

2016 “stanford housewrite”

Edited by Stephen Liu

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PACKET 7

TOSSUPS

- 1. Michael Posner names a task that tests one’s ability to manipulate this phenomenon that mixes valid and invalid trials that change the location of the stimulus. That task detects saccades to differentiate between overt and covert versions of this phenomenon. The “top-down” orientation of this phenomenon is more goal-driven than in the “bottom-up” orientation. This phenomenon can employ either “conjunction” or “feature” searches according to Anne (*) Treisman’s feature integration model of this phenomenon. When people are asked to name the colors of words that depict different colors, this phenomenon experiences interference. That is the Stroop test. This phenomenon namesake “blindness” was demonstrated in an experiment where viewers were asked to watch a basketball as a person in a gorilla suit walked across the camera. Deficiency in this ability may be treated with drugs like Ritalin. For 10 points, name this phenomenon, which is one’s capacity to focus on something.**
ANSWER: attention
- 2. Meta-GGA approaches include the Laplacian of this quantity in addition to its gradient, and functions of it obtained using those approaches include M06 and TPSS. One definition of this quantity sets it equal to eight pi over three times Planck’s constant cubed, all multiplied by the cube of the Fermi momentum. The total kinetic energy of a system is proportional to the integral of this quantity to the five-thirds power in the (*) Thomas-Fermi model. The LDA approximation assumes that the exchange and correlation energy depend only on the value of this quantity at each point in space. Hybrid functions of this quantity, such as B3LYP, can be obtained by including Hartree-Fock exchange. The first Hohenberg-Kohn theorem states that the external potential of a system is a unique functional of this quantity. For 10 points, name this quantity that is used instead of the wavefunction in DFT calculations to quantify the probability of finding an electron in a particular location.**
ANSWER: electron density [prompt on density until “electron”]
- 3. Under pressure from Jose Serrano, Louis Freeh admitted that the FBI illegally tapped the phones of a party associated with this cause in the 1960s. A law that targeted supporters of this cause was challenged by Santos Amadeo of the ACLU and was nicknamed the “Little Smith Act.” Supporters of this cause bombed New York City’s Fraunces Tavern in 1975. Alvin Bentley was seriously injured by supporters of this cause who snuck semi-automatic pistols into the Ladies’ Gallery in the House of Representatives, under the direction of Lolita Lebron. Law 53 prohibited all discussion of this cause, leading to events like the (*) Jayuya Uprising and the attempted assassination of Harry Truman by Oscar Collazo and Griselio Torresola. Historical groups belonging to this non-Venezuelan cause include Filiberto Ojeda Rios’ FALN and Pedro Albizu Campos’s PRNP. For 10 points, name this political stance that opposes American control of a certain Caribbean island.**
ANSWER: Puerto Rican independence [or Puerto Rican nationalism; accept clear-knowledge equivalents]
- 4. The speaker of one of this poet’s works recalls, “The night was crying. The night was sighing. The night was sobbing.” That poem, “Sad, Very Sadly,” opens with the speaker “watching how a fountain’s water fell.” This poet described a place where “all was dawn” at the end of a sequence in which the speaker repeatedly shouts “More!” as a fairy maiden guides him through a lush vernal landscape. In another poem, he described a man whose “curly hair” and “athletic biceps” are well known by the “iodine and (*) saltpetre foam.” That poem by this writer describes the “old cicada” with his “senile, raucous guitar” and opens, “The sea like a vast silvered mirror reflects the sky like a sheet of zinc.” This poet of “Autumnal” wrote, “a thousand cubs are loosed from the Spanish lion,” in a poem that accuses the American addressee, a “professor of energy,” of “missing one thing: God.” For 10 points, name this Nicaraguan poet of “Symphony in Gray Major” and “To Roosevelt,” the father of *modernismo*.**
ANSWER: Rubén Darío

