

**Pre-ICT and Nationals Open/Minnesota Open 2019 (PIANO/MO): “What about bad subject matter? Or a bad title drop, even? That could kill a tournament pretty good.”**

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**Packet 11 Tossups**

1. **A member of this institution pioneered accounts of the *Life of the Antichrist* that used standard hagiographical formats. Giles Constable created a critical collection of letters by a leader of this institution. This institution’s headquarters was supplied by satellites called *doyennés*. Kenneth Conant excavated the phases prior to this institution’s huge third iteration, which nearly bankrupted it under the profligate head Pons of Melgueil [mell-GOY]. A head of this institution spearheaded the Truce of the (\*) Peace of God movement. The first priories were founded as branches of this institution, which was once headed by Peter the Venerable. St. Berno created this institution on land donated by William I of Aquitaine and pioneered demands for secular non-interference in monastic life. The Cistercians formed from ex-members of—for 10 points—what French abbey that “reformed” the Benedictine rule?**

ANSWER: **Cluny** [or **Cluniacs**; accept **Montier-en-Der** until “Kenneth Conant”; prompt on **Benedictines**] <JG>

2. **In a farce in this language, advancing jet plane technology ruins the “timetables” of a man’s many affairs. The title character of a play in this language claims to have two “clocks,” a mental one and his wristwatch, which he accuses his caretaker of stealing as a symptom of his increasing dementia. In another play in this language, a woman projectile vomits all over an out-of-print Kokoschka coffee table book. Florian Zeller writes in this language, which was used for a play in which Marc ridicules Serge for buying a (\*) painting of white lines on a white canvas. This language was used for the play *Art*, as well as a play in which Annette claims to be happy that her son knocked the teeth out of Michael and Veronica’s son in a playground fight. In that play in this language, Alan declares “I believe in the god of carnage.” For 10 points, name this language used by playwrights like Yasmina Reza and Molière.**

ANSWER: **French** [or **français**] (The first two plays are *Boeing-Boeing* and *The Father*.) <JG>

3. **A palace in this city grew as monarchs added floors to what was once a triumphal arch-like entrance portal. This city houses the first major mosque in which each wall of the courtyard includes a massive, half-open, vaulted space. A 1000-foot bridge in this city is usually known as the “Si-o-se-pol” for its 33 arches. A dome for this city’s Great Mosque was commissioned by Niẓām al-Mulk. Like their imitators in (\*) Bukhārā, this city’s mosques are mostly in the “four-*iwān* style,” and have bulbous domes sporting intricate, turquoise tilework. This city’s *maidān*, a gigantic public square, is bounded by the palace of ‘Alī Qāpū, the Sheikh Lotfollāh Mosque, and the Shāh Mosque. Shah ‘Abbās rebuilt—for 10 points—what Safavid capital?**

ANSWER: **Isfahan** [or **Esfahān**] <JR>

4. Jennifer Pope et al. revisited a study by this scholar in 2007 and found that the salience of two behaviors in the study was now reversed. With Sally McConnell-Ginet, one of this man's students criticized him for treating women as a single group and argued that this scholar's namesake Principles I, Ia, and II only cause a "gender paradox" if the *same* women show all the patterns described. This man popularized the "apparent time" method, which uses subjects of different ages to simulate (\*) diachronic data. A study by this man linked centralization of /ai/ ["eye"] and /au/ [ow] vowels to attitudes toward the subjects' home. This scholar studied how summer and year-round residents of Martha's Vineyard differed in their use of language, and he asked for the "fourth floor" in New York department stores catering to different social classes. For 10 points, name this UPenn linguist who founded sociolinguistics.

ANSWER: William Labov <JG> (the "student" mentioned in the second sentence is Penelope Eckert)

5. A form of this quantity, symbolized lowercase *u*, is estimated by the frequency at the zero of the C·T·F in a technique developed by Scherzer. This quantity, which is often visualized by the size of an ellipsoid, scales with the interaction volume and is optimized in another technique named for the fact that its two objectives cover a solid angle of four pi. Eric Betzig showed that using time-synchronized fluorophores like Rhodamine B can dramatically improve this quantity in (\*) PALM and STORM. In A·F·M, this quantity is roughly the width of the cantilever tip. The 2014 Chemistry Nobel was awarded for achieving the "super-" form of this property, which classically is bounded below by the wavelength of light over twice the numerical aperture in the brightfield. For 10 points, name this quantity, the smallest distance that can be observed between features in microscopy.

