

Penn Bowl 2018

Packet 7

Editors: Jaimie Carlson, Jordan Brownstein, Eric Mukherjee, JinAh Kim

Writers: Jaimie Carlson, Nitin Rao, Margaret Tebbe, Ayush Parikh, Antonio Jimenez, Paul Lee, Lorenza Colagrossi, Will DiGrande, Eric Mukherjee, Sam Claypoole, Jacob Dubner, JinAh Kim, Gabe Ajzenman, Lam Tran, Joe Jun, Alex Quinn

Tossups

1. **In a short story by this author, a dentist intentionally makes a tooth removal painful for the corrupt mayor. He's not Joyce, but this author of "One of These Days" wrote a newspaper article about the participation of the clergy in a coup d'état and a novel that opens with a chapter from the perspective of the People. That novel's cruel title character serves his Defense Minister at a banquet and fathers many children that are born two months premature. In another novel, this author wrote about affairs with (*) Pilar Ternera and Petra Cotes, as well as a beautiful woman who ascends into the sky while folding laundry in a novel that begins with a character seeing ice. For 10 points, name this author of *The Autumn of the Patriarch* who depicted the many José Arcadios and Aurelianos of the Buendía family in *One Hundred Years of Solitude*.**

ANSWER: Gabriel García Márquez

<MT, World Literature>

2. **In a majority opinion for the case that incorporated this concept, John Marshall Harlan wrote that "regard must be had to substance" when considering due process. A dissent on a case that upheld this concept concludes by citing James Madison's definition of a "just government," while other dissents criticized Pfizer. The Supreme Court ruled this power necessary for both federal and state governments in *Kohl v. United States*. Use of this power in the cases of *HHA v. Midkiff* and *Berman v. Parker* were upheld in (*) *Kelo v. New London*. Alternative names for this governmental power, which is usually accompanied by "just compensation" and limited by the "takings clause," are "expropriation" and "compulsory acquisition." For 10 points, name this Fifth Amendment power held by the government that allows it to take private property for public use.**

ANSWER: eminent domain [accept expropriation until read; accept compulsory acquisition until read]

<AJ, Social Science (Political Science)>

3. **One of these things is indirectly caused by katabatic winds creating a polynya ("paul-EEN-ya") that distributes AABW. Benjamin Franklin notably made the first chart of one of these things after hearing about it from his cousin Timothy Folger. Information about these things is recorded in the OSCAR dataset. Henry Stommel discovered that the "beta effect" causes western intensification in some types of these systems. A rotation that dwindles as it moves away from a boundary, the (*) Ekman spiral, is caused by the Coriolis effect in the "surface" variety of these phenomena, which are contrasted with the thermohaline variety caused by differences in density and salinity. Rotating forms of these things are known as gyres, and they include the Gulf Stream. For 10 points, name these large, directed flows of water in the ocean.**

ANSWER: ocean currents [or circulation; accept brine rejection or formation of deep water masses or overturning or upwelling until "Henry Stommel"; prompt on thermohaline circulation or surface current or Gulf Stream or gyre]

<JC, Other Science (Earth Science)>

4. **During this war, a brigade of foreign volunteers known as Mahal ("MAH-hall") made up the majority of one side's air force. Friction over military authority in that country during this war led to an incident in which a special forces unit fired on a French arms ship operated by their compatriots; that was the Altalena**

Affair. Glubb Pasha led one force during this conflict, though King Abdullah had previously agreed with an emissary to not engage in hostilities. During this war, 4,000 (*) Egyptian troops including Gamal Abdel Nasser were trapped in the Faluja pocket by the IDF. At the conclusion of this war, Egypt held the Gaza Strip, and both the West Bank and East Jerusalem were occupied by Transjordan. For 10 points, name this first conflict between a [emphasize] newly-formed Jewish state led by David Ben Gurion and its neighbors of the Arab League, followed up decades later by the Six-Day and Yom Kippur Wars.