5. **One figure in this work was based on the artist's *Woman of Majorca*, who wears a flat-brimmed, pointed, and veiled hat. In this painting, that woman instead wears a flowery straw hat and sits on a red skirt beside a clay jug. The figures in this work "trace a vague capital 'C' for Creation," according to a poem that says they are "less secure than even we." The racetrack in the background of this work was replaced with a landscape that also fills its artist's *Boy Leading a Horse*. In this painting, a youth wearing only briefs carries a drum over his shoulders. The seated woman in this work may have been modeled on (*) Fernande Olivier, while a fat man in red clothing was probably based on Apollinaire. The Fifth *Duino Elegy* was inspired by this work, which is at the National Gallery and includes a self-portrait of this work's painter in a diamond-patterned harlequin costume. For 10 points, name this painting from Picasso's Rose Period in which a group of circus performers stand in a barren desert.**
ANSWER: *Family of Saltimbanques* [or *La famille du saltimbanques*]
6. **One work in this key opens with a sequence of three chords: a third on the tonic, a fifth on the dominant, and an unexpected chord in its relative key. Above those three chords, the composer wrote the syllables of that movement's title. In the first movement of another work in this key, the oboes unusually introduce a new theme in E minor in the middle of the development. The *Les Adieux* piano sonata is in this key, and its composer wrote another work in this key in which the orchestra plays three *fortissimo* chords separated by short (*) cadenza-like passages played by the soloist. A symphony in this key has a fourth movement made up of variations on a melody previously used in the composer's ballet *The Creatures of Prometheus*. That symphony was dedicated to "the memory of a great man." For 10 points, name this key that Beethoven used in "heroic" works like the *Emperor* Piano Concerto and the *Eroica* Symphony, the relative major of C minor.**
ANSWER: E-flat major [prompt on "E-flat," do not accept or prompt on "E-flat minor" or "E major"]
7. **This work dismisses a topic written about by Jarrolds and Mr. Bechhofer Roberts as "only interesting from a sociological and perhaps a legal point of view." This essay uses an anecdote about a man crossing the Atlantic with his mistress dressed as a boy to discuss "episodes that no novelist would dare to make up." A "little man of the professional class" is offered as the perfect candidate for the title kind of action. This essay contrasts "our Elizabethan period," roughly 1850 to 1925, with the "false values of the American film," which it argues inspired Elizabeth Jones and Karl Hulten. This work opens in second-person with a man reading (*) *News of the World* on a Sunday afternoon. It identifies nine cases that have stood the test of time, many of them connected by poison, and compares them to the recent "Cleft Chin" case, all while placing Jack the Ripper in a class by himself. For 10 points, name this essay by George Orwell about how "you never seem to get a good [homicide] nowadays."**
ANSWER: "Decline of the English Murder"
8. **He isn't Robert Axelrod, but this thinker claimed in one work that game theory demonstrates how humans have a natural capacity to cooperate. In that book, this philosopher argued that the Left should incorporate ideas from evolutionary biology. Larissa MacFarquhar's book *Strangers Drowning* drew from this thinker's ideas. This author of *The Darwinian Left* noted that the modern notion of "human concern" has grown from a tribal level to a global level in a book that analogizes altruism to an expanding (*) circle. In the essay "Famine, Affluence, and Morality," this author claimed that if it is within our power to alleviate suffering anywhere in the world, then we should sacrifice any luxuries in order to do so. This philosopher coined the term "speciesism" in a book that argues that the principle of utility should also apply to animals. For 10 points, name this Princeton-based Australian utilitarian philosopher who wrote *Practical Ethics* and *Animal Liberation*.**
ANSWER: Peter Singer
9. **Defects in the MCCS unit in this structure is connected with microphthalmia with linear skin defects. The Sherman paradox describes how a disease related to this structure seems to appear more commonly in later generations. An irregular representation of these structures leads to their namesake "mosaicism." Tsix [tee-six] is an antisense gene that that methylates the promoter of a gene that coats this structure. That latter gene is a "specific (*) transcript" partially named for this structure. In a disease associated with this structure, CGG repeats affect the FMR1 gene, which can potentially cause mental retardation. These structures can be packaged into the form of facultative heterochromatin in a process called lyonization. When these structures are inactivated, they can become Barr bodies, and intellectual disability is associated with its namesake "fragile" syndrome. For 10 points, name this sex chromosome that females contain two of but males only contain one of.**
ANSWER: X chromosome

