

## 2016 “stanford housewrite”

Edited by Stephen Liu

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### PACKET 8

#### TOSSUPS

1. **Europeans who served as generals for states that were based in this present-day country include Diogo Soares de Albergaria and Pierre de Milard. The founder of a dynasty that ruled this non-Korean country was said to have been born from a white egg that a hunter stole from a dragon-princess after she was impregnated by a solar spirit. The most important source material for this country’s pre-modern history appears in the Glass Palace Chronicle. This country’s loss at the Battle of Prome led to the Treaty of Yandabo. In this country, the Forty Years’ War pitted (\*) Razadarit of Pegu against Minkhaung I of Ava. It became part of the British Empire after the forced abdication of King Thibaw, the last ruler of the Konbaung Dynasty. An empire based in this country conquered the Mon kingdom of Thaton and established Theravada Buddhism as the state religion during the reign of Anawrahta. For 10 points, name this country whose historical capitals include Toungoo, Pagan, and Mandalay.**  
ANSWER: **Burma** [or **Myanmar**]
2. **One type of these devices is subject to the Staebler-Wronski effect. C.H. Henry developed a graphical method for analyzing the theoretical performance of another type of these devices against the AM1.5 standard. Brian O’Regan and Michael Grätzel invented the dye-sensitized type of these devices, which may alternatively make use of materials like cadmium telluride and copper indium gallium diselenide. Multiple (\*) exciton generation enables nanocrystal varieties of these devices to exceed the Shockley-Queisser limit on their efficiency in the single-junction case. Polycrystalline silicon is the most common material used to make these devices, which operate in the fourth quadrant of an I-V diagram and produce electron-hole pairs by absorbing photons. For 10 points, name these devices that generate electrical power from sunlight.**  
ANSWER: **solar cells** [or **photovoltaic** cells]
3. **On being told by his friend Acilius that this man’s wife burst into tears in front of a painting of Andromache saying goodbye to Hector, this man replied that he would never say to her what Hector said. It is commonly believed that that wife of his committed suicide by swallowing hot coals, while earlier she had stabbed herself in the thigh with a barber’s knife to convince him to confide in her. Before dying, this man cried, “Forget not, Zeus, the author of these crimes.” Through his mother (\*) Servilia Caepionis, this man claimed descent from the killer of would-be king Spurius Maelius, Gaius Servilius Ahala. This husband of Porcia Catonis, the daughter of his uncle Cato the Younger, defeated Octavian in the first phase of an engagement in which his co-commander, thinking this man had failed, committed suicide. That battle ended the Liberators’ Civil War. For 10 points, name this Roman who, together with Cassius, died at the Battle of Philippi after leading the assassination of his close friend, Caesar.**  
ANSWER: Marcus Junius **Brutus** the Younger
4. **A poem by this man wonders, “Why then, alas, did it not keep it right, returning, to leap into the fire?” about the title entity, who he asks to “be steadfast once, or else at least be true” instead of offering the “sudden loss of thy false feigned grace.” This poet of “Unstable Dream” used the word “abide” nine times in a sonnet that opens, “I abide and abide and better abide.” His first publication was posthumous in *Tottel’s Miscellany*. He also wrote about a lady’s necklace engraved with the words “Noli me tangere,” indicating she belongs to (\*) Caesar, in a poem that laments, “May I by no means my wearied mind draw from the deer, but as she fleeth afore, fainting I follow.” That poem may reference a possible affair between Anne Boleyn and this poet, who also claimed that he has “seen them gentle, tame, and meek,” about women who “sometime did me seek with naked foot.” For 10 points, name this poet of “Whoso List to Hunt” and “They Flee from Me” who introduced the sonnet to England.**  
ANSWER: Sir Thomas **Wyatt**

5. Inspired by Fra Angelico's *Annunciation*, this artist digitally rendered the white interior of an art gallery, on whose wall is a painting of a nude woman using the phone while sitting by a window. This man never finished *Le Chef-d'oeuvre inconnu*, a work in which Poussin, Courbet, and Titian stand around a reclining nude. This artist depicted a woman as disconnected plastic shapes and an eye floating above a refrigerator and a toaster in a painting whose title, *\$he*, is spelled with a dollar sign. A Christ-like hunger striker appears in this artist's *The Citizen*, a diptych inspired by the (\*) Troubles. In his best-known work, a cinema playing *The Jazz Singer* can be seen through a window, while the edge of a planet looms at the top. That work shows a maid cleaning stairs with a very long vacuum cleaner, a poster for *Young Romance*, and a bodybuilder with a giant Tootsie pop. For 10 points, name this English Pop artist of the collage *Just what is it that makes today's homes so different, so appealing?*