ANSWER: 1948 Arab-**Israeli** War [or the **First Arab-Israeli** War; or the **Israeli** War of **Independence**; or al-**Nakba**; prompt on Arab-Israeli War]
<NR, World History>

5. High exponents in the Swain–Schaad equations indicate that this phenomenon is occurring. A factor of Q reflecting this phenomenon appears in Bell’s modification of the Arrhenius equation, which can be used to describe the reaction catalyzed by alcohol dehydrogenase. A device that uses this phenomenon has a negative resistance region and is named for Leo (*) Esaki (“eh-SAH-kee”). A formalism that describes this process uses an Airy function to patch together two solutions at a turning point, and field emission of electrons is explained by this phenomenon. George Gamow (“GAM-off”) discovered the role of this phenomenon in alpha decay. In the finite potential well, this phenomenon is noted by showing a nonzero wavefunction outside of the barrier. For 10 points, name this classically forbidden process where a particle crosses through a potential energy barrier higher than its own energy.

ANSWER: quantum **tunneling**
<AP, Physics>

6. Note to players: we want a type of artwork, not a specific material. An artist in this medium unusually depicted four women chatting on benches in all green in *The Gossips*; that artist of this medium referred to an ex who had reneged on a faithfulness “contract” as “the ferret.” That collaborator with Amy Singer and Jessie Lipscomb showed a woman’s nude body turning into a dress in this medium, while another relationship-ending work in this medium shows her on her knees to her lover leaving her for an elderly crone and is called *The Mature Age*. That artist of *The Waltz*, (*) Camille Claudel, had an affair with another worker in this art form whose depiction of an author in his bathrobe was criticized for not actually resembling Balzac. That man used this medium to show Ugolino about to eat his dying children and Paolo and Francesca embracing in other parts of *The Gates of Hell*, which also inspired *The Thinker*. For 10 points, name this art form practiced by Auguste Rodin.

ANSWER: **sculpture** [or **sculpting**; or **casting**; or **statues**; or **statuary**]
<JC, Other Arts (Sculpture)>

7. A woman in this play observes that the crow and the lark sing equally sweetly when no one is listening to them. Another character in this play messes with his “sand-blind” father by referring to himself in the third person as “Master”; that character’s lover repeats “In such a night” in an attempt to “out-night” him and later gives away a turquoise ring for a monkey. The query “where is fancy bred... in the heart, or in the head?” is asked in response to a courtship riddle that tricks two princes into picking gold and silver (*) caskets. A character in this play asks “If you prick us, do we not bleed?” to justify revenge on a character whose ships are lost at sea and owes a “pound of flesh.” For 10 points, name this William Shakespeare play where Portia dresses up as a lawyer to protect her husband Bassanio’s friend Antonio from Shylock.

ANSWER: *The **Merchant of Venice***
<JC, British Literature>

8. This country’s capital city contains a monument honoring Mrs. Chippy, the cat of explorer Ernest Shackleton. The northernmost outpost of this country is a station located on Raoul Island. One of this

country's overseas territories is the only polity in the world to have a flag featuring the Union Jack on a yellow background. This country's possessions include (*) Niue ("NEW-ay"), Tokelau, and the Cook Islands. This nation's Firth of Thames is located to the east of the Coromandel Peninsula, which can be seen from this country's largest city across the Hauraki Gulf. Two kinds of birds that were native to this country before extinction were Haast's eagle and the moa, killed off by the indigenous Māori. For 10 points, name this country home to North and South Island and the world's southernmost capital city at Wellington.

ANSWER: New Zealand [or Aotearoa]

<WD, Geography>

9. A ruler of this kingdom resettled 40,000 Kipchak families in his lands on the condition that they each supply a soldier for his Monaspa troops. This kingdom's rulers patronized the Gelati Academy and the monks of the Monastery of the Cross in Jerusalem during this country's medieval Golden Age. This kingdom reclaimed its capital from a Seljuk emirate by winning the Battle of Didgori under the leadership of its king (*) David the Builder. The poet Shota Rustaveli used the character of princess Tinatin in his epic *The Knight in the Panther's Skin* as a stand-in for Tamar the Great, a queen of this country's Bagrationi dynasty. For 10 points, name this country whose modern-day state claims the breakaway state South Ossetia and has a capital at Tbilisi.