ANSWER: microscopic resolution [prompt on *R*; accept any specific kind of microscopy as long as the word resolution is included] <AS>

6. Researchers trying to measure *this* value often use Ramey–Shapiro dates or dates compiled by Christina and David Romer. Because the Fed funds rate is the same for all states, Emi Nakamura and Jón Steinsson were able to use cross-state variation to measure a version of this quantity. This value is often higher in New Keynesian models when monetary policy is constrained by the zero lower bound. Robert Barro used the Korean War and other unexpected military (\*) buildups to identify this value, which was estimated at 1.6 by the Council of Economic Advisers in 2009 to predict the effects of the ARRA. In the Keynesian cross, this value equals the slope of the aggregate demand curve, or "one over the marginal propensity to save." Arguments that this value is above one are used as reasons for stimulus. For 10 points, name this ratio of the change in aggregate output to change in government purchases.

ANSWER: fiscal multiplier [or Keynesian multiplier; or government multiplier; or government expenditure multiplier; or government spending multiplier] <SB>

7. This author's reading of Pietro Cerone and Athanasius Kircher inspired a now-lost music theory treatise titled for the "snail"-like spiral of justly-tuned fifths. This author's design for a triumphal arch is described in the *Allegorical Neptune*. A letter by this author muses that "if Aristotle had cooked, he would have written a great deal more." A long poem by this author ends by describing how the sun "with just light and distributive order, gave all things visible their colors...the world illuminated with more certain light." That poem by this author begins by describing a (\*) shadow that is "pyramidal, funereal." This author defended the possibility of learning through "feminine" activities in an essay that arguing that intellects have no gender since they all originate from the Divine. For 10 points, name this author of the *Reply to Sister Filotea* and the long poem "First Dream," a nun from colonial Mexico.

ANSWER: Sor Juana Inés de la Cruz [or Juana Inés de Asbaje y Ramírez de Santillana] <JR>

8. In this decade, Tsuguharu Foujita helped write a memoir later republished as *The Education of a Young Model*. During this decade, Paul Poiret went out of fashion and lost his business. The avant-garde Ballets Suédois were both founded and disbanded in this decade. Alice Prin took the nickname “Kiki de Montparnasse” during this decade, in which Paris hosted its most recent Olympics. A *Revue Nègre* from this decade included an infamous (\*) “danse sauvage.” The Little Black Dress was invented during this decade. An Exposition in this decade gave rise to the name “Art Deco.” Josephine Baker first performed her “banana skirt” dance in this decade, which is recounted in the memoir *A Moveable Feast*. The *Belle Époque* preceded—for 10 points—what decade also called the *Années Folles* and the Jazz Age?

ANSWER: 1920s [accept Années Folles until mentioned] <JR>

9. This system is the simplest one solved using the Pluinage method, a variant of a technique developed by Egil Hylleraas. Excitations of this system are the simplest examples of Fermi holes and heaps. A spherically symmetric integral symbolized  $K$  first used to describe the energy of this system is constructed from the Coulomb integral by exchanging labels on two wavefunction pairs. In reduced units, this system’s potential energy is “negative (\*)  $2 \text{ over } r_1$ , minus  $2 \text{ over } r_2$ , plus one over  $r_1 r_2$ ”. A coefficient of five-eighths appears in first-order perturbation theory on this system, an approach that gives its energy as negative 2.8 Hartrees. Even under the Born–Oppenheimer approximation, this system is still a three-body problem, unlike the similarly unsolvable system of  $H_2^+$ . For 10 points, name this system composed of two electrons orbiting an alpha particle.

ANSWER: helium atom [or He] <AS>

10. In an essay titled for *these things*, David Kaplan argues for a stage/continuant model in promoting a “common currency conception” of them. This is the *first* title word of a book that attacks the “Narodniks of North Oxford,” who rely on four “pillars,” including “the contrast theory of meaning” and “the argument from the paradigm case.” Gilbert Ryle and Bertrand Russell argued in *The Times* about that Ernest Gellner book on *[These things] and Things*. This is the *last* title word of a book that imagines a man trying to (\*) name a ship “Mr. Stalin” as part of a taxonomy of “infelicities.” That book partly titled for these things denies that there is a clear distinction between constative and performative utterances and coined the term “illocutionary act.” A book on ordinary language philosophy by J. L. Austin is about—for 10 points—*How to Do Things With* what linguistic constructs?