ANSWER: Richard Hamilton

6. *SLR1* codes for a DELLA protein expressed in the *slender* mutant of this plant. The genome of one variety of this plant was modified to incorporate the *psy*, *beta-lcy*, and *crtI* [CRT-one] genes with a glutelin promoter, allowing the endosperm-localized conversion of GGPP into lycopene. In another variety of this plant, a defective form of GA 20-oxidase gives rise to the *sd-1* phenotype due to decreased gibberellin synthesis; that hardy variety of this plant is called IR8. Conversely, gibberellin overproduction causes this plant to become etiolated and chlorotic as a consequence of *bakanae*, or (\*) "foolish seedling" disease. The "miracle" semi-dwarf variety of this plant is said to have enabled the Green Revolution, and Ingo Potrykus and Peter Beyer created a "golden" variety that could synthesize beta-carotene in order to fight vitamin A deficiency. For 10 points, name this grass species that is the world's most common staple food.

ANSWER: Oryza sativa [or rice]

7. In one of this non-Mozart composer's works, a rondo in the *Andante amoroso* second movement is thought to represent the composer's love interest and her children. The subdued third movement of that work suddenly explodes into a *Trio estatico* section that is further developed in the fourth movement *Adagio appassionato*. Another work by this composer quotes a Carinthian folk song in its first movement and contains two variations on the Bach chorale "Es ist genug." This composer's Opus 1 is a piano sonata consisting of only movements in B minor. A riot called the (\*) *Skandalkonzert* occurred during the performance of this composer's *Altenberg-Lieder*. A string quartet by this composer was inspired by an Alexander von Zelimsky symphony and is thought to have been written for Hanna Fuchs. This composer of the *Lyric Suite* dedicated a violin concerto to "the memory of an angel." For 10 points, name this Second Viennese School composer of *Lulu* and *Wozzeck*.

ANSWER: Alban Berg

8. In a story by this author, two brothers find a pair of goggles in a ship graveyard that lets them see the ghosts of sea animals. In that story, Timothy and Wallow try to find their sister, lost at sea while riding a sled made from the exoskeleton of a crab. Another of her stories follows Clyde and Magreb, a couple living in Italy who find that the titular fruits are getting less effective at relieving their thirst for blood. This author of "Haunting Olivia" wrote about a girl who goes through the Eye of the Needle to elope with Louis Thanksgiving's ghost. That girl appears in a novel in which Kiwi works as a janitor and then as a pilot at The World of (\*) Darkness, and the Bird Man tricks Ava into going to a fake underworld with him, where he rapes her. This author of the short story collection *Vampires in the Lemon Grove* wrote a finalist for the winnerless 2012 Pulitzer Prize. For 10 points, name this Floridian author of a novel in which Chief Bigtree runs an alligator-based theme park, *Swamplandia!*.

ANSWER: Karen Russell

9. One king unknowingly pledged himself in marriage to this woman after seeing a bird carrying a single golden hair in its beak. This woman slept with a man after he jumped between their beds to avoid leaving a pattern in the flour that covered the floor. Her handmaiden used a magic pillow to thwart the advances of Kaherdin, whose sister, famed for her "White Hands," shared this person's name. The finding of an unconscious harpist in possession of a dragon's tongue saved this woman from marriage to an unpleasant (\*) seneschal, and caused her to forgive a man who had left a shard of his sword in the head of her uncle, Morholt. This woman's lover died of despair after being led to think that black sails had appeared on the horizon. This woman had a handmaiden named Brangaine, who failed to safeguard a love potion that was intended for this woman and King Mark of Cornwall. For 10 points, name this princess of Ireland who carried on a tragic affair with her husband's nephew, Sir Tristan.

ANSWER: Isolde [or Iseult]

10. Joan Robinson attempted to expand the short-run ideas developed in this book to a long-run model in her work, *The Accumulation of Capital*. One thinker argued that this text did not account for the effect of “real balances” and gives his name to an “effect” that critiques this book. The author of this text eschewed the concept of national dividend in favor of a measure he invented called the “wage-unit,” and this text is heavily critical of the work of (\*) Arthur Pigou. This works claims that approximating 2/3 of the average is the best strategy when picking the six most attractive faces from a group of one hundred; that scenario is called the author’s namesake beauty contest. This book postulates that supply is actually created by demand in contrast to Say’s law, an idea called the principle of effective demand. This book used the formula  $c + i + g$  to define aggregate demand and advocates deficit spending to combat recessions. For 10 points, name this magnum opus of John Maynard Keynes.

