

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.”

Written and edited by Jacob Reed, Adam Silverman, Sam Bailey, Michael Borecki, Stephen Eltinge, Adam S. Fine, Jason Golfinos, Matt Jackson, Wonyoung Jang, Michael Kearney, Moses Kitakule, Shan Kothari, Chloe Levine, John Marvin, and Derek So, with Joey Goldman and Will Holub-Moorman.

Packet 7 Tossups

1. **This American included short essays like “Death By Human Law” and a lecture on utopian socialist Charles Fourier in the anthology *Hints Toward Reforms*. This man gave his backing to Nathan Meeker’s Union Temperance Colony in the South Platte valley of Colorado, which survives as a town named for this man. During an election lost by this man, a “great epizootic” swept out of Toronto, infecting and killing the majority of horses in East Coast cities. This longtime employer of Charles Anderson Dana was attacked in a cartoon for his desire to “clasp (*) hands over the bloody chasm” of North–South tension. This man, who wrote of the need for emancipation as “the prayer of twenty millions,” ran with Benjamin Gratz Brown as a “Liberal Republican.” For 10 points, name this longtime editor of the *New York Daily Tribune* who died of a stroke before electoral votes were tallied in November 1872.**

ANSWER: Horace Greeley <MJ>

2. **Peter Murray founded the first one of these places in the U.K. Visitors to one of these non-asylum places can see *Scream Hill*, which inspired the landscape behind Edvard Munch’s *The Scream*. *Sunset Hills*, Missouri is home to one of these places named after the Laumeier family, while one in Lincoln, Massachusetts is named after Julian de Cordova. The only notable attraction in Mountainville, New York is one of these places, another of which in Oslo was created by Gustav Vigeland. The largest one of them in Europe is near *Bretton Hall in West* (*) Yorkshire. Weiss and Manfredi designed one of these places that opened in 2007 along Seattle’s waterfront, and Maya Lin created a “wavefield” for one called Storm King. One of these places in Minneapolis centers on Oldenburg and van Bruggen’s *Spoonbridge and Cherry*. For 10 points, identify these outdoor areas filled with art.**

ANSWER: sculpture parks [or sculpture gardens or open-air museums; prompt on partial answer] <DS>

3. **The protagonist of a novel in this language uses his experience of revising and resubmitting an academic article eight times to explain the concept of “reification” to his class. An NYU professor experiencing a mental breakdown in a novel in this language called *The Ruined House*. In a novel in this language, the wife of a secret service agent is electrocuted on a business trip in Helsinki. A memoir written in this language recounts the suicide of his mother by sleeping pills and his time as a student of the poet *Zelda*. The protagonist of a novel in this language searches for a wife with his wagoner *Nuta* in (*) Galicia. Novels written in this language are eligible to win the Sapir Prize. *To Know a Woman*, *My Michael*, and *A Tale of Love and Darkness* were written in this language, which was used by another author to write *The Bridal Canopy*. For 10 points, name this language used by Amos Oz and Shmuel Agnon.**

ANSWER: Modern Hebrew [or New Hebrew; or Israeli Hebrew; or Ivrit Hadashah] <JM>

4. This film often shows a ticking Siemens clock during telephone conversations at one character's office. A character in this film leaves a lipstick-stained cigarette in an ashtray to let another character know that they visited. This film's sequel partially takes place in the setting of science fiction stories by one of its protagonists, who starts talking to the other protagonist after they repeatedly run into each other in the alley and stairs leading to the (*) noodle stall where they usually eat alone. Those science fiction stories mirror two apartment numbers in this film by taking place in the years 2046 and 7. At the end of this film, one character whispers into a hole in the Angkor Wat before plugging it with mud. Tony Leung and Maggie Chung star in—for 10 points—what 2000 film whose protagonists develop a platonic relationship while their spouses have an affair, directed by Wong Kar-wai?

ANSWER: *In the Mood for Love* [or *Faaajoeng ninwaa*; or *Huāyàng niánhuá*] <JM>

5. Christian Frankenburg showed that solar-induced fluorescence linearly correlates with this quantity. MODIS [MOH-diss] products that map this quantity use Monteith's approach of decomposing it into L·U·E and APAR [AY-par]. This quantity is often estimated by subtracting nighttime flux measurements from daytime measurements, controlling for temperature, when using eddy covariance. Kira and Shidei proposed that this quantity usually declines in late succession in forests. The ratio of the (*) standing crop to this quantity is the turnover rate, and its aboveground component is often calculated by correcting the net biomass increment for losses. In aquatic ecosystems, it can be measured using dissolved oxygen concentrations of bottles incubated in the light and the dark. Subtracting autotrophic respiration from this quantity's "gross" form yields the "net" form. For 10 points, name this measure of total carbon assimilation by autotrophs in an ecosystem.

