe expanded at a rate greater than the speed of light.  
ANSWER: **inflation**
10. Apple CEO Tim Cook wrote in an open letter that "it would be wrong for the government to force us to build a backdoor into our products." For 10 points each:  
[10] Apple's mobile device CPUs contain hardware engines for this symmetric-key encryption algorithm that uses a substitution-permutation network based on the Rijndael cipher and superseded DES.  
ANSWER: **AES** [accept **Advanced Encryption Standard**]  
[10] The hardware AES engine encrypts the phone's passcode using a key computed through this process, which makes a weak key more secure by increasing the time it takes to test each possible key. Apple's implementation of this process uses the PBKDF2 function and takes 80ms to verify a passcode.  
ANSWER: **key stretching**  
[10] PBKDF2 involves repeatedly applying HMAC-SHA1, a keyed version of one of these functions, to the combination of the phone's unique hardware ID and a pseudorandom salt. These functions transform arbitrary-sized input data into a fixed-sized output in an effectively irreversible way.  
ANSWER: cryptographic **hash**
11. This dynasty's cities of Korkai and Madurai are mentioned in many ancient Greek and Roman texts, including the *Periplus of the Erythraean Sea* and Megasthenes' *Indika*. For 10 points each:  
[10] Name this Tamil dynasty that derived great wealth from its pearl fisheries in the Gulf of Mannar.  
ANSWER: **Pandyan** dynasty  
[10] The Pandyan dynasty spent most of the 10th, 11th, and 12th centuries under the control of this other Tamil dynasty that conquered Srivijaya and achieved hegemony over the Bay of Bengal during the reign of Rajendra I.  
ANSWER: **Chola** dynasty  
[10] This European claimed that the Pandyas were the richest empire in the world in a book titled for his *Travels*.  
ANSWER: Marco **Polo**
12. The title of this graphic novel refers to a story about two lunatics who need to jump across to a rooftop to escape the asylum, with one lunatic offering to shine a flashlight so that the other can walk over the beam. For 10 points each:  
[10] Name this graphic novel written by Alan Moore that explores the Joker's origins. Its plot includes the shooting and paralysis of Barbara Gordon, and ends with Batman and the Joker laughing together outside a funhouse.  
ANSWER: *The **Killing Joke***  
[10] In a storyline created by Scott Snyder, Batman fights this organization, made up of Gotham's aristocratic elite. This "Court" employs assassins called Talons, including Lincoln March, who claims to be Bruce Wayne's brother.  
ANSWER: **Court of Owls**  
[10] In Frank Miller's *The Dark Knight Returns*, this role is filled by a girl named Carrie Kelley. Other people who assumed the identity of this Batman sidekick include Dick Grayson and Jason Todd.  
ANSWER: **Robin**



13. This book draws on the work of Bergson when developing its notion that virtual ideas were relations that could be thought of as multiplicities. For 10 points each:  
 [10] Identify this philosophical text that examines each of the two title concepts “for itself.” The second title concept is contrasted with “generality” in the introduction, and the first title concept is likened to a mathematical derivative.  
 ANSWER: **Difference and Repetition**  
 [10] *Difference and Repetition* was written by this French philosopher who collaborated with Felix Guattari on *Anti-Oedipus*, which defines their concept of “desiring-production.”  
 ANSWER: Gilles **Deleuze**  
 [10] Deleuze wrote an “introduction to” this other French Philosopher, who authored *The History of Sexuality and Madness and Civilization*.  
 ANSWER: Michel **Foucault**
14. After the “chap” buys this character a “cacocolo,” she tells him about testifying at the trial of Jeanne Lalochère, her mother, who had split open her alcoholic father’s head to stop him from abusing this character. For 10 points each:  
 [10] Name this title character of a novel who visits her uncle Gabriel, who crossdresses and dances The Dying Swan at a gay nightclub. When a workers’ strike ends, she finally gets to ride on public transportation in Paris.  
 ANSWER: **Zazie** [accept **Zazie in the Metro** or **Zazie dans le Métro**]  
 [10] *Zazie in the Metro* is a novel by this French member of Oulipo, who retold a story about an experience on the S Bus 99 times in his *Exercises in Style*.  
 ANSWER: Raymond **Queneau**  
 [10] *Zazie in the Metro* includes a character with this name who owns a parrot that repeats, “Talk, talk, that’s all you can do.” A Carlo Gozzi work about a Chinese princess with this name was made into an opera by Puccini.  
 ANSWER: **Turandot**
15. One plus this function equals the exponential of the negative product of the potential and the thermodynamic beta. For 10 points each:  
 [10] Name this function that can be substituted into the configuration integral to generate a cluster expansion.  