ANSWER: The General Theory of Employment, Interest, and Money

11. A later-appended note to an essay states that a “happy and realistic” city in this country “has no further need of writers,” and is instead awaiting tourists. That essay about a city in this country uses Ariadne’s thread as a metaphor and opens, “There are no more deserts. There are no more islands.” In this country, a man uses red chalk to write the words, “Come in, I’ve hanged myself,” but is saved by a clerk who likes to say, “Hats off!” Mohammed Dib wrote a trilogy named for this country, which is the setting of a novel that opens with Harun recounting the death of his brother Musa to a curious (\*) investigator. In a novel set here, a theater is evacuated when a performer dies during a performance of *Orpheus and Eurydice*. The smuggler Cottard kills a dog in a fight with the police in a novel set here that opens with the mysterious deaths of hundreds of rats. For 10 points, name this country, the setting of Kamel Daoud’s *The Meursault Investigation* and Albert Camus’ *The Plague*.

ANSWER: Algeria

12. Nikolas Kompridis introduced the idea of reflective disclosure to critique Habermas’ formulation of this concept. In the first volume of *Theory of Communicative Action*, Habermas claims that this concept has been subjugated to the use of formal systems that objectify individuals. He then aims to establish a “communicative” understanding of this concept. In a book partially titled for this concept, Horkheimer discussed the limitations of American pragmatism and described how the Nazis were able to push their agenda onto Germany. That book defines the (\*) instrumental variety of this concept. An essay by Kant outlines “public” and “private” uses of this concept and claims that freedom is the ability to publicly exercise this faculty. Hume stated that this concept is the slave of the passions, and a book titled after a form of this concept argues for the existence of synthetic a priori truths. For 10 points, name this faculty whose “pure” form was critiqued by Kant.

ANSWER: reason [accept “rationality” or more specific forms like “pure reason” or “communicative reason”]

13. The golden hem of this person’s robes resulted in the Byzantine epithet of Chrysopus, meaning “golden foot.” Legend states that this woman forced a rival to choose between a dagger or a bowl of poison after finding her in a labyrinth. Geoffrey of Rancon disobeyed his king’s orders and chose a plateau for this woman’s camp, resulting in the disastrous Battle of Mount Cadmus. According to Gervase of Canterbury, she pretended to be Penthesilea and rode with a retinue of ladies dressed as Amazons. This woman was married to a king who had an affair with (\*) Rosamund Clifford, and was earlier accused of adultery with her uncle Raymond of Poitiers while she accompanied her husband on the Second Crusade. Andreas Capellanus’ *De Amore* was based on a supposed “Court of Love” maintained by this daughter of William X, who divorced her first husband, Louis VII of France. For 10 points, name this wealthy French wife of Henry II of England and mother of Richard the Lionheart.

ANSWER: Eleanor of Aquitaine

14. Nitrile hydratases with this metal in their active site are distinguished by the presence of a VCTLC amino acid sequence. This metal is the lowest-atomic-number element subject to the “oxo wall” predicted by ligand field theory, as it cannot attain a low enough d-electron count to form pi bonds with an oxygen atom. The trivalent cation of this metal lies between vanadium 3+ and manganese 4+ in the fixed-ligand spectrochemical series, leading to large d-orbital splittings and low-spin states for its octahedral complexes. In this metal’s 2+ oxidation state, it has a (\*)  $d^7$  electron configuration. In humans, cofactors containing this metal have either an adenosyl or a methyl group axially bound to them, though in foods and supplements a cyano group is usually bound instead. The standard source for Mössbauer spectroscopy is an isotope of this metal that decays to iron-57. For 10 points, name this metal that is the central atom in vitamin B12 and lies between iron and nickel on the periodic table.