ANSWER: words <SK>

11. In this city, anti-immigrant sentiment was whipped up by the *Daily States* newspaper, founded in 1880. In the late 19th century, a turf war raged between the Matranga and Provenzano crime families in this city’s Little Palermo neighborhood. The acquittal of suspects in the murder of this city’s police chief David Hennessy led to the March 1891 lynchings of 11 Italian-Americans in this city. A Reconstruction-era law creating a monopoly on certain facilities in this city led to a 5-4 opinion from Samuel Miller. The “privileges and immunities” clause of the 14th Amendment was restricted in three (\*) 1873 cases named for this city’s slaughterhouses. A pro-integration Citizens’ Committee in this city planned for a train departing this city to be the site of arrest for a man who was seven-eighths white. For 10 points, name this home city of *Plessy v. Ferguson*’s Homer Plessy, who was a French-speaking Creole.

ANSWER: New Orleans <MJ>

12. A section of a book set in this city begins with a poem that spirals around the page and begins “Ho this is a mighty twisting thing fast as a fish being pulled by its mouth....” In that novel, which was published in two versions, a girl’s iPad is construed as “votive tablet” by an older inhabitant of this city. This setting was paired with modern England in Ali Smith’s *How to Be Both*. The speaker of a poem set in this city comments that “none puts by / The curtain I have drawn for you, but I” and describes his gift of a (\*)

“nine-hundred-years-old name.” That poem set in this city ends by describing “Neptune...taming a sea-horse...which Claus of Innsbruck cast in bronze.” That poem describes how a “bough of cherries” could bring up a “spot of joy” in a noblewoman of this city, who had a “heart too soon made glad.” For 10 points, name this Italian city whose duke narrates Robert Browning’s “My Last Duchess.”

ANSWER: Ferrara <JR>

13. The performance of this action was the main subject of debate at the Council of Jerusalem. After following through with a promise to do this action, Hamor and his son Shechem are murdered by Simeon and Levi in revenge for the rape of Dinah. Under Joshua, the Israelites performed this action *en masse* at Gilgal. This action was done spontaneously by Zipporah to save Moses from being killed by God at an inn. To obtain the dowry for Saul’s daughter Michal, the future King David forcibly did this action two (\*) hundred times.

Deuteronomy 10:16 gives the injunction to “be no longer stubborn” by doing *this* action to your heart. This action is first commanded in the chapter of Genesis before the three men tell the newly-renamed Sarah that she will have a son. Abraham’s covenant is commemorated by—for 10 points—what action that involves cutting off the foreskin?

ANSWER: circumcision [accept word forms like circumcise; accept *brit milah* or briss; prompt on all equivalents to “whether (gentile) Christians should follow Jewish customs” on the first clue] <JR>

14. RNase [R-N-aze] inhibitors share a conserved leucine-rich, horseshoe-shaped domain found on these proteins that naturally binds a ligand called Spaetzle [SPETT-zlüh]. Oncoviruses often inactivate one of these proteins that binds to any DNA sequence with unmethylated C-p-Gs. Flagellin agonizes these proteins and stimulates a signaling cascade through MyD88 and then N-F-kappa-B. After Christiane Nüsslein-Volhard inadvertently discovered these proteins are homologous to a dorsal patterning Hox gene in (\*) *Drosophila*, she gave them their common name by shouting “That’s amazing!” in German. The fourth numbered protein in this class recognizes lipo□polysaccharide, and the ninth one is displayed by dendritic cells and macrophages. For 10 points, name these nonspecific cell-surface receptors that initiate the innate immune response.

ANSWER: Toll-like receptors [or TLRs; prompt on partial answers] <AS>

15. An artist with this surname lip-synced to a recording of himself reading from Erwin Panofsky’s *Studies in Iconology* in the piece 21.3. That artist with this surname played a recording of a jackhammer and wore a mask of his own face during a performance in which Carolee Schneemann posed as Manet’s *Olympia*. An artist with this surname wrote the two-part essay “Notes on Sculpture,” which was a prime target of Michael Fried’s essay “Art and Objecthood.” That man with this surname sculpted *Untitled (L-Beams)* and *Box With the Sound of Its Own Making*, pioneering (\*) Minimalist sculpture with Donald Judd. Another man with this surname designed the Red House and founded the Kelmscott Press. That socialist with this surname designed the “Trellis” wallpaper and made stained glass for designs by Edward Burne-Jones. For 10 points, give this surname of the founder of the Arts and Crafts movement.