ANSWER: Kingdom of Georgia

<AJ, European History>

10. Description acceptable. In the initiation ceremony for these people, a bottle with a coin and a cork with needles are placed in the middle of a tent made of white sheets while plates are beaten with utensils. Particularly high-ranking members of these people are called "Supreme Servitur." In another ceremony, these people feed Ayizan ("ah-ye-ZONG") before remaining within the *djevo*. Tourists draw "X" marks on the alleged tomb of a hairdresser who was one of these people; that woman was Marie (*) Laveau. Baths are given to initiate people to this role in the *kanzo* ceremony. Male people of this type are called houngans, and females are called mambos. These people worship Papa Legba and the top-hat-wearing Baron Samedi, among other *loa*. For 10 points, name these priests of a Haitian religion who don't actually stab dolls.

ANSWER: voodoo priests or priestesses [or houngans until it is read; accept mambos until it is read; prompt on practitioners of voodoo or other descriptors of people who participate in voodoo by asking "what is their role?"; prompt on voodoo]

<JC, Religion>

11. A character in this work introduces himself by saying "Oh, it smells good here," which the narrator finds ridiculous. He and that character discuss how a man from the Middle Ages would detest modern life. This novel contains a poem that ends "Cool and star bright is our eternal laughter." This novel's protagonist, who learns the foxtrot on his fiftieth birthday, sees his (*) personality separated into different chessmen and relives his loves with Emma and Rosa Kreisler in a "stream of sex" before being sentenced to "eternal life" and is laughed at for killing a woman who is shrunk and put in Mozart's pocket. This novel ends with the protagonist seeing Pablo with the androgynous Hermine, leading him to stab her in a location "for madmen only," the Magic Theater. For 10 points, name this Herman Hesse novel about the half-animal nature of Harry Haller.

ANSWER: *Der* Steppenwolf

<JC, European Literature>

12. Description acceptable. A god was distracted by the beauty of the tongueless Larunda and had sex with her while he was supposed to be doing this job, giving birth to the Lares. A god acting in this role branded another god and flayed his skin, giving leopards their spots. That god was syncretized with another god in this role to form a cult center at Cynopolis. An eyeless fire god with this job turned himself into a maize plant and an amphibian before dying; that patron of the ballgame and twin of Quetzalcoatl is the dog-headed (*)

Xolotl, who travels to and from Mictlan. One jackal-headed god with this role was Anubis, who performed the “Weighing of the Heart.” Another god with this role was Hermes, who passed off his charges to Charon, where they were ferried across the Styx into Hades. For 10 points, name these figures who lead dead souls to the afterlife.

ANSWER: psychopomps [or guides of the dead; or protecting the dead or carrying the dead or ferryman of the dead or anything similar that implies guiding or leading the dead; prompt on death god or god of the underworld or judge of the dead or funeral god or anything that just implies a general association with death]

<JC, Mythology>

13. **After a mayor of this city claimed that an event in this city was as likely to run a deficit as a man was to have a baby, the cartoonist Aislin depicted him as a pregnant man calling the abortionist Dr. Henry Morgentaler. A Firearms Act was signed and White Ribbon Day was created after a 1989 anti-feminist mass shooting at a polytechnic school in this city. The Beijing Amendment modified a treaty signed in this city in response to the research of Mario Molina. Mayor Jean (*) Drapeau oversaw this city’s Olympics, at which gymnast Nadia Comăneci became the first person to score a perfect 10. A 1987 protocol signed in this city aimed at the phasing out of CFCs. Lester Pearson criticized Charles De Gaulle for saying “Vive le Québec libre!” at another event in this city. For 10 points, name this site of the 1967 Expo, the largest city in Québec.**

ANSWER: Montreal

<AP, European History>

14. **Janson claims that the dark church in this work’s background and the lack of a “divine light” emphasize the central figures’ ordinary status. An essay by Kenneth Clark states that this painting is not just a “kind of superior journalism” since it is “revolutionary in every sense of the word.” A man wearing the colors of the papacy who may have stigmata on his right hand is illuminated by a (*) box, this painting’s only source of light. This piece inspired a work depicting the execution of a Mexican ruler and another set in Korea; those are by Manet and Picasso, respectively. A companion to this piece, *The Charge of the Mamelukes*, depicts the day before it. The central figure in this painting holds his arms out as a faceless firing squad attacks. For 10 points, name this painting that depicts Napoleon’s troops massacring Spanish citizens on a certain date, by Francisco de Goya.**

ANSWER: *The Third of May, 1808: The Execution of the Defenders of Madrid* [or *The Third of May, 1808: Executions on Principe Pio Hill*]