ANSWER: cobalt

15. This musician joined Coltrane and Peterson in a rendition of Monk's "Hackensack" in a legendary concert that was televised in Germany. This musician alluded to "Canadian Capers" and Dvorak's Humoresque in a song modeled after the chord changes from Charlie Parker's "Cherokee" titled "Parker 51." This musician recorded "I'm Late, I'm Late" on an album commissioned by Eddie Sauter titled *Focus*. This musician is the first namesake of the first jazz album to win the Grammy for Best Album. This musician rose to prominence as a member of the "Four Brothers" in Woody Herman's second "Herd." Along with Charlie Byrd, this man popularized a song that would appear on his album *Jazz* (\*) *Samba*. This man recorded the song "Desafinado," and he frequently collaborated with Joao Gilberto and Antonio Carlos Jobim. For 10 points, identify this saxophonist known for his adaptation of bossa nova classics like "The Girl from Ipanema."

ANSWER: Stan Getz

16. When a man asks whether this character is home, a slave answers that "he is and he isn't." This character is then "wheeled out" onto the scene and agrees to give away a beggar's rags, cap, and staff, a chipped cup, and a pot with a sponge for a stopper, but not any of his mother's chervil. This character apologizes to a group of women who want to murder him so that they will not interfere with his attempts to free his elderly relative (\*) Mnesilochus. This character addresses a prayer to the ether, his tongue, his nose, and his wit in a play in which he is repeatedly interrupted by a rival who shouts, "Lost his little flask of oil!" at the end of this character's lines. In that play, this character's descriptions of the *Argo*, persuasion, and an iron club do not weigh as much as the words of his opponent, so Dionysus leaves him in the underworld. For 10 points, name this recurring Aristophanes character who loses a poetry contest to Aeschylus in *The Frogs*, the real-life author of *The Bacchae*.

ANSWER: Euripides

17. During a drug trip, this character almost confuses his gun-shaped cigarette lighter for his gun-shaped gun. After he breaks up with her, this character's girlfriend observes "when you look at someone through rose-coloured glasses, all the red flags just look like flags." This character hires "Character Actress Margo Martindale" whenever he needs to commit a crime, and is the only person to recognize that "Vincent Adultman" is actually three boys wearing a trenchcoat. After he steals the "d" from the (\*) Hollywood sign, everyone on the show he appears in refers to Hollywood as "Hollywoo." This character falls in love with the woman writing his memoirs, the Alison Brie-voiced Diane Nguyen, but she ends up marrying his rival Mr. Peanutbutter instead. This star of the movie *Secretariat* played himself on the 90's sitcom *Horsin' Around*. For 10 points, name this Will Arnett-voiced character, the title washed-up horse actor of a Netflix Original Series.

ANSWER: BoJack Horseman [accept either underlined portion]

18. As a sociology graduate student, Donald Roy, author of "Banana Time," lived in and wrote an account of one of these locations that was nicknamed "Hollywood on the Tidelands." The name for these locations was coined by Democratic Party publicist Charles Michelson. "The Mad Butcher of Kingsbury Run" was a serial killer who was active in one of these locations, where he gained a more famous nickname by separating his victims at the torso. A former lumberjack named Jesse Jackson appointed himself (\*) "mayor" of the largest of these locations, which was in Seattle. New York City's largest example of these locations was built on the drained Central Park reservoir. Douglas MacArthur cleared out one of these locations that was built on the Anacostia Flats by the Bonus Army. The Federal Transient Service was launched in 1933 as part of the New Deal to help the residents of these places. For 10 points, name these Depression-era shantytowns that take their name from the 31st President.

ANSWER: Hooverville [prompt on more general answers like "slums" or "shantytowns"]

19. McDougall et al. developed a global algorithm to estimate this quantity's "absolute" form, which is used with the TEOS-10 standard. It's not refractive index, but handheld devices for measuring this quantity are often calibrated using a specific gravity reference value of 1.0264. Gradients in temperature and this quantity drive the Meridional Overturning Circulation. This quantity's "practical" form has a typical value of thirty-five and is defined as the ratio of the (\*) conductivity of a given sample to that of a reference solution of potassium chloride. This quantity increases dramatically when traveling from the tidal limit of a river to the mouth of an estuary. For 10 points, identify this quantity that remains constant along isohaline lines and measures the concentration of dissolved ions in seawater.