 ANSWER: **Mayer** f-function [prompt on “f”]  
 [10] The Mayer f-function can be used to compute the coefficients of this equation, which gives the pressure of a system in terms of a power series in the particle density.  
 ANSWER: **virial** equation of state [or **virial** expansion; or **Kamerlingh Onnes** equation]  
 [10] This chemist is the namesake of the temperature where the second virial coefficient vanishes and a law stating that the pressure and volume of an ideal gas are inversely proportional at constant temperature and particle number.  
 ANSWER: Robert **Boyle**
16. He observed that “American politics has always been an area for angry minds” at the beginning of an essay on the conspiratorial rhetoric of the 1960s. For 10 points each:  
 [10] Name this Columbia University professor who authored “The Paranoid Style in American Politics.” He also wrote *Anti-Intellectualism in American Life*.  
 ANSWER: Richard **Hofstadter**  
 [10] Hofstadter’s “Paranoid Style” was in part a response to this Arizona senator winning the Republican presidential nomination. This man lost the 1964 presidential election to Lyndon Johnson.  
 ANSWER: Barry **Goldwater** [or Barry Morris **Goldwater**]  
 [10] Goldwater’s 1964 presidential campaign used this five-word phrase as its slogan. It shares its name with a Phyllis Schlafly book, published around the same time, that argued that the Republican Party was run by a cabal of wealthy moderates.  
 ANSWER: “A **Choice, Not an Echo**”

17. In one of these poems, Sappho tells Phaon that she burns “like a ripened field of corn” and contemplates plunging herself, “with all [her] miseries, amidst the Leucadian waves.” For 10 points each:
- [10] Name this set of fifteen epistolary Latin poems, each of which is from the perspective of a mythological woman writing to her lover. Three sets of additional “double” poems are sometimes included in this collection.  
ANSWER: **Heroides** [or *The Heroines*; accept **Epistulae Heroidum** or **Letters of Heroines**]
- [10] The *Heroides* were written by this Roman poet, who wrote *Tristia* while in exile in Pontus. He is most famous for writing the *Metamorphoses*.  
ANSWER: **Ovid** [or Publius **Ovidius Naso**]
- [10] Ovid claims to have learned “not to look down so much upon the damned” in this English poet’s “Ovid in the Third Reich,” which includes the line, “God is distant, difficult. Things happen.”  
ANSWER: Geoffrey **Hill**
18. These events take place in two stages: *erusin* and *nissuin*. For 10 points each:
- [10] Name this kind of event that takes place under a canopy called a *chuppah*, after which a man breaks a glass with his right foot and everyone shouts “Mazel tov!”  
ANSWER: **Jewish weddings** [or **Jewish marriages**; prompt on “weddings” or “marriages”]
- [10] This type of document is a Jewish prenuptial agreement that spells out a husband’s obligations toward his wife.  
ANSWER: **ketubah**
- [10] If a Jewish man wants to leave his wife, he may request a divorce by giving this other type of document to her.  
ANSWER: **get**
19. John Poyer, Rowland Laugharne, and Rice Powell staged a Royalist rebellion while stationed in this region, refusing to disband their Parliamentary detachment before they were paid. For 10 points each:
- [10] Name this region whose revolt, along with Kent, began the Second English Civil War. The ensuing Battle of St. Fagans and Siege of Pembroke took place in this region, which supplied many of Charles I’s Royalist soldiers.  
ANSWER: **Wales** [accept South Wales]
- [10] During the Second English Civil War, New Model Army officers met at Windsor Castle to pray, resulting in the formulation of this popular three-word phrase to describe Charles I, assigning him the blame for all of the violence.  
ANSWER: Charles Stuart, that **man of blood**
- [10] The Siege of Pembroke was conducted by this Parliamentary leader, who would later become Lord Protector of the Commonwealth of England, Scotland, and Ireland.  
ANSWER: Oliver **Cromwell**
20. This goddess pretended to be an old woman named Doso during her stay in the house of Celeus. For 10 points each:
- [10] Name this goddess who stopped burning away Demophon’s immortality when she caught his mother Metaneira spying on her. This goddess taught Demophon’s brother Triptolemus the rites that became the Eleusinian Mysteries.  
ANSWER: **Demeter**
- [10] That story appears in this group of thirty-three works, each of which is dedicated to a particular Greek god. Their name comes from the fact that they are in dactylic hexameter, the same meter used in the *Iliad* and *Odyssey*.  
ANSWER: **Homeric Hymns**
- [10] Demeter turned a son of Metaneira with this name into a lizard for making fun of her old-woman act. Another figure with this name fathered the twins Proetus and Acrisius, making him the great-grandfather of Perseus.  
ANSWER: **Abas**