10. **Because multirelations form a bicategory, two variants of this operation that differ in whether they retain duplicate attributes are both possible category-theoretic pullbacks. In 1984, DeWitt et al. introduced a hybrid-hash algorithm for this operation that makes better use of main memory than the older GRACE-hash algorithm; both algorithms require an equi predicate. The sort-merge algorithm for this binary operation allows arbitrary theta-functions and has time complexity $O(N \log N + M \log M)$. In Edgar Codd's (*) relational algebra, the natural form of this operation is denoted with a bow-tie symbol and can be implemented in terms of his primitives as a Rename followed by a Cartesian product, a Selection, and a Projection. The "inner" and "outer" variants of this operation differ in whether non-matching tuples are removed or filled out with nulls. For 10 points, name this operation that combines rows from two tables based on values in a shared column, found in languages like SQL.**
ANSWER: join
11. **Two animals native to this mountain range are crossbred to create the huarizo. Customers often pick out their meals from a group of cages designed to look like a castle at a type of restaurant popular in this mountain range, the *cuyeria* [KWEE-eria]. A species of bird named for this mountain range is tied to the back of a bull during the Yawar festival. That bird from this mountain range has a distinctive ring of puffy white feathers around its neck. This range is home to the last remaining species of short-faced bear, its namesake (*) spectacled bear. This mountain range is the breeding ground for most species of New World flamingo. The wingspan of an endangered bird of prey from this mountain range is slightly shorter than that of its closest living relative, the California condor. For 10 points, name this mountain range where the guinea pig is considered a delicacy and whose ancient peoples domesticated the alpaca and the llama.**
ANSWER: the Andes
12. **One of these functions is associated with each edge of a type of directed graph for which edges correspond to irreducible representations of a compact Lie group and vertices correspond to equivariant maps of adjacent edge representations. The simplest renormalization group transformation consists of replacing a set of these functions with a single "block" function. In loop quantum gravity, Hilbert space is constructed from the set of equivalence classes of (*) "networks" of these functions. The negative of the sum of the dot products of one of these functions with each of its nearest neighbors, times the coupling constant of the exchange interaction, minus the product of this function and the external magnetic field at a particular lattice site, gives the Hamiltonian in the Heisenberg model. These functions are assigned values of either one or negative one in the Ising model. For 10 points, name this type of function that represents an atom's intrinsic angular momentum.**
ANSWER: spins
13. **The portico of a house in this novel was poorly designed, so that its columns are suspended a foot above the foundation. After accidentally shooting a hunter, one character bribes the slave Aggy with a visit from "Santa Claus." A dog named Brave dies saving two women in this novel from a panther. A butler in this novel constantly speaks in nautical terms and annoys the housekeeper Remarkable Pettibone. In addition to Benny Pump, this novel's characters include Hiram Doolittle, who forces the woodsman Billy Kirby to help arrest a man for shooting a (*) deer out-of-season. In this novel, Indian John dies after setting the mountainside on fire, and an old man is brought out of a cave and revealed to be Major Effingham. First published but fourth chronologically in its series, this novel ends with Oliver Edwards marrying Elizabeth and Natty Bumppo leaving for the prairie. For 10 points, name this novel by James Fenimore Cooper about Marmaduke Temple, the founder of a frontier town.**
ANSWER: *The Pioneers, or, the Sources of the Susquehanna*
14. **One person who was killed during this campaign had been in the process of translating *One Thousand and One Nights* from Arabic to Italian. During this campaign, a woman known as Agent Penelope, under the guise of a charity worker named Erika Chambers, hunted down a man called the Red Prince. As part of this operation, the psychological warfare department LAP sent victims' families flowers and a card reading, "A reminder we do not forget or forgive." Michael Harari escaped a disastrous episode of this campaign that caused the death of Ahmed Bouchiki, a Moroccan (*) waiter who was mistaken for Ali Hassan Salameh. Amphibious landings were followed by commando strikes in Beirut during this operation's "Spring of Youth" mission. Public outrage after the killing of a civilian in Lillehammer, Norway led Golda Meir to suspend this assassination campaign. For 10 points, name this operation carried out by Mossad against Black September in retribution for the 1972 Munich Massacre.**
ANSWER: Operation Wrath of God [or Mivtza Za'am Ha'el; accept Operation Bayonet]