ANSWER: salinity [accept equivalents, such as salt concentration or the amount of salt dissolved in water]

20. This action produces four types of “rhetorical indicators” and changes the “universe of discourse” in the Snow-Machalek model, while it incorporates both deterministic and volitional elements in the Lofland-Stark model. This action takes place in seven stages, beginning with “context identification” and ending with “consequences”, according to a book titled *Understanding [this action]* by Lewis Rambo. The doctrine of *fitra* states that this action is technically impossible in Islam because everyone has innate understanding of (\*) *tawhid*. In an October 14, 1956 ceremony at the Deekshabhoomi *stupa* in Nagpur, India, hundreds of thousands of Dalits emulated B.R. Ambedkar by performing this action. In Judaism, this action may include a *hatafat dam brit*, during which a *mohe* draws a symbolic drop of blood from a man if he has previously been circumcised. For 10 points, name this action that involves changing one’s religious affiliation.
- ANSWER: religious **conversion** [or **converting** ; before the last sentence has been read, accept descriptive answers like **changing religions** or **joining a different religion**; prompt on “joining a religion” or equivalents; do not accept or prompt on “apostasy” or “leaving a religion”]

## BONUSES

1. In the opening scene of the novel they appear in, a member of this family holds his granddaughter Tony in his lap and helps her recite the Lutheran catechism. For 10 points each:  
[10] Name this fictional family whose members include the Consul and his father, Johann. The line of this family ends after its last male member, Hanno, dies of typhoid.  
ANSWER: the **Buddenbrooks** family  
[10] *Buddenbrooks* was the first novel written by this German author of *Death in Venice*.  
ANSWER: Thomas **Mann** [or Paul Thomas **Mann**]  
[10] Thomas Buddenbrook dies from a botched tooth extraction shortly after having an emotional reaction to a chapter of this book. Thomas Mann published and edited an abridged version of this philosophical text in 1948.  
ANSWER: *The **World as Will and Representation*** [or *Die **Welt als Wille und Vorstellung***]
2. The fourth lecture in this series defines three different types of musical ambiguity using Berlioz and *Tristan und Isolde* as examples. For 10 points each:  
[10] Name this series of Norton lectures delivered at Harvard in 1973. They are named for a composition analyzed in the fifth lecture as a metaphor for the victory of tonality over atonality.  
ANSWER: *The **Unanswered Question*** [prompt on (DO NOT READ OUT LOUD) “Leonard Bernstein’s Norton lectures” or “Leonard Bernstein’s Harvard lectures”]  
[10] This long-time director of the New York Philharmonic delivered the Unanswered Question lectures. He composed *West Side Story* and *Candide*.  
ANSWER: Leonard **Bernstein**  
[10] During a famous performance of Beethoven’s Ninth Symphony in this European city, Bernstein changed the word “joy” in “Ode to Joy” to “freedom.”  
ANSWER: **Berlin**
3. This author’s *The Clerkenwell Tales* borrows characters from *The Canterbury Tales* to tell the story of Clarice, a nun who prophesies about the death of Richard II. For 10 points each:  
[10] Name this English author whose works often explore the history of London. He wrote *Hawksmoor*, a novel that follows a modern detective solving murders at churches designed by a Satanist associate of Christopher Wren.  
ANSWER: Peter **Ackroyd**  
[10] Ackroyd wrote a novel titled for this philosopher’s “papers,” in which he is an orator in the 3700s who refers to *The Origin of Species* as a novel by Dickens and has visions of the past. This man wrote *Meno* and *Euthyphro*.  
ANSWER: **Plato**  
[10] This man wrote of “the mystery of beginning again and again, while History is unforgiven” in his poem “In the Naked Bed, in Plato’s Cave.” This author was the model for the title character in Saul Bellow’s *Humboldt’s Gift*.  
ANSWER: Delmore **Schwartz**
4. A religious leader from this country claims to be an incarnation of the deity El Cantare and publishes interviews he has conducted with the spirits of dead politicians in the online newsletter *The Liberty*. For 10 points each:  
[10] Identify this country that experienced a proliferation of new religions, including the aforementioned Happy Science, shortly after its government revoked the official status of Shinto.  
ANSWER: **Japan** [or **Nippon**]  
[10] This Japanese New Religion founded by Nakayama Miki promotes the worship of “God the Parent” and the pursuit of the Joyous Life.  
ANSWER: **Tenrikyo**  
[10] This other Japanese New Religion draws from the New Thought movement, especially the “Science of Mind” teachings of Ernest and Fenwicke Holmes. During the 21st century, it has shifted its focus to environmentalism.  
ANSWER: **Seicho-no-Ie**

5. Aposematism is the adaptation of conspicuous visual features in response to the presence of these organisms. For 10 points each:
 