<MT, Painting>

15. **One type of these proteins consists of HsdM, HsdR, and HsdS subunits. After a step using these proteins, their action can be made irreversible by the use of calf-intestinal alkaline phosphatase. Buffer compatibility charts are consulted when two different types of these proteins are used in the same reaction. REBASE is a database of them, and their activity can be inhibited by Dam and Dcm methylases. High pH or glycerol can cause these molecules to exhibit (*) star activity. Isoschizomers (“iso-SKITS-oh-mers”) of these molecules act on the same palindromic recognition site, while isocaudomers act on different sites but produce the same overhang. They can produce blunt or sticky ends and are commonly used to digest vectors and inserts for cloning. For 10 points, name these proteins, examples of which include BamH1 and EcoR1, which cut DNA at specific sites.**

ANSWER: restriction enzymes [or restriction endonucleases]

<AP, Biology>

16. **The *Book of the Apple* appears to be a reworking of the *Phaedo* centered around this man. One philosopher added the gradation of “quodammodo,” or “in a certain way,” to what he considered to be this man’s view of privation in prime matter. One thinker claimed that he read through one of this man’s works 200 times without getting sick of it; that philosopher was known as “the Second Teacher” in homage to this (*) “First Teacher.” This man’s ideas were central to the development of *falsafa*, which was criticized along with Avicenna’s view of him in a work by al-Ghazali. That work was in turn attacked in *The Incoherence of the***

Incoherence by Averroes, who was known as “the Commentator” for his writings on this man’s work. For 10 points, many Islamic philosophers analyzed the works of what writer of *Metaphysics* and *Nicomachean Ethics*?

ANSWER: Aristotle

<NR, Philosophy>

17. *Composer and type of piece required. They’re not concertos or Schubert pieces, but Mitsuko Uchida made a famous recording of these pieces for the Phillips Label along with a Fantasia in C minor that is typically paired with these pieces. Several early examples of these works, including one containing a notable *rondeau en polonaise*, were published during their creator’s time in Munich. They’re not string quartets, but the final one of these works in D major is nicknamed “The Hunt,” and one of these works in (*) C major opens with arpeggiated tonic triads in the right hand and an Alberti bass in the left; that 16th of these works was nicknamed “facile” (“fah-CHEE-lay”) and is marked “for beginners.” The sounds of Ottoman janissaries are imitated in the “rondo alla turca” of one of these works written in A major. For 10 points, name this group of eighteen pieces written for a solo keyboard instrument by the composer of *Eine kleine Nachtmusik*.*

ANSWER: piano sonatas by Wolfgang Amadeus Mozart [prompt on partial answer]

<JD, Music>

18. José Sarria worked in one of these places until its closing, after which he co-founded the Society for Individual Rights. A national guide to these places was published in 1964 in *Bob Damron’s Address Book*. Some of the oldest places of this type include Atlantic House in Cape Cod and the subject of the case *Stoumen v. Reilly*, *The Black Cat*. At a *de facto* place of this type called Julius, the Mattachine Society held a (*) “Sip In” protest in 1966. A “hairpin drop heard ’round the world” that occurred at one of these places was partially incited by Sylvia Rivera and Miss Major Griffin-Gracy. That one of these places was located on Christopher Street in Greenwich Village and was the site of unrest in 1969. For 10 points, name this type of place exemplified by New York City’s Stonewall Inn.

ANSWER: gay bars [accept answers indicating gay or LGBTQ taverns, inns, and similar; prompt on bars; prompt on taverns; prompt on inns; prompt on nightclubs; prompt on less specific answers]

<MT, American History>

19. Two phenomena of this type must have the same Mulliken symbol for Fermi resonance to occur. A potential used to monitor this process contains a factor equal to the square root of $k\text{-sub-}e$ over $2D\text{-sub-}e$. The frequencies of this process are the eigenvalues of the matrix product of the inverse kinetic energy matrix times the potential energy in normal coordinates. An anharmonicity factor appears in the exponential for the (*) Morse potential for modelling this process, which is superior to the QHO for modelling this process. A form of spectroscopy that detects this process relies on changes in the dipole moment. Linear molecules have $3n$ minus 5 modes for this process, two of which are symmetric and antisymmetric stretch. For 10 points, name this process detected by IR spectroscopy, in which bonds act like springs and atoms oscillate.