15. When the Paris Salon rejected one of this artist's works, a contemporary stated that "an entirely nude figure is not as indecent as one draped with false modesty." That sculpture, sometimes called "The Shivering Girl," is a depiction of a young woman wearing nothing but a shawl wrapped over her upper body. This man made a portrait bust of a young girl whose hair is secured by a kerchief-like band, as well one of that girl's brother, Alexandre. In addition to a bust of Louise Brongniart, this artist explored the detailed anatomy of a (*) flayed man in his *Écorché* sculpture, which became a popular model in art schools. This sculptor molded the funerary mask of a bald-pated philosopher he had earlier depicted both with and without a wig. A plow, fasces, and a sword evoke Cincinnatus in this artist's sculpture of a hero of the American Revolution, who holds a cane and rests his arm on a pillar. For 10 points, name this French neoclassical sculptor of *George Washington* and many depictions of Voltaire.
ANSWER: Jean-Antoine Houdon
16. One form of this practice may be accompanied by the recitation of verse six of Psalm 26, in which the speaker states that he performs it "in innocency so I will compass thine altar, O Lord," or by the prayer *Da, Domine, virtutem*. Another form of this practice is preceded by actions such as "spirit shaking" and "bird boat rowing" and is presided over by a person who cuts the air with the right hand while counting to nine, then shouts "Yei!" A unit of measure equal to the volume of one and a half eggs defines the minimum requirement for a Jewish form of this practice called (*) *netilat yadayim*. This practice follows the offertory during the Eucharist and is performed by Catholic priests at a lavabo. In Shinto, this practice is known as *temizu* or *misogi* depending on its thoroughness and commemorates the actions of Izanagi upon his return from the underworld. For 10 points, name this type of ritual purification that requires a source of water.
ANSWER: ablution [accept descriptive answers that mention washing part or all of one's body, e.g. hand-washing; accept netilat yadayim, lavabo, or misogi before mentioned; prompt on "purification"]
17. After Ceyx buried a figure with this name, the headstone was washed away when a river flooded at Apollo's command. A man with this name had Phylus capture man-eating birds, wrestle a bull, and strangle a lion in order to prove his love. According to Apollodorus and Hyginus, a thunderbolt kept Heracles and Ares from fighting each other after Heracles killed a son of Ares with this name. That story is the subject of the poem *Shield of Heracles*. The best-known figure with this name had a musician named Molpus stoned to death and Philonome buried alive after the two conspired to have his son Tenes exiled. Another figure with this name wept by the Eridanos River after his close friend (*) Phaethon was killed. A king of Colonaë with this name was an invulnerable son of Poseidon who was strangled by Achilles with the straps of his own helmet, after which his spirit was turned into a bird. For 10 points, give this Greek name held by various people who turned into swans.
ANSWER: Cygnus [or Cygnus; or Kyknos]
18. An event run by one of these organizations caused a pub in Norfolk called The Mayflower to change its name to "Forty Horse Inn" after its entrance was damaged. As reimagined in Emma Donoghue's *Astray*, Abraham Bartlett controversially sold a national treasure to one of these businesses in 1882, resulting in Matthew Scott moving to America aboard the *Assyrian Monarch*. John Bill Ricketts was the first to bring these businesses to the United States, and Philip Astley is often called the "father" of their modern type. Charlie Keith designed a portable (*) building for these organizations. The first non-white owner of one of them was Pablo Fanque, who held an event "for the Benefit of Mr. Kite." The Surrey Theatre was home to the "Royal" one, and Jumbomania took off when one of these companies bought an elephant from the London Zoo. For 10 points, name these companies made up of performers like equestrians, animal trainers, and trapeze artists, as widely popularized by Barnum and Bailey.
ANSWER: circuses
19. In one of this author's plays, a character who never appears on stage uses chinks and cracks in the wall to spy on people in the main setting, although everyone he watches knows he is there. Another of this writer's plays begins with the protagonist playing chess by himself until the doorbell rings, after which his parents send his brother Peter into a pantry for being a "bourgeois intellectual." That play's protagonist yells "Checkmate!" at the end of a convoluted speech in which he questions his own identity. In another of this author's plays, a secretary named Maria insists that she does not have permission to translate (*) Ptydepe, a fictional language that obfuscates Josef Gross' understanding of the title document. In a play by this author, a chatty inaugurator named Hugo Maxy is among the attendees of the title event at the Liquidation Office, which is visited by Hugo Pludek. For 10 points, name this Czech playwright who wrote *The Memorandum* and *The Garden Party*.
ANSWER: Vaclav Havel