ANSWER: Morris (Robert Morris and William Morris.) <JR>

16. Munis Faruqi has argued that the norm of succession wars among *this* empire’s princes was in fact its main source of stability, due to the princes’ coalition building. Irfan Habib studied this empire’s “agrarian crisis,” and François Bernier described the admiration one of its rulers had for European philosophy. ‘Abd al-Qādir Badā’ūni wrote a critical history of the ruler who created this empire’s administrative structure, in which *zat* and *sawar* ranks denoted manpower to be raised by nobles. In this empire, a noble’s (\*) *mansab* entitled him to *jagirdari* revenue. Abū’l Faḡl is the main source on Raja Todar Mal’s standardization of this empire’s bureaucracy. After ending the Suri dynasty, a ruler of this empire abolished the *jizya* and created the interfaith *ibādat khāna*, for which he was accused of starting the new faith of “Dīn-i Ilāhī.” For 10 points, name this Gunpowder Empire ruled by Akbar the Great.

ANSWER: Mughal Empire [prompt on Timurids] <JG>

17. The trajectories of these things can be fully described by a characteristic equation and an excitation equation. The set of these things is represented by the  $Q$  in the tuple “ $Q$  sigma delta  $q$ -nought  $F$ .” These things are nested hierarchically in the UML implementation of the David Harel’s Ultimate Hook design pattern. Hopcroft’s algorithm minimizes the number of them. In Verilog, these things are either labelled GNT followed by a number, or “IDLE.” Whether or not they depend on the (\*) inputs distinguishes two models named for Moore and Mealy. The powerset construction increases the number of these things when converting from an N·F·A to a D·F·A. The acceptor one of these things, diagrammed with concentric circles, can accept a regular language according to Kleene’s theorem. For 10 points, name these things that finite automata transition between.

ANSWER: states [or finite state machine] <AS>

18. Nobles from one of this island’s ethnic groups build houses with oversized boat-shaped roofs called *tongkonan*. Cloth patches on seat headrests are given a name appending the prefix “anti-” to this island’s largest city, which was a major exporter of products used to make hair oil. The Toraja and Buginese are major ethnic groups from this island. Sea cucumber fishermen called *trepangers* from this island were the first known Asian people to have contact with Australian aborigines. This is the largest island on which one can find a kind of long-tusked swine called the babirusa, and like (\*) Lombok, it is just east of the Wallace line. The neck of this oddly-shaped island’s Minahasa Peninsula was struck by a deadly earthquake in September 2018. The Strait of Makassar separates Borneo from—for 10 points—what easternmost of the Greater Sunda islands?

ANSWER: Sulawesi [or Celebes] <SK>

19. In the recapitulation of a symphony’s first movement, this note unusually resolves downward, prompting a modulation to the major supertonic of F. In that movement, this note is first played by the cellos, followed by a series of “throbbing” syncopated “Gs” in the first violins. After its quiet opening, the last movement of Beethoven’s Eighth is interrupted by all the strings and woodwinds holding out *this* pitch *fortissimo*. The main theme of the (\*) “Eroica” symphony’s first movement is “interrupted” by *this* unusually-spelled chromatic note. This note’s minor key was used for the second of two sonatas titled “quasi una fantasia.” Beethoven’s fourteenth string quartet and piano sonata are both in this note’s minor key. For 10 points, name this pitch that can also be written as D-flat.

ANSWER: C-sharp [accept D-flat until mentioned; do not accept or prompt on “C”] <JR>

20. In this novel's final chapter, the protagonist dreams about being given a coconut cake by his cook Mrs. Candy before being shaken awake and riding off through the woods. That chapter ends by stating that someone like this novel's protagonist "can never die." In this novel, Mary Greenhill avenges her husband's death by crashing her plane into another plane that's carrying Effingham Swan. The epigraphs in this novel are from a fictional book written by the antagonist called *Zero Hour*. In this novel, the protagonist's complete set of Dickens is burnt by his former servant Shad Ledue, and the (\*) Minute Men take over the *Fort Beulah Informer* in the name of Corpoism. The journalist Doremus Jessup appears in this novel, which re-entered bestseller lists after the 2016 U.S. presidential election. Buzz Windrip transforms the United States into a dictatorship in—for 10 points—what novel by Sinclair Lewis?

ANSWER: *It Can't Happen Here* <DS>

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**Packet 11 Bonuses**

1. If you're going to track individual cells in mammalian culture, then they should first be synchronized in the cell cycle. For 10 points each:

[10] A relatively simple way to synchronize cells is to stop feeding them serum, which will then arrest the cell cycle at this non-dividing phase. It includes the G1, S, and G2 phases prior to mitosis.