ANSWER: primary production [or primary productivity; accept net primary production or gross primary production; accept NPP or GPP; prompt on production or productivity; prompt on answers concerning photosynthesis; prompt on growth rate] <SK>

6. The Fayyum fragment seems to be an abridged quotation from this text. The inclusion of untranslated Aramaic in this text, which nonetheless explains Jewish customs as if they were unfamiliar, suggests that it originated from a Syrian community. A character in this text predicts that "not one stone" will remain of the Second Temple; since the Western Wall still stands, this text probably predates the sack of Jerusalem. This book's original ending was replaced by its current "Longer Ending." William Wrede used the term (*) "Messianic Secret" to describe how this is the only book in which Jesus tries to hide his status. The nude man randomly fleeing in the background of a scene in this gospel is traditionally seen as an authorial cameo. This book and source Q were probably the main sources for the other synoptic gospels. For 10 points, what oldest and shortest gospel comes second in the Bible after Matthew?

ANSWER: The Gospel of Mark [or The Gospel according to Mark] <JM>

7. Macrobius's *Saturnalia* claims that a person of *this* given name summarized her method to avoid producing obvious bastards with the phrase "I never take on a passenger unless the boat is already full." Two women of this name supposedly jumped out of their chariots to spur forces led by Gannys at the A.D. 218 Battle of Antioch. Geta supposedly died in the arms of a woman with *this* first name after being stabbed by Caracalla's soldiers. A woman with this name engineered Macrinus' defeat by her grandson (*) Elagabalus and was surnamed "Maesa." Septimius Severus's wife was a woman of this first name known as "Domna." A woman of this first name who married Agrippa and then Tiberius was exiled to Pandateria by her father Augustus for alleged infidelities. For 10 points, give this female name derived from the family of a Caesar stabbed in 44 B.C.

ANSWER: Julia [or Iulia] <JG>

8. In a March 2019 *Nature* paper, Michelle Chang's lab engineered a pathway from *S. cattleya* to convert lysine into one of these compounds. The synthetic estradiol found in contraceptives, abbreviated E·E, is named for being one of these compounds. The nonstandard amino acids A·H·A and pAzF [pazz-EFF] are chemical handles that react with examples of these compounds like DIFO [DYE-foh] and DBCO [DIB-koh] that have eight-membered rings. In mass spec, these compounds often lose a fragment from the (*) propargyl cation. These compounds are the usual dienophiles in Diels-Alder reactions that form cyclohexadienes. In the presence of copper (I) ["one"], they click onto azides. These compounds can also form carbon-carbon bonds simply by being deprotonated into acetylides. For 10 points, name these compounds formed by dehydrogenating alkenes. ANSWER: alkynes [or alkynyl group; do not accept or prompt on "alkanes" or "alkenes"] <AS>

9. In a highly-cited 1989 study, Patricia Devine applied the distinction between automatic and controlled processes to study why some people communicate these things more than others. Susan Fiske co-developed a "content" model of these things, which classifies them as low-warmth, high-warmth, low-competence, and/or high-competence. Their use as "defenses for our position in society" is discussed in Part 3 of the book *Public* (*) *Opinion* by Walter Lippmann, which popularized the modern sense of this term. Self-affirmation may mitigate an effect of these things posited by Joshua Aronson and Claude Steele, in which some people's test scores are lowered by these things' namesake "threat." For 10 points, give this term for beliefs that generalize all members of an identity group.

ANSWER: stereotypes [accept stereotype threat; prompt on prejudices or biases before "*Public*"] <MJ>

10. The author redacted some risqué lines in which *this* character tells an old woman he dreamed of an "ancient, cloven tree / in which a giant hole did gleam." This character quips "It's splendid to believe in words; from words you cannot steal a single letter" and later sings lyrics cribbed from one of Ophelia's songs while playing a zither. This character pities mankind because they torment themselves like "a kind of grasshopper...that's always in flight," according to the play's second prologue. This character is brought a crown by two clumsy (*) apes, and he easily parries sword thrusts while urging a friend to kill Valentine. This character bets that he can make a companion say "linger a while, thou art so fair!" before taking him to a witch's sabbath. This character first appears as a jet-black poodle and helps the title character seduce Gretchen. For 10 points, what character makes a bargain with Faust?

ANSWER: Mephistopheles <DS>

11. The number of ways of performing this task can be determined using a Zykov tree and, in a stat mech analogy, equals the Potts model's partition function at invariant q and T . Coefficients like negative 352 appear in a tenth-order polynomial giving the number of ways of performing this task for a construct created by Julius Petersen. A bound for this task equals "seven, plus the square root of: 49 plus 48 times the genus, all over two". Determining the (*) feasibility of this task is in P for $k = 2$ but in NP-complete for $k = 3$. The number of ways to do this task increases by its value for the contraction when an edge is removed. The proof that this task is possible under constraint for any planar graph was proven by Appel and Haken using a computer. For 10 points, name this task of assigning different labels to adjacent vertices of a graph.