20. **One ruler with this name did not react to seeing his daughter enslaved and his son about to be executed, but wept when he was approached by an old beggar. The first ruler with this name besieged Ashdod for 29 years and ordered a shepherd to raise two children without ever exposing them to human speech in an attempt to determine the world's oldest language. The third ruler with this name had his soldiers drink the blood of the sons of the traitorous general Phanes of Halicarnassus. A ruler with this name fulfilled a prophecy by using his bronze helmet to pour a libation and established his capital at (*) Saïs. A man who ruled between two men with this name lost the Battle of Carchemish to the Babylonians. The dynasty to which rulers of this name belonged collapsed after losing the Battle of Pelusium to Cambyses II, and included Necho II. For 10 points, give this name shared by three rulers of the 26th Dynasty, including one whose rule ended with the Persian occupation of Egypt.**
ANSWER: Psamtik [accept Psammetichus or Psammenitus]

BONUSES

1. Enrico Caruso's 1902 recording of this aria was the first record to sell over 1 million copies. For 10 points each:
[10] Name this aria sung by a character who has just learned that his wife, Nedda, is cheating on him. Although the singer of this aria encourages himself to put on his make-up despite his sadness, he ends this aria in tears.
ANSWER: "**Vesti la giubba**"
[10] Canio sings "Vesti la giubba" in this Ruggero Leoncavallo-composed verismo opera about a commedia dell'arte troupe.
ANSWER: **I Pagliacci**
[10] This soprano performed as Nedda in the well-received 1893 Covent Garden staging of *Pagliacci*. She was Covent Garden's chief soprano for most of the late 19th century and famously refused to sing in German-language operas.
ANSWER: Dame Nellie **Melba** [or Helen Porter **Mitchell**]
2. This goddess murdered the inhabitants of a city, then made a sash out of their heads and hands. For 10 points each:
[10] Name this goddess whose other violent deeds include splitting, winnowing, burning, and grinding the death god Mot, then scattering his remains to the four winds.
ANSWER: **Anat**
[10] By destroying Mot, Anat returned this brother of hers to life. Kothar-wa-Khasis built a palace for this son of El after he defeated the sea dragon Yam.
ANSWER: **Ba'al** Hadad
[10] This other Near East thunder god also achieved pre-eminence among the gods by slaying a water serpent, in his case Tiamat. The *Enuma Elish* lists fifty names of this chief god of Babylon; please just give the usual one.
ANSWER: **Marduk**
3. After she is saved from a life of debauchery by her long-lost sister, the Madame de Lorraine, the title character of this novel gets struck by lightning and dies. For 10 points each:
[10] Name this novel about a woman who is repeatedly raped by the men she encounters, including a group of monks and a man who promises her a job as his wife's maid.
ANSWER: **Justine** [or (DO NOT READ OUT LOUD) *The Misfortunes of Virtue*]
[10] This French author wrote *Justine* while imprisoned in the Bastille for committing various sexual misdeeds. Four noblemen organize a long, massive, violent orgy in a castle in his novel *120 Days of Sodom*.
ANSWER: Marquis de **Sade** [or Donatien Alphonse Francois, Marquis de **Sade**]
[10] Sade gave Justine a subtitle condemning the *Misfortunes of* this trait. The alternate title of Samuel Richardson's novel *Pamela* is [this trait] *Rewarded*.
ANSWER: **virtue** [or *The Misfortunes of Virtue*; or *Pamela*; or, **Virtue** *Rewarded*]
4. An admission made by this person prompts a James Franco-played character to yell "Hector's rectum is real!" For 10 points each:
[10] Name this celebrity who comes out of the closet on *Dave Skylark Tonight* in the first scene of *The Interview*. He plays Jimmy "B-Rabbit" Smith in a movie that climaxes with him defeating Papa Doc in a rap battle.
ANSWER: **Eminem** [or Marshall Bruce **Mathers** III]
[10] *8 Mile* ends with Eminem performing this Oscar-winning song on the soundtrack. It describes a character "sweaty, knees weak, arms are heavy" and urges "you only got one shot, do not miss your chance to blow/ this opportunity comes once in a lifetime."
ANSWER: "**Lose Yourself**"
[10] Appearing as himself in *Funny People*, Eminem does not recognize this real-life comedian at a restaurant while he is dining with Adam Sandler's character. After this comedian continues to creepily stare at him, Eminem cusses him out.
ANSWER: Ray **Romano** [or Raymond **Romano**]