[10] Name this type of organism that is represented by the variable  $y$  in the Lotka-Volterra equations. The “apex” variety of these organisms occupies the highest trophic level in a food chain.  
ANSWER: predators

[10] This phenomenon occurs when two harmful species that share a common predator evolve to produce the same warning signals, such as the *Heliconius* and *Melinaea* genuses of butterflies.  
ANSWER: Müllerian mimicry [prompt on “mimicry”]

[10] In a classic 1958 experiment, Carl B. Huffaker studied the interaction between predator and prey species of these organisms in twelve “universes” consisting of arrays of oranges and rubber balls.  
ANSWER: mites
6. He is described as “Hanging from the beam, slowly swaying (such the law)” in a poem that repeatedly invokes “Shenandoah!” For 10 points each:
 

[10] Name this subject of Herman Melville’s poem “The Portent.” Variants of a more famous poem inspired by him included lines stating “his pet lambs will meet him along the way” and lines vowing to hang a leader “from a sour apple tree.”  
ANSWER: John Brown [or “John Brown’s Body”]

[10] After hearing some soldiers sing “John Brown’s Body,” Julia Ward Howe penned this patriotic poem. It begins, “Mine eyes have seen the glory of the coming of the Lord.”  
ANSWER: “The Battle Hymn of the Republic”

[10] At the end of “The Portent,” Melville calls John Brown the “[this thing] of war.” A Walt Whitman poem describing Brown’s execution is titled for a “Year of [these things].”  
ANSWER: meteors [or “the meteor of war”; or “Year of Meteors”]
7. In one speech, this politician defined fear, ignorance, bigotry and smear as “the Four Horsemen of Calumny.” For 10 points each:
 

[10] Name this female Republican Senator from Maine who criticized McCarthyism in her “Declaration of Conscience” speech.  
ANSWER: Margaret Chase Smith [or Margaret Madeline Chase Smith]

[10] Another person to take on Joseph McCarthy, United States Army lawyer Joseph Welch, famously asked McCarthy “have you no sense of [this word]?”  
ANSWER: decency [or “Have you no sense of decency, sir?”]

[10] This socialite rebuked McCarthy in her own way by refusing to acknowledge him at a party, telling him “the trashman and the policeman on my block call me [my first name], but you may not.” After her mother died giving birth to her, her father wrote a diary entry claiming “the light has gone out of my life.”  
ANSWER: Alice Lee Roosevelt Longworth
8. The Selous Scouts operated during a war in this country called the Second Chimurenga. For 10 points each:
 

[10] Name this unrecognized state where Ian Smith’s white minority government fought against Joshua Nkomo’s ZAPU and Robert Mugabe’s ZANU in the Bush War.  
ANSWER: Rhodesia [do not accept “Zimbabwe”]

[10] A document named for this building ended the Rhodesian Bush War and Smith’s system of white minority rule.  
ANSWER: Lancaster House Agreement

[10] Along with Canaan Banana, this Methodist bishop led the UANC, which was the only legal black party in Rhodesia. He signed the Internal Settlement with Ian Smith and formed an interim government in June of 1979.  
ANSWER: Abel Muzorewa