ANSWER: **interphase**

[10] For mammalian cell culture, the serum being withheld is usually this ubiquitous product sold in bottles by Gibco, which is obtained from young cows and appears brownish red due to its hemoglobin.

ANSWER: **fetal bovine serum** [or **FBS**; prompt on fetal **calf serum**]

[10] Alternatively, you can classify cells based on their DNA content by doing a propidium iodide stain and then sorting them using a variant of this technique, in which single cells are passed through a capillary, illuminated by a laser, and binned based on the resulting fluorescence.

ANSWER: **flow cytometry** [or **fluorescence-activated cell sorting**; or **FACS**] <AS>

2. An anti-epilepsy medicine extracted from this plant may intensify perception of the color yellow. For 10 points each:

[10] Name this flowering plant. In two versions of an 1890 portrait, this plant sits on the same table as the elbow of a man in a blue jacket and a white cap.

ANSWER: **foxglove** [or purple **foxglove**; or *Digitalis purpurea*]

[10] This Dutch artist, who depicted his foxglove prescriber in his *Portraits of Dr. Gachet* [gah-SHAY], painted many depictions of yellow sunflowers and his yellow house in Arles [ar].

ANSWER: Vincent **van Gogh**

[10] In 1887, van Gogh used a lot of yellow to paint “piles” of *these* objects sold by George Charpentier [shar-pawn-TYAY]. Charpentier's use of yellow in creating them marked their scandalousness.

ANSWER: **books** [or **novels**; or **livres**; or **romans**; accept *The Yellow Books*; accept *Piles of French Novels*; accept *Parisian Novels*] <MJ>

3. This concept's colonial ramifications were explored in the 2008 book *Genealogical Fictions*. For 10 points each:

[10] Name this concept created to heighten the status “Old Christians.” This status first began to acquire legal force in the early 15th century; we need the original-language term.

ANSWER: **limpieza de sangre** [accept **limpeza de sangue** or **neteja de sang**]

[10] *Limpieza de sangre* was transplanted from its original religious context to describe *these* mixed-race Colonial subjects, whose parentage was described as *mestizaje*. The namesake systematic classification of these people originated terms like *cholo* and *mulato*.

ANSWER: **castas** [accept **casta system**, but do not accept or prompt on “caste”]

[10] Statutes concerning *limpieza de sangre* were often enforced by *this* church tribunal, which conducted *autos-da-fé* that could include the public burning of heretics.

ANSWER: Spanish **Inquisition** [or Tribunal del Santo Oficio de la **Inquisición**] <JR>

4. The most-used program of this type, Salesforce, has a market share of about 20%. For 10 points each:

[10] Name this type of business software that aggregates and stores information about every transaction a business has made and every past or prospective contact a business could make.

ANSWER: **C·R·M** systems [or **customer relationship management** system; or **constituent relationship management** system]

[10] CRMs have at their heart *these* large collections of digital information, whose “relational” type can be queried using SQL [“sequel”].

ANSWER: relational **databases**

[10] CRMs help firms do *this* process of dividing the full customer base into subgroups based on key traits like age or purchase behavior. “Targeting” and “positioning” can follow this process, which shares its name with a failure brought on when a program tries to access a forbidden or nonexistent memory location.

ANSWER: **segmentation** [or **segmenting**; accept **segmentation** fault] <MJ>

5. This playwright often used the ringing of a bell to “reset” scenes in plays like *Variations on the Death of Trotsky* and *Sure Thing*. For 10 points each:

[10] Name this American playwright, who included *Variations on the Death of Trotsky* and *Sure Thing* in his one-act play collection *All in the Timing*.

ANSWER: David **Ives**

[10] *All in the Timing* includes the play *Words, Words, Words*, which, as its title suggests, is about three monkeys with typewriters attempting to type out *this* Shakespeare tragedy about a Danish prince.

ANSWER: **Hamlet** [or *The Tragedy of Hamlet, Prince of Denmark*]

[10] Another play in *All in the Timing* depicts this man as he “buys a loaf of bread,” and makes fun of him by including lines such as “Go! Go! Go! Go! Time! Time! Time! Time!”.

ANSWER: Philip **Glass** [accept **Philip Glass Buys a Loaf of Bread**] <WJ>

6. In *Things Hidden Since the Foundation of the World*, a theorist argued that this phenomenon was the origin of rivalry in human culture. For 10 points each:

[10] Give this term for representation or imitation which also titles Erich Auerbach’s magnum opus on “The Representation of Reality in Western Literature.”