5. Mukaiyama has developed a variant of this reaction reacting a silyl enol ether with a formate or aldehyde, and this reaction is performed in the second step of the Robinson Annulation. For 10 points each:
 [10] Name this reaction in which an enol or enolate reacts with a carbonyl to form a beta-hydroxyaldehyde or beta-hydroxyketone. This reaction can be followed by loss of water to give an enone product.
 ANSWER: **aldol** reaction [or **aldol** condensation]
 [10] The aldol reaction was co-developed by Charles-Adolphe Wurtz and Alexander Borodin. Borodin is also associated with and sometimes the namesake of the Hunsdiecker reaction, in which a silver salt of this functional group is replaced with bromine.
 ANSWER: **carboxylic acid** [accept **carboxylate**]
 [10] This compound is used as the solvent in the Hunsdiecker reaction. An atom from this compound also replaces a hydroxide in the Appel reaction. This compound was once frequently used as an NMR solvent due to its lack of protons, though deuterated solvents are more frequently used today due to this compound's toxicity.
 ANSWER: **carbon tetrachloride** [or **tetrachloromethane**; or **CCl4**]
6. Epic poems in this language were written in the utenzi style, with stanzas consisting of three rhymed lines followed by an unrhymed line. For 10 points each:
 [10] Name this non-Greek language used to write an epic poem chronicling the history of the Byzantine Empire from Heraclius to the fall of Constantinople, the *Utendi wa Tambuka*.
 ANSWER: **swahili** [or **kiswahili**]
 [10] While swahili poetry is traditionally transmitted through text, West African verse is memorized and performed by these bards. These oral historians pass down tales like the *Epic of Sundiata*.
 ANSWER: **griots** [or **jalis**; or **jelis**]
 [10] In the *Epic of Sundiata*, the title character kills Sumanguru Kante at the Battle of Kirina by shooting him with an arrow made from a body part of this animal. The color of the animal is also required.
 ANSWER: a **white rooster** [accept a **white chicken**; prompt on partial answers]
7. The binding of antidiuretic hormone to G-protein coupled V2 receptors begins a cascade resulting in the expression of the type 2 version of these proteins. For 10 points each:
 [10] Name this family of membrane channels, several types of which, including type 2, may be found in the collecting ducts to concentrate urine.
 ANSWER: **aquaporin** [or **AQP**]
 [10] The collecting duct, along with the glomerulus, the loop of Henle, and the proximal and distal convoluted tubules, can be found in this structure. It is the functional unit of the kidney.
 ANSWER: **nephron**
 [10] Water moves out of the lumen due to osmotic pressure created by this process. The hairpin shape of the loop of Henle is vital to this process, as well as the active transport of ions out of the thick ascending loop of Henle.
 ANSWER: **countercurrent multiplier** [do not accept "countercurrent exchange"]
8. The play this character appears in begins and ends with her worrying out loud that her master has failed to cross the Hudson River. For 10 points each:
 [10] Name this maid whose repeated attempts to give her two-week notice are denied by her employer, who insists she'll freeze to death. In Act II of the play she appears in, she disguises herself as a beauty queen at a gathering of the Ancient and Honorable Order of Mammals, Subdivision Humans.
 ANSWER: Lily **Sabina**
 [10] Sabina appears in this play as the maid of George Antrobus, a New Jersey family man who invents the alphabet and the wheel during a 20th century Ice Age.
 ANSWER: *The **Skin of Our Teeth***
 [10] This author of *The Skin of Our Teeth* has the Stage Manager introduce the town of Grover's Corners at the beginning of his play *Our Town*.
 ANSWER: Thornton **Wilder** [or Thornton Niven **Wilder**]