ANSWER: molecular vibration [or vibrational modes; or vibrational transitions; prompt on transition; prompt on motion; prompt on molecular motion; do not accept or prompt on “vibrionic”]

<EM, Chemistry>

20. Two characters in this novel keep adding whimsical touches like stone elephants and turtles to plans for a round pink house; those two characters break up in a conversation in which one of them talks and the other writes on paper. A character in this novel meets the mother of her adopted children while buying cloth for a quilt and forgives the mother’s sister, who writes “Only the sky above us do we hold in common” in a letter to the protagonist. That protagonist of this work is told that “it pisses (*) God off if you walk by [the title concept] in a field somewhere and don’t notice it.” That conversation between a woman who sews pants and Shug Avery is recounted the first time the protagonist, who is abused by her stepfather Alphonse, writes to her sister Nettie instead

of to God. For 10 points, name this epistolary novel that chronicles the life of Celie in rural Georgia, a work by Alice Walker.

ANSWER: *The **Color Purple***

<MT, American Literature>

Bonuses

1. An English source called Anonymous IV (“four”) claims that this man was the best composer of organum (“OR-gun-um”). For 10 points each:

[10] Name this composer and contemporary of Pérotin, who is credited for creating the collection *Magnus Liber Organi*.

ANSWER: **Léonin**

[10] Léonin was an early member of this group of French medieval composers named after a Parisian Cathedral. This group represented the early stages of *ars antiqua*.

ANSWER: **Notre Dame** School

[10] The *clausula* sections of early organa of the Notre Dame School served as predecessors to these compositions. These polyphonic pieces were usually set to sacred Latin texts and were contrasted with the secular madrigal.

ANSWER: **motet**

<LC, Music>

2. This novel is subtitled “A Suicide Note” because it ends with the narrator supposedly losing his identity when he realizes that his father is Fat Vince, making him now Fat John. For 10 points each:

[10] Name this novel in which John Self goes to New York and is stalked by Frank the Phone while working on a disastrous movie that turns out to be a fake.

ANSWER: **Money**

[10] *Money* and *Yellow Dog* were written by a British author with this last name and first name Martin. His father Kingsley wrote *Lucky Jim*.

ANSWER: **Amis**

[10] In this Martin Amis novel, the German Holocaust doctor Odilo Unverdorben lives in reverse chronology, meaning that he creates people at Auschwitz.

ANSWER: **Time’s Arrow**

<JC, British Literature>

3. This effect is typically negative for high-viscosity solvents or large molecules. For 10 points each:

[10] Name this effect in which an irradiated nucleus causes enhancement or reduction of the resonance of spin states in a second nucleus through dipole–dipole interaction. It’s not spin coupling, which involves chemical bonds.

ANSWER: **NOE** [or **nuclear Overhauser** effect; prompt on partial answer]

[10] The nuclear Overhauser effect can be typically observed in this technique that involves measuring chemical shifts of molecules to elucidate structures of chemical compounds.

ANSWER: **NMR** [or **nuclear magnetic resonance** spectroscopy]

[10] NOESY is typically a type of NMR experiment with this many dimensions. Diagonal peaks from this NMR dataset corresponds to traditional NMR, while cross peaks can indicate cross-proton coupling.

ANSWER: **2D**-NMR [or **two**; or **two-dimensional** NMR]

<PL, Chemistry>

4. Brazil’s acquisition of these armaments began a three-way arms race between it, Argentina, and Chile. For 10 points each:

[10] Name these armaments that the British revolutionized with their *Dreadnought* class. Theodore Roosevelt sent a “Great White” group of these armaments around the world during his presidency.

ANSWER: battleships [or warships]

[10] This Great Depression-era Chief Justice who ran against Woodrow Wilson in 1916 negotiated controls on fleet sizes at the 1921 Washington Naval Conference.

ANSWER: Charles Evans **Hughes**

[10] This future fleet admiral served as an ensign aboard the *USS Kansas* as part of the Great White Fleet. He was criticized for leaving San Bernardino Strait undefended during his most famous victory at Leyte Gulf.