ANSWER: **mimesis** [or **mimetic** desire]

[10] This theorist argued that mimetic desire was the source of human culture and strife, as well as being the engine behind the “scapegoat mechanism” that was the origin of sacrifice. His books include *Violence and the Sacred* and *I See Satan Fall Like Lightning*.

ANSWER: René (Noël Théophile) **Girard**

[10] Girard argued that the ultimate example of the scapegoat system was the execution of *this* Jewish rabble-rouser, whose eventual resurrection demonstrated his innocence and thus overturned the mechanism in history.

ANSWER: **Jesus Christ** [accept either underlined portion; accept **Joshua ben Joseph** or **Joshua of Nazareth** or **Yeshua bar Yosef**, etc.] <JM>

7. The Hǎinán-born patriarch of this family began his career with the help of industrialist and KKK member Julian Carr, whom he met while studying in the United States. For 10 points each:

[10] Name this powerful family in the Republic of China. Its three sisters Āi-líng, Chìng-líng [CHEENG-ling], and Měi-líng were influential advisors to their respective husbands H.H. Kung, Sun Yat-sen, and Chiang Kai-shek.

ANSWER: **Soong** family [or **Sòngjiā**]

[10] Though all of the Soongs started out as good Republicans, Qingling defected to the Communists after the rightward turn of *this* party founded by Sun Yat-sen. This party's leaders relocated to Taiwan in 1949.

ANSWER: **Kuomintang** [or **KMT**; or Chinese **Nationalist** Party; or **Guómíndǎng**]

[10] A communist aphorism about the Soong sisters took the following form: "one loved *A*, one loved *B*, and one loved *C*." Name any *two* of *A*, *B*, and *C*, in any order.

ANSWER: **money** [or yīgè ài **qián** [chyehn]]

**power** [or yīgè ài **quán** [chyew-ehn]]

**country** [or yīgè ài **guó**; accept **China**] <SE>

8. The second "Day" of this film begins with the chorus "Wach' auf" from the Act III prelude of Wagner's *Meistersinger*. For 10 points each:

[10] Name this 1935 film, much of the set for which was designed by Albert Speer.

ANSWER: ***Triumph of the Will*** [or ***Triumph des Willens***] (by Leni Riefenstahl)

[10] In a 1967 interview with *this* film critic, Leni Riefenstahl claimed that *Triumph of the Will* had no political agenda, but rather simply depicted "the truth as it was then in 1934." This American critic popularized the term "auteur theory" and wrote the massively influential book *The American Cinema*.

ANSWER: Andrew **Sarris**

[10] *Triumph of the Will* was also an inspiration for *this* director's propaganda documentary series *Why We Fight*. This man directed *It Happened One Night* and *It's a Wonderful Life*.

ANSWER: Frank **Capra** <JR>

9. Alongside Ernst Lindelöf, this man used the method of successive approximations to show that Lipschitz continuity can guarantee the existence of a solution to a given initial value problem. For 10 points each:

[10] Name this mathematician who proved that an entire function must range over the entire complex plane minus at most one point.

ANSWER: (Charles) Émile **Picard** [or **Picard**'s little theorem]

[10] For Picard's little theorem to apply, the function cannot have *this* property. The result builds on the fact that, by Liouville's theorem, any bounded entire function has *this* property.

ANSWER: **constant** [or equivalents like "does **not change**"]

[10] An entire function has *this* property over the whole complex plane. For complex-valued functions, this property is called being "holomorphic," and it's interchangeable with being analytic.

ANSWER: complex **differentiable** [or equivalents like a "**derivative can be taken**"] <JR>

10. A broken-off engagement was explained to this person with the line “Marrying is barred to me because it is your very own domain.” For 10 points each:

[10] Name this intended recipient of a letter that begins: “You asked me recently why I maintain that I am afraid of you.”

ANSWER: **Hermann Kafka** [accept Franz **Kafka’s Father** or obvious equivalents]

[10] In this story by *Franz Kafka*, Georg Bendemann jumps off a bridge in accordance with his father’s title pronouncement of “death by drowning,” which comes after he’s accused of “betraying” a friend they both write to in St. Petersburg.

ANSWER: “The **Judgement**” [or “Das **Urteil**”]

[10] After being seen by his father, Gregor Samsa is threatened with a cane and bombarded with apples near the end of this Kafka novella.

ANSWER: *The **Metamorphosis*** [or *Die **Verwandlung***] <MB>

11. Harry Harlow summarized his monkey-torturing research on “contact comfort” in a book titled for *The Nature of* this phenomenon. For 10 points each:

[10] Name this intense positive emotion that often arises from pair bonding. Robert Sternberg’s “triangular” theory of this emotion breaks it down into commitment, intimacy, and passion.