9. This theorem is used in the proof of the Lehmann-Scheffe theorem and, when applied, transforms an arbitrarily crude estimator into a more optimal one. For 10 points each:  
 [10] Identify this theorem that states that the conditional expected value of an unbiased estimator given a sufficient statistic is another unbiased estimator that is, at worst, as good as the prior estimator.  
 ANSWER: **Rao-Blackwell** theorem  
 [10] Rao lends his name to a bound with Cramer that states that the variance of an unbiased estimator is at least as high as the inverse of this quantity, which measures how much an observation can tell us about a given parameter.  
 ANSWER: **Fisher information**  
 [10] The Fisher information of this man's namesake process is the reciprocal of the variance of the mean number of successes. That process names for this man has only two outcomes: success and failure, and can be modeled by the binomial distribution.  
 ANSWER: Jacob **Bernoulli**
10. The statutes governing these rights appear in Title 35 of the United States Code, which provide that they last for 20 years from the time of filing, and define requirement of novelty in Section 102. For 10 points each:  
 [10] Name this form of intellectual property that confers the exclusive right to appropriate an invention, provided the applicant can show that the invention is not obvious, useful, and new, among other things.  
 ANSWER: **patents**  
 [10] This Court of Appeals, located in the District of Columbia, was created in 1982 to replace the Court of Customs and Patent Appeals as the appellate court that holds sole jurisdiction over patent law, excluding the Supreme Court.  
 ANSWER: Court of Appeals for the **Federal Circuit**  
 [10] This 2014 Supreme Court decision caused numerous patents to be invalidated by holding that taking an abstract idea and implementing it by computer does not make an invention patent-eligible, absent an inventive concept.  
 ANSWER: **Alice Corp. v. CLS Bank International** [accept either party]
11. One song by this band describes a "milky delight that invited us all" and opens, "For I am an engine and I'm rolling on through endless revisions to state what I mean." For 10 points each:  
 [10] Name this band behind the song "Engine," the B-side to its "Holland, 1945." The lyric "God is a place you will wait for the rest of your life" appears on "Two-Headed Boy, Pt. 2," from their album *In the Aeroplane Over the Sea*.  
 ANSWER: **Neutral Milk Hotel**  
 [10] Neutral Milk Hotel wrote a song titled for this woman, whose "prettiness is seeping through out from the dress I took from you." This former bandmate of Dean Wareham currently is half of a musical duo with Damon Krukowski.  
 ANSWER: **Naomi Yang** [accept either name]  
 [10] Wareham, Yang, and Krukowski were members of Galaxie 500, a band named for a car model produced by this manufacturer. This company currently makes the Focus and Taurus.  
 ANSWER: **Ford** Motor Company
12. Seven of these figures were turned to stone after fleeing into the mountains from a pair of warriors who multiplied every time the seven cut them down, explaining why there are none of these figures left. For 10 points each:  
 [10] Name these characters from Russian folklore, the most famous of which owned a horse named Sivushko, killed the Nightingale Robber, and befriended the giant Sviatogor.  
 ANSWER: **bogatyr**s  
 [10] The bogatyr's often went on quests in the service of this ruler of Kiev. This husband of Evpraksiya was based on and shares his name with a real ruler of the Kievan Rus who was known as "the Great" and Christianized his people.  
 ANSWER: **Vladimir** Bright Sun  
 [10] This bogatyr married the *polianitsa* Nastas'ya Nikulichna after shooting three arrows at her to get her attention. He also rescued Vladimir's niece Zabava from the dragon Goryshche, which left him stranded in a lake of blood.  
 ANSWER: **Dobrynya** Nikitich



13. The “Yearning for Happiness” section of this work shows Ambition, a woman holding a wreath, and Compassion, whose hands are clasped by her cheek, above a knight in golden armor. For 10 points each:  
 [10] Name this monumental mural that also shows the giant beast Typhoeus with the Gorgons in a section depicting “Hostile Forces.” A third section of this work shows an embracing couple in front of a chorus singing an Ode to Joy.  
 ANSWER: Beethoven Frieze  
 [10] The painter of the *Beethoven Frieze*, Gustav Klimt, is perhaps most famous for this work which uses an entirely golden background to show a woman kneeling on a flowery patch of grass as her lover holds her head to his lips.  
 ANSWER: The Kiss  
 [10] In this Italian artist’s *The Kiss*, painted in 1859, a man in a feathered hat and heavy brown cloak kisses a lady in a light blue dress in front of a stone wall. This Romantic painter created several scenes of the Sicilian Vespers.  
 ANSWER: Francesco Hayez
14. The opening line of a narrative poem describes this creature appearing “in China, late one moonless night.” For 10 points each:  
 [10] Name this character sought out by some animals led by the hoopoe, who hopes that this character will help them pick their new king. When the animals reach this character’s home, they look down at their reflections in a lake and realize that they are alone.  
 ANSWER: the Simorgh  
 [10] The Simorgh appears in *The Conference of the Birds*, a poem written in this language by Farid ud-Din Attar. This language was used by the Sufi poet Rumi and by Ferdowsi, the author of the *Shahnameh*.  
 ANSWER: Persian [or Farsi]  
 [10] This Rumi collection, his best known, is introduced by the “Song of the Reed Flute.” Consisting of six books of Sufi devotional poetry, it was translated into English by Reynold Nicholson.  
 ANSWER: Spiritual Couplets [or Masnavi-I Ma’navi; or “Rhyming Couplets of Profound Spiritual Meaning”]
15. These structures are described by Timoshenko theory, which is a generalization of Euler-Bernoulli theory. For 10 points each:  
 [10] Name these structures that are characterized by their resistance to bending under a load. A cantilever is one of these structures that is only supported on one end.  
 ANSWER: beams  
 [10] A principle named for the “virtual” form of this quantity may be used to analyze the deflection of a beam. This quantity equals the line integral of the dot product of the applied force and the differential displacement of an object.  
 ANSWER: work  
 [10] Static structures like beams are commonly modeled using this kind of finite element analysis, which defines the namesake function to quantify each member’s resistance to deformation, then constructs a system of equations that satisfies the equilibrium conditions at nodes where two or more members are connected.  
 ANSWER: stiffness matrix method [or matrix stiffness method; or direct stiffness method]
16. This man wrote about a castle in Armenia where a fairy lady grants wishes to those who watch a sparrow-hawk for seven days and seven nights without sleeping. For 10 points each:  
 [10] Name this probably fictional knight from St. Albans in England who wrote a 14<sup>th</sup>-century travelogue about his supposed trip to the Orient, where he collected stories about various local legends, beasts, and monsters.  
 ANSWER: Sir John Mandeville [accept Jehan de Mandeville]  
 [10] Sir John Mandeville’s account of this mythical ruler was likely based on a widely-circulated forged letter that claimed to be from this Christian king of the Orient. Some claimed that his realm was in Africa.  
 ANSWER: Prester John [or Presbyter John]  
 [10] Based on encouraging news from Jacques de Vitry, the leaders of this crusade chose to wait for David, the great grandson of Prester John, to arrive from India. Although Damietta was captured, this crusade failed to take Egypt.  
 ANSWER: Fifth Crusade