9. Among this artist's best-known works are rectangular canvases filled with multicolored cascades of parallelograms arranged in tessellating diagonals, such as in her *Fête* and *Nataraja*. For 10 points each:
 [10] Name this Englishwoman whose *Movement in Squares* shows a checkerboard pattern with the columns growing thinner the closer they are to the center, so as to create an illusion of depth.
 ANSWER: Bridget **Riley**
 [10] Riley is a pioneering member of this artistic style, which also includes Richard Anuszkiewicz. This movement relies heavily on abstract patterns that create illusions, including warping effects and changes in color.
 ANSWER: **Optical art**
 [10] An important early exhibition that featured Op art was *The Responsive Eye* at MoMA. This director produced a documentary film with the same title about the show, years before making *Scarface* and *The Untouchables*.
 ANSWER: Brian **de Palma**
10. Name some terms from religious studies, for 10 points each:
 [10] This term refers to a belief adopted by a group of people within a religion that differs strongly from orthodoxy, frequently resulting in the persecution of that group. Historical examples include Arianism and Nestorianism.
 ANSWER: **heresy**
 [10] This term denotes the subfield of hermeneutics concerned with the interpretation of religious texts.
 ANSWER: **exegesis**
 [10] This term refers to the study of a religion's theologies and doctrines regarding the idea of salvation.
 ANSWER: **soteriology**
11. K dot p perturbation theory predicts the existence of "heavy," "light," and "split-off" types of these quasiparticles. For 10 points each:
 [10] Name this type of quasiparticle that represents the absence of an electron in a valence band.
 ANSWER: **holes**
 [10] K dot p perturbation theory provides good theoretical estimates of this quantity, which equals h-bar squared times the inverse of the second derivative of energy with respect to wavenumber in a band structure with a parabolic, isotropic dispersion relation.
 ANSWER: **effective mass** [do not accept or prompt on "mass"]
 [10] Holes generally have a higher value of effective mass than electrons and therefore a lower value of this other quantity, which equals the ratio of the drift velocity of a charge carrier to the magnitude of the applied electric field.
 ANSWER: **mobility**
12. As president of the regional council of Auvergne in his later years, this politician played a major role in the creation of the theme park Vulcania which was, as its name suggests, volcano-themed. For 10 points each:
 [10] Name this French president whose modernization projects included the TGV high-speed rail. This leader of the Union for French Democracy was in office from 1974 until he lost the 1981 election to the Socialist candidate.
 ANSWER: Valéry **Giscard d'Estaing** [accept **VGE**]
 [10] The newspaper *Le Canard Enchaîné* unveiled a political scandal in which Giscard was alleged to have accepted these precious items from Bokassa. The Cecil Rhodes-founded De Beers Group mines and sells these gemstones.
 ANSWER: **diamonds**
 [10] Abortion was legalized in France during the presidency of Giscard, mostly thanks to this Minister of Health for whom the law is usually named. An Auschwitz survivor, this woman is one of the most admired in France.
 ANSWER: Simone **Veil**
13. In this work's first book, the author ponders whether natural slaves exist, distinguishing between men who are slaves by law and men who are so different from other humans that they are slaves by nature. For 10 points each:
 [10] Name this work that defines the concept of the "citizen" and claims that man is by nature a social animal.
 ANSWER: **Politics**
 [10] *Politics* is a work by this philosopher, who authored *De Anima* and proposed the doctrine of the golden mean in *Nicomachean Ethics*.
 ANSWER: **Aristotle**
 [10] In *Politics*, Aristotle defines three different pairs of "good" and "bad" governments. This type of government is the "bad" version of the "polity," which contains more people than a monarchy or aristocracy.
 ANSWER: **democracy**