ANSWER: William Frederick “Bull” **Halsey Jr.**

<NR, American History>

5. Being jealous of a bird – it happens to the best of us. For 10 points each:

[10] In one poem, this Roman author wishes that he could play with his lover Lesbia like her pet sparrow, and later laments at her sorrow when it dies. He threatened to sodomize Furius and Aurelius in *Carmen 16*.

ANSWER: **Catullus**

[10] The return of “dark swallows” symbolizes the end of a relationship in this Spanish post-Romantic poet’s *The Book of Sparrows*. He wrote “What is poetry?... Poetry is you” in *Rimas*.

ANSWER: Gustavo Adolfo **Becquer**

[10] In this play, the title character’s lover decapitates her canary Serena after she tries to bring it with them on their quest to run away and start a hotel.

ANSWER: **Miss Julie**

<JC, European Literature>

6. The first copyright law to deal with visual works was named after this artist and was enacted after he got upset when people reproduced two of his most famous series of prints. For 10 points each:

[10] Name this artist who painted *The Gate of Calais*. X-ray analysis reveals that he almost included a dog peeing on a pile of Old Masters in his self-portrait, but had second thoughts and painted over it.

ANSWER: William **Hogarth**

[10] Paintings like “The Tête a Tête,” which alludes to the infidelity of the subjects, and “The Lady’s Death,” where a widow poisons herself, comprise this Hogarth series about the woes of modern matrimony.

ANSWER: **Marriage à-la-Mode**

[10] Hogarth published a book titled for “The Analysis of” this title concept, which he distilled into six principles. He named an S-shaped line for this concept.

ANSWER: **beauty** [accept *The Analysis of Beauty*; accept the S-shaped line of **beauty**; prompt on aesthetics or synonyms by asking “what is the exact word in the title?”]

<MT, Painting>

7. Name some commodities from their appearances in European history, for 10 points each.

[10] For thousands of years, this good was transported from the Baltic Sea to Southern Europe along a trade route that followed the Vistula and Dnieper Rivers.

ANSWER: **amber** [accept **Amber Road**]

[10] Because of its extensive kaolin deposits, the town of Meissen near Dresden became the first European site of production of the hard-paste type of this material, which was developed by Johann Friedrich Bottger at the behest of Augustus the Strong.

ANSWER: **porcelain** [or **ceramics**; or **china**]

[10] In the 16th century, Bohemia emerged as a leading producer of this good using a new formula of potash and chalk. Byzantine blowers of this material fled to Venice and made the Murano district a center for this good.

ANSWER: **glass**

<NR, European History>

8. You are a hobbyist determined to plug in as many gadgets as possible to your Arduino to make a turbocharged Internet of Things cat feeder. For 10 points each:

[10] Cats love flashy lights, so you have to get a bunch of multicolored LEDs, or light-emitting devices of this type. These circuit elements only let current flow one way.

ANSWER: **diode**

[10] When buying one of these devices, you debate over whether to get the servo type, or a “brushed” or “brushless” variety. You may use an H-bridge to control it.

ANSWER: **motor**

[10] If you buy a servo motor to move the dangly cat toy, it will come with a built-in one of these sensors to tell you the motor’s rotational position. They can be magnetic or optical, consisting of photoresistors under a series of holes.

ANSWER: rotary shaft **encoder**

<JC, Physics>

9. Answer the following about commonly misheard song lyrics, or mondegreens, for 10 points each.

[10] In this singer’s song “Stay,” the lyric “I want you to stay” is often heard as “I won’t chew the steak.” This singer recently starred as the hacker Nine Ball in *Ocean’s 8*.

ANSWER: **Rihanna**

[10] “Got a lot of Starbucks lovers / they’ll tell you I’m insane” is a common mondegreen for this Taylor Swift femme-fatale song, in which she claims “I’ll write your name” before murdering a string of boyfriends.

ANSWER: “**Blank Space**”

[10] Many people hear the line “There’s a bathroom on the right” in this Creedence Clearwater Revival song, which repeats the line “Don’t go ’round tonight / It’s bound to take your life.”

ANSWER: “**Bad Moon Rising**”

<JC, Trash (Music)>

10. Only three people have accomplished this feat more than once, including William Faulkner for *A Fable* and *The Reivers*. For 10 points each:

[10] Name this feat accomplished most recently by Andrew Sean Greer for *Less*.