ANSWER: **love** [accept *The Nature of **Love***; accept Sternberg triangular theory of **love**; do not accept or prompt on synonyms]

[10] This theory suggests that emotions like love arise when a “cognitive label” is combined with arousal symptoms like fast heartbeat. Its was tested in an experiment that involved injections of the fictitious the drug “Superoxin.”

ANSWER: **two-factor** theory of emotion [accept **Schachter** two-factor theory; accept **Schachter–Singer** theory or **Schachter–Singer** experiment(s)]

[10] This social psychologist contrasted “passionate love” and “companionate love” in a study of newlyweds. She and R.D. Clark did a notorious study on Florida State’s campus in which researchers posed as students to offer random passersby one-night stands; some men accepted the offer but zero women did.

ANSWER: Elaine **Hatfield** [accept Clark and **Hatfield** study] <MJ>

12. Answer the following about “Dual-Processual Theory” of Mesoamerican archaeology, for 10 points each.

[10] The theory’s first process of “network” strategies, which restrict access to prestige goods or sacred knowledge, was exemplified by the restriction of access to artistic production in *this* oldest major Mesoamerican civilization.

ANSWER: **Olmecs**

[10] The theory exemplifies the second, “corporate” strategy, which builds social solidarity and interdependence, with *this* city’s minimization of named kingship and building of public spaces like La Ciudadela and its Pyramids of the Sun and Moon.

ANSWER: **Teotihuacan**

[10] The theory uses *this cihuacoatl’s* [kih-wuh-KWAH-tull] centering of Aztec ideology on the Flower Wars to exemplify both strategies. This general organized his uncle Itzcoatl [its-KWAH-tull] I’s book-burnings to wipe out knowledge of prior history.

ANSWER: **Tlacaehlel** <JG>

13. In this notation, a summation over contravariant indices is implied by a superscripted letter, summation over covariant indices is implied by a subscript, and derivatives are represented by semicolons. For 10 points each:

[10] Name this widely-used shorthand in physics, which is named for the physicist who popularized it.

ANSWER: **Einstein** summation notation

[10] In electrodynamics, Einstein summation notation can be used to write Maxwell's equations as: "the derivative of the electromagnetic tensor equals the permeability of free space times" *this quantity*, This quantity is contracted with the gradient in the relativistic version of charge conservation.

ANSWER: **four-current** density [do not accept or prompt on "current" or "current density"]

[10] Depending on units, the proportionality constant can be rewritten instead with this constant. The square of this constant equals one over the vacuum permittivity times the vacuum permeability, and appears in Einstein's mass-energy equivalence.

ANSWER: **speed of light** [or  $c$ ] <AS>

14. An essay by this author accuses the historian of being "loaden with old mouse-eaten records, authorizing himself for the most part upon other histories, [which] are built upon the notable foundation of hearsay." For 10 points each:

[10] Name this author whose *Defense of Poesy* ends with the curse: "while you live in love, [may you] never get favor for lacking skill of a sonnet; and when you die, [may] your memory die from the earth for want of an epitaph."

ANSWER: Sir Philip **Sidney**

[10] Sidney's *Defense of Poesy* argues that the poet never does *this* action, since he "nothing affirms." Sidney claims that "of all writers under the sun the poet is the least [likely to do this action]"; we need the specific term.

ANSWER: **lying** [accept word forms; accept "nothing affirms, and therefore never **lieth**" or "the poet is the least **liar**"]

[10] Sidney is best-known for a romance with *this* title, which he wrote for his sister the Countess of Pembroke. This mythological place is the setting for pastoral literature like Giovanni Battista Guarinni's *Il Pastor Fido*.

ANSWER: **Arcadia** <JR>

15. Olivier Messiaen dubbed this collection "Mode 2." For 10 points each:

[10] Name this pitch collection that can be constructed as two adjacent diminished seventh chords. It includes four each of major and minor triads at even intervals of a minor third.

ANSWER: **octatonic** scale

[10] This composer frequently used octatonic and hexatonic collections. He was also one of the first people to systematically use audio recording to capture folksong.

ANSWER: Béla (Viktor János) **Bartók**

[10] One of Bartók's most thoroughly octatonic pieces is "Harvest Song," a piece for two of *these* high string instruments. From lowest to highest, this instrument is tuned "G-D-A-E."