17. The *tǎotiè* is a motif appearing on objects made from this material, which include *dǐng* and *zūn*. For 10 points each:  
[10] Name this material used to make a wide variety of ritual vessels throughout the Shang and Zhou dynasties.  
ANSWER: **bronze**  
[10] The excavation of the tomb of Marquis Yi of Zeng revealed a complete set of *bianzhong*, which are this type of bronze object. The *dotaku* is another example of this type of bronze object that is characteristic of the Yayoi period.  
ANSWER: **bells**  
[10] The mausoleum of Qin Shihuang contains an army of soldiers made out of this other sculpture material.  
ANSWER: **terra cotta** [prompt on “earthenware”]
18. Answer the following about a phase of steel named for English metallurgist Sir William Chandler Roberts-Austen, austenite. For 10 points each:  
[10] Austenite has this crystal structure, in which each sphere has coordination number 12 and there are 4 lattice points per unit cell. Along with hexagonal close-packed, this crystal structure has the maximum packing efficiency.  
ANSWER: **face centered cubic** [accept **fcc**]  
[10] When austenite is cooled rapidly enough, it undergoes a diffusionless transition to this hard and brittle phase.  
ANSWER: **martensite**  
[10] In nickel-titanium alloys, the phase transition between austenite and martensite exhibits this effect, which may manifest as thermal hysteresis or superelasticity. Alloys that exhibit this effect are subject to functional fatigue.  
ANSWER: **shape memory**
19. A 1981 riot in this neighborhood was investigated by Lord Scarman, whose suggestions were mostly ignored. For 10 points each:  
[10] Name this traditionally Afro-Caribbean immigrant neighborhood of a national capital that also experienced riots in 1985 and 1995.  
ANSWER: **Brixton**  
[10] Brixton is a neighborhood of this city. A 2011 riot in this city casted doubt on its ability to host the 2012 Summer Olympics.  
ANSWER: **London**  
[10] This Conservative politician called for an immediate end to non-white British immigration after the 1981 Brixton riot. He gave the anti-immigrant “Rivers of Blood” speech.  
ANSWER: Enoch **Powell**
20. The originator of this doctrine used it to defend the act of killing in self-defense, and it is frequently referred to in debates about abortion. For 10 points each:  
[10] Name this doctrine that states that an action that causes both a good result and an inseparable, harmful result is okay if the good outweighs the harmful.  
ANSWER: doctrine of **double effect**  
[10] The doctrine of double effect originated in this Aquinas text, which attempts to synthesize Aristotelian philosophy with Christianity and offers five proofs for the existence of God.  
ANSWER: **Summa Theologica** [or **Summa Theologiæ**]  
[10] This philosopher applied the doctrine of double effect to her analysis of a problem in which a person may choose to pull a switch to change a trolley’s path, sacrificing one person’s life to save five others.  
ANSWER: Philippa **Foot**