14. This two-word phrase names a conspiracy theory alleging that Iran postponed the end of the 1979 hostage crisis in order to boost Ronald Reagan's presidential chances. For 10 points each:
 [10] Give this term for a shocking news story that breaks toward the end of an American presidential election. Examples include the release of Mitt Romney's infamous "47%" remarks.
 ANSWER: **October surprise**
 [10] One of the best-known October surprises occurred during this presidential election, when Lawrence Walsh indicted Caspar Weinberger over his involvement in the Iran-Contra scandal 4 days before voting. This election was the first time Ross Perot ran as a third-party candidate.
 ANSWER: election of **1992** [prompt on **92**]
 [10] Also during the 1992 election, Bill Clinton publicly criticized this hip-hop artist and activist for her comments on the Rodney King riots. Her name now refers to a "moment" in which a candidate distances themselves from a radical element of their party.
 ANSWER: **Sister Souljah** [or **Sister Souljah** moment; Lisa **Williamson**]
15. The fifth piece in this collection is scored for soprano soloist and an unusual ensemble of eight cellos. For 10 points each:
 [10] Name this collection of 9 suites written by the composer of *Choros*. The second suite in this collection ends with a movement depicting "The Little Train of Caipira."
 ANSWER: **Bachianas Brasileiras**
 [10] This Brazilian composer wrote the solo piano work *Rudepoema* as well as the *Bachianas Brasileiras*.
 ANSWER: Heitor **Villa-Lobos**
 [10] The sixth of Villa-Lobos' *Bachianas Brasileiras* is scored as a duet between these two woodwind instruments, one of which is meant to substitute the ophicleide [OFF-ih-klide].
 ANSWER: **flute** and **bassoon**
16. The deadliest earthquake in world history occurred under this dynasty's rule. For 10 points each:
 [10] Name this dynasty that suffered a series of devastating famines due to the effects of the Little Ice Age, as well as floods, plagues, and other calamities that enabled opportunists like Li Zicheng and Wu Sangui to seize power.
 ANSWER: **Ming** dynasty
 [10] Li Zicheng's armies consisted primarily of these people, whose frequent rebellions against imperial Chinese authority tended to coincide with massive crop failures.
 ANSWER: **peasants** [or **farmers**; or **nongfu**]
 [10] Zhang Xianzhong, known as the Yellow Tiger, ruled this region immediately after the fall of the Ming dynasty. It's unclear to what extent the many massacres he ordered contributed to its rapid depopulation during that time.
 ANSWER: **Sichuan**
17. One text from this field, which is titled for eight conflicts that "make us who we are," introduces a cyclical model that consists of the 4 I's: ideas, individuals, institutions, and ideas. For 10 points each:
 [10] Identify this subfield of psychology that analyzes the namesake systems, which can be divided into "individualistic" and "collectivistic" types.
 ANSWER: **cultural** psychology [accept word forms]
 [10] This pioneering figure in cultural psychology developed the aforementioned 4 I's culture cycle. She was the wife of Robert Zajonc and discovered that biracial people had lower self-esteem when they were not allowed to identify with more than one race on surveys.
 ANSWER: Hazel **Markus**
 [10] Cultural psychologists also study these phenomena, judgments resulting from misuse of the representativeness heuristic. Their namesake threat was studied in an experiment by Steele and Aronson that demonstrated how these phenomena could undermine performance on tests.
 ANSWER: **stereotype** [accept **stereotype** threat]

18. This route helped alleviate the impossibility of the task described in the proverb, “Poner una pica en Flandes,” and is the subject of a book by Geoffrey Parker entitled, *The Army of Flanders and [this route]*. For 10 points each:
- [10] Name this supply route that was first used as a military corridor by the Duke of Alba in 1567, and was made up of various bridges, mountain passes, and stations between Northern Italy and the Netherlands.
ANSWER: **Spanish Road**
- [10] The Spanish Road developed under the reign of this king, the husband of Mary Tudor. He ordered the Spanish Armada to invade Elizabeth I’s England.
ANSWER: **Philip II** of Spain [or **Felipe II**]
- [10] Philip II’s son, Philip III, expelled these people from Spain in 1609. These people were descendants of Muslims who had converted to Catholicism, and they rose up in revolt during the Rebellion of the Alpujarras.
ANSWER: **Moriscos**
19. A recent James Shapiro book subtitled for the *Year of* [this character] examines the political subtext of the work he appears in. For 10 points each:
- [10] Name this character whose death inspires Albany to remark “we that are young shall never see so much, nor live so long.” He calls himself a “man more sinned against than sinning” during a conversation that begins with him entering a storm exclaiming “Blow, winds, and crack your cheeks!”
ANSWER: King **Lear**
- [10] In his brief dying speech, Lear asks why a dog, a rat, and one of these animals have life while his daughter Cordelia is dead. The title character of *Richard III* exclaims “my kingdom for [one of these animals]!”
ANSWER: a **horse** [or “A horse, a horse! My kingdom for a **horse**!”]
- [10] During his dying speech, Lear repeats this word five times after stating “Thou’lt come no more.”
ANSWER: “**never**” [or “**Never**, never, never, never, never!”]
20. The scattering of solar radiation by this substance causes the zodiacal light. For 10 points each:
- [10] Name this substance that consists of grains of ice, silicates, hydrocarbons, and other compounds and is a subject of study in its own right in addition to being a nuisance to astronomers when it gets in the way of their observations.
ANSWER: **dust** [accept more specific answers that include the word **dust**]
- [10] In this effect, a dust grain experiences a drag force due to radiation pressure with magnitude proportional to the negative five-halves power of the radius of its orbit around a star.
ANSWER: **Poynting-Robertson** drag
- [10] Asteroids produced by the accretion of dust grains during the formation of the solar system may fall to Earth as these objects. They are the most commonly found type of meteorite and are contrasted with iron-nickel meteorites.
ANSWER: **chondrites** [accept word forms]