ANSWER: **winning the Pulitzer Prize for Fiction** [or **winning the Pulitzer Prize for Novels**; or **winning the Pulitzer Prize for Fiction multiple times**; prompt on winning the Pulitzer Prize or winning the Pulitzer Prize for literature]

[10] This novel, whose title character is courted by Arthur Russell and eventually enrolls in Frincke’s Business College, received its author’s second Pulitzer Prize for Fiction in 1922, after *The Magnificent Ambersons*.

ANSWER: **Alice Adams**

[10] Other than Booth Tarkington and William Faulkner, this author of *Rabbit, Run* and other novels focusing on Rabbit Angstrom is the only other person to win the Pulitzer Prize for Fiction twice.

ANSWER: John Hoyer **Updike**

<MT, American Literature>

11. Having sex in temples is a bad idea in Greek mythology, and probably in real life too. For 10 points each:

[10] In one version of the myth, this priest of Apollo and his two sons were strangled by serpents because he made love to his wife in a temple. In another, he dies for denouncing the Trojan horse as “Greeks bearing gifts.”

ANSWER: **Laocoön**

[10] This heroine and her husband were turned into lions after having sex in Zeus’s temple. That husband, Hippomenes, won her hand in marriage by throwing golden apples in front of her during a footrace.

ANSWER: **Atalanta**

[10] One man of this name was sacrificed for getting it on with Comaetho in Artemis’s temple. Another Greek of the same name had his brains eaten by Tydeus, which notably grossed out Athena.

ANSWER: **Melanippus**

<JC, Mythology>

12. Answer the following about pre-modern devices used for computation, for 10 points each.

[10] This device is often considered the world's oldest analog computer; it is a geared orrery ("OR-uh-ree") mechanism found in a Greek shipwreck.

ANSWER: **Antikythera** mechanism

[10] This British archaeological site contains a structure that may have been used to calculate declination and align with the midsummer sun. It consists of large circles of stacked megaliths.

ANSWER: **Stonehenge**

[10] These two brothers from Baghdad wrote *The Book of Ingenious Devices*, which listed devices like an early feedback controller, an automatic flute player, and an early gas mask.

ANSWER: **Banu Musa** brothers

<JC, European History>

13. Gaëtan Dugas was long misidentified as Patient Zero for this disease in America after his nickname of Patient "O" was misinterpreted. For 10 points each:

[10] Name this disease whose spread and response were chronicled by Randy Shilts in his book *And the Band Played On*. Susan Sontag's book about *[this disease] and Its Metaphors* argues that its victims had been turned into symbols.

ANSWER: **AIDS** [or **Acquired Immune Deficiency Syndrome**; or **Human Immunodeficiency Virus**; or **HIV**]

[10] This book by Laud Humphreys also had an important impact on the LGBT community: namely, convincing the police that the titular sexual activities in public bathrooms were "victimless crimes."

ANSWER: **Tearoom Trade: Impersonal Sex in Public Places**

[10] This man pioneered the study of LGBT issues with his namesake reports, *Sexual Behavior in the Human Male* and *Sexual Behavior in the Human Female*. He names a scale for measuring sexual orientation.

ANSWER: Alfred **Kinsey**

<MT, Social Science (Sociology)>

14. This book begins with a decree that all male Jewish babies be slaughtered, causing Jochebed to place her newborn son in a basket on the Nile. For 10 points each:

[10] Name this second book of the Old Testament supposedly written by Moses, which tells of how the Jews escaped from Egypt.

ANSWER: **Exodus** [or **Shemot**]

[10] After leaving Egypt the first time, Moses married Zipporah, the daughter of this priest of Midian. Moses worked as a shepherd for him for 40 years before he returned to Egypt, and he is revered in the Druze ("drooz") religion.

ANSWER: **Jethro** [or **Yitro**; or **Shuaib**]

[10] Right before Moses's meeting with Jethro is discussed in Exodus 2:22, it is explained that Moses names his son Gershom ("gair-SHOWM") because he has become this specific phrase.

ANSWER: "**stranger in a strange land**" [or "**sojourner in a foreign land**"; or "resident **alien in a foreign land**"; "**foreigner in this country**"; or "**foreigner in this land**"; or "**foreigner in a foreign land**"]

<LC, Religion>

15. These cells do not require the presence of MHC class I in order to destroy their targets. For 10 points each:

[10] Name these lymphocytes that have a role in between specific immune cells and nonspecific defenses. These cells destroy virally-infected host cells and express CD16 and CD56 on their surface.