ANSWER: **violins** [or **fiddles**] <JR>

16. The Supreme Court case *Ward vs. Race Horse* nullified the treaty hunting rights of the Bannock people in *this* park. For 10 points each:

[10] Name this first American national park, established in 1872 following Ferdinand Hayden's survey expedition. A group of infantry soldiers called the Immortal 15 was tasked with guarding its Upper Geyser Basin in the 1880s.

ANSWER: **Yellowstone** National Park

[10] This Iowa representative wrote an 1894 act that gave the Department of the Interior the authority to prosecute those who harmed the fauna of Yellowstone. He also introduced a 1900 act that made it a crime to ship illegally harvested plants or animals across state lines.

ANSWER: John Fletcher **Lacey**

[10] After Yellowstone rangers culled 4,300 elk in 1961, public outcry led Stewart Udall to commission a member of *this* family to write a report on managing game in national parks. That man's father with the same surname proposed a "land ethic" in *A Sand County Almanac*.

ANSWER: **Leopold** family [accept **Leopold** Report or Aldo **Leopold** or A. Starker **Leopold**] <SK>

17. This book insists on a 364 day calendar, made possible by counting one "double sabbath" as a single day each year. For 10 points each:

[10] Name this pseudepigraphal text that narrates the early history of the world in 7 and 49-year divisions. It shares its name with the Biblically-attested practice of voiding all debts each 49th or 50th year.

ANSWER: The Book of **Jubilees** [or **Lesser Genesis**; or **Leptogenesis**; or The **Book of Division**; or **Mets'hafe Kufale**]

[10] Before the finding of the Dead Sea Scrolls, the oldest known manuscript of Jubilees was in the Ge'ez language of *this* African country, whose Orthodox Tewahedo Church and Beta Israel communities hold Jubilees as canon.

ANSWER: (Federal Democratic Republic of) **Ethiopia** [or **Ityopya**]

[10] The Ethiopian version of Jubilees elaborates upon the story of the Nephilim to explain that the "fallen angels" who fathered them were actually children of *this* human Biblical figure, a view also shared by Augustine and John Chrysostom.

ANSWER: **Seth** <JM>

18. This man's unapologetically racist daughter Suzette contrasts with his more indifferent daughter Janet. For 10 points each:

[10] Name this history teacher who investigates the death of his black gardener before he is killed in a hit-and-run probably orchestrated by the Special Branch.

ANSWER: **Ben du Toit** [accept either underlined name]

[10] Ben du Toit is the protagonist of *A Dry White Season*, which was written by *this* white anti-apartheid South African author and member of *Die Sestigers*. He also wrote *Rumours of Rain* and *Looking on Darkness*.

ANSWER: André (Philippus) **Brink**

[10] *Die Sestigers* wrote in *this* Dutch-derived language, which is the origin of the word "apartheid,"

ANSWER: **Afrikaans** <JM>

19. Because every carbon atom in cyclohexane has this molecular geometry, the torsional strain has to be balanced by the angular strain. For 10 points each:

[10] Name this molecular geometry observed on saturated carbon atoms, like the one in methane.

ANSWER: **tetrahedral** [or **tetrahedron**]

[10] To minimize torsional strain, adjacent axial hydrogens in cyclohexane adopt this optimal dihedral angle. Drawing a quick Newman diagram should make it obvious that this is also the dihedral angle between the end methyl groups in the most stable conformation of *n*-butane.

ANSWER: **180** degrees [or **π** radians]

[10] Rather than *R* and *S*, conformers of molecules with *this* shape are labelled *M* and *P* instead. A common natural macromolecule with this shape can be fully described by two dihedral angles around minus 50 degrees each.

ANSWER: **helical** [or **helices**; or alpha **helices**; or **helix**] <AS>

20. Wittgenstein once noted that “the work of art is the object viewed” in *this* way, and that “the good life is the world viewed” in *this* way. For 10 points each:

[10] Give this Latin phrase which Spinoza used to describe the absolute objectivity his project would have, given its “demonstrat(ion) in geometrical order.”

ANSWER: ***sub specie aeternitatis***

[10] Spinoza tried to arrive at the title subject *sub specie aeternitatis* in *this* book, in which he details his pantheist views. This book has a section called “Of Human Bondage.”

ANSWER: ***Ethics, Demonstrated in Geometrical Order*** [or ***Ethica, Ordine Geometrico Demonstrata***]

[10] Spinoza introduced *this* concept to explain the human emotions in *Ethics*. This concept, sometimes translated “striving,” denotes the will to persevere in being that is characteristic of living things.

ANSWER: ***conatus*** <JM>