ANSWER: **natural killer** cells [or **NK** cells]

[10] After acquiring a target cell, natural killer cells release this protein, which forms pores in the target cell's membrane. After the pores are formed, granzymes enter the target cell.

ANSWER: **perforin**

[10] Granzymes cleave caspases in the target cell, triggering this process of programmed cell death.

ANSWER: **apoptosis**

<AP, Biology>

16. This character solves a murder by finding out that a slave lied about receiving an apple from his mistress, causing a man to think that his wife cheated on him and kill her. For 10 points each:

[10] Name this character, who enjoys disguising himself as an ordinary citizen while touring his city of Baghdad.

ANSWER: **Haroun al-Rashid**

[10] Haroun al-Rashid appears in this work, which also features stories about Aladdin and Ali Baba.

ANSWER: **Arabian Nights** [or **One Thousand and One Nights**]

[10] This author wrote the play *Shahrazad*, intended as a sequel to the Arabian Nights in which King Shahriyar investigates Scheherazade. He wrote about the “seven sleepers of Ephesus” in *The People of the Cave*.

ANSWER: Tawfiq **al-Hakim**

<JC, World Literature>

17. Certain photographs have come to symbolize not only specific moments, but entire political movements. For 10 points each:

[10] A man carrying a shopping bag stands alone in front of four tanks in a photo depicting this location in Beijing.

ANSWER: **Tiananmen** Square

[10] A photograph of a young man protesting the Vietnam War by placing flowers in the guns of soldiers was taken in front of this building.

ANSWER: the **Pentagon** [or the **Department of Defense**; or the **DoD**]

[10] A photo taken in this state shows a woman in a long dress standing calmly in front of two police officers. She was protesting the death of Alton Sterling, who was killed in this state.

ANSWER: **Louisiana**

<MT, Other Arts (Photography)>

18. Name some techniques used in computer vision, for 10 points each.

[10] Computer vision processes images represented as 2D arrays of pixels. Each pixel typically represents this quality as 3 bytes in an RGB format.

ANSWER: **colors** [or **hues** or common synonyms]

[10] SURF, BRISK, and FREAK improve upon David Lowe’s SIFT algorithm to find these corresponding locations in two similar images in order to align them to each other or recognize objects. Each of these coordinates has an associated feature vector.

ANSWER: **keypoints**

[10] More recently, researchers have used CNNs, or neural networks named for this operation, to classify pictures like those in ImageNet. This operation of “shifting and finding overlap” is done with a Gaussian to blur an image.

ANSWER: **convolution** [accept **convolutional** neural network; prompt on **CNN**]

<JC, Other Science (Computer Science)>

19. The founder of this empire claimed descent from Bilal, the first muezzin (“moo-EH-zin”). For 10 points each:

[10] Name this empire whose origins are chronicled in the Mandinka Epic of Sundiata.

ANSWER: **Mali** [or **Manden**]

[10] Travellers to the Mali Empire like Ibn Battuta were told the epic of Sundiata by these people. They retained the knowledge of the oral tradition, and are often referred to as “praise singers.”

ANSWER: **griots** [or **jeli**]

[10] Ibn Battuta’s visit to the Mali Empire is recorded in his account of this title, a general Arabic term for a journey or an account of the journey. Ibn Jubayr wrote another of these accounts during the Third Crusade.

ANSWER: **rihla**

<AJ, World History>

20. This text states “the [title group] must be put in its place... so that each of us may live free of the trampling and the roar of a bewildered herd.” For 10 points each:

[10] Name this 1925 book that separates society into insiders and outsiders, the latter representing the title group, whose democratic capacities are an illusion.

ANSWER: *The **Phantom Public***

[10] This author of *Experience and Education* responded to Walter Lippmann in *The Public and its Problems*, asserting that communication could raise the public from its “eclipse.”

ANSWER: John **Dewey**

[10] Frankfurt School philosopher Jurgen Habermas explored the development of the bourgeois public and the phenomenon of public opinion in this 1962 work.

ANSWER: *The **Structural Transformation of the Public Sphere*** [or ***Strukturwandel der Öffentlichkeit***]

<NR, Philosophy>