ANSWER: graph coloring [or k-coloring; or four-coloring; or the chromatic problem] <AS>

12. It's not Kuwait, but this country's DnC and CBK banks were bailed out after a 1988 economic crisis caused by a price drop for its most valuable commodity. A state-owned company in this country was implicated in a 2003 scandal after hiring Horton Investments to bribe Iranian officials. The Iraqi immigrant Farouk al-Kasim led the development of an industry in this country that introduced most of its regulations after separate disasters on Phillips Petroleum's Bravo and Alexander Kielland (*) platforms. This country's \$1 trillion Government Pension Fund Global, a sovereign wealth fund, receives the revenues from its extra 40% tax on oil companies, many of which operate in its Ekofisk Field. The headquarters of Equinor, formerly Statoil, are in this country's city of Stavanger. For 10 points, name this country led by Harald V, which settled its Barents Sea border with Russia in 2010.

ANSWER: Kingdom of Norway [or Kongeriket Norge] <MB>

13. A subset of this school is known for carrying palm leaves like umbrellas when they leave their monasteries. Another monastic lineage in this school chants the *anumodana* after their sole daily meal, and during the rainy seasons ascetics in this school can be temporarily ordained during a retreat called Vassa. Ajahn Mun founded one of the (*) Forest Traditions in an attempt to resurrect the earliest practices of this school. Since this school still does not admit women to monastic ordination, and because it believes that laypeople cannot become arhants, this school, like Digambara Jainism, teaches that women cannot become enlightened in their own lifetime. This school preserves its scriptures in the Vinaya, Sutta, and Abhidhamma Pitakas, written in the ancient language of Pāli. For 10 points, name this most ancient sect of Buddhism, a non-Mahayana sect practiced in Sri Lanka, Thailand, and Burma.

ANSWER: Theravada Buddhism <JM>

14. The British Museum houses a depiction of one of *these* things unearthed at Ife in 1938. Highly stylized depictions of these things are made by the Pende people. The Bambara people depict these things in *n'tomos* and decorate them with *chiwaras*. In Yoruba art, these things are depicted in naturalistic, spiritualized, or abstracted modes called *ude*, *inu*, and *ipori*. Depictions of these things are often the only surviving parts of (*) Nok terracottas, in which they are frequently oversized. Thanks to a 1907 exhibit at the Palais du Trocadéro, the two women on the right-hand side of *Les Demoiselles d'Avignon* were inspired by African depictions of these body parts. The Olmecs sculpted many "colossal" depictions of these things. For 10 points, name these body parts depicted by masks.

ANSWER: heads [or faces; accept masks until "body parts"; prompt on answers like people, bodies, or humans by asking "Which body part?"] <JR>

15. The narrator of a novel by this author makes phallic references to the Post Office Tower near his apartment. In that novel by this author, which ends with "Post-Scripts" by "Dramatis Personae," Bradley Pearson is convicted for the murder of Arnold Baffin. The protagonist of another novel by this author goes on a bar crawl after finding a note stating "gone to the pub," and later searches for his ex-girlfriend Anna Quentin in Paris on Bastille Day. In that novel by this author, a dog named (*) Mr. Mars is kidnapped by a man who adapted his conversations with Hugo Bellfounder into the book *The Silencer*. This creator of Jake Donaghue wrote a novel in which the playwright Charles Arrowby encounters his lost lover Mary Hartley Fitch. For 10 points, name this Irish-born British author of *The Black Prince*, *Under the Net*, and *The Sea, The Sea*.

ANSWER: (Jean) Iris Murdoch <JM>

16. This ruler propagandized an incident from his youth in which he calmly stared down a charging bear while hunting with his grandfather. Philip Kuhn analyzed this ruler's response to rumors of people stealing souls by cutting others' hair. This ruler built a painted "Long Corridor" in his palace and employed the chief painter Jean Denis Attiret. This man was the last of three rulers served by court painter Giuseppe (*)

Castiglione [cah-steel-YOH-nay]. Ill-gotten goods worth 20 years of the whole empire's revenue were found in the home of this ruler's late-reign favorite, Héhshēn. This non-Japanese ruler warmly received the Titsingh Mission who, unlike the Macartney Embassy, kowtowed to him. This ruler ordered the Dzungar genocide as part of his "Ten Great Campaigns." For 10 points, name this Qīng emperor who abdicated in 1796 to avoid surpassing the reign of his grandfather, the Kāngxī emperor.

ANSWER: Qiánlóng [chyeahn-lung] Emperor [or First Prince Bao or Aisin Gioro Hongli] <JG>

17. Devices used for this process have to be designed around a type of Rayleigh-Taylor instability called a resistive ballooning mode. A team at Lockheed–Martin is developing a form of this process that uses four mirrors to create a cusp, similar to the polywell design for doing it. The breakeven point is calculated by doing an energy balance over devices used for this process. Devices used for this process have a safety factor q that's greater than one and a beta ratio around five percent during (*) stable operation. In one design, this process is initiated by an X-ray laser targeting a gold cylinder with a hohls-raum cavity. ITER is building a toroidal reactor that will be wrapped by magnetic field lines to improve plasma confinement during this process. For 10 points, name this process that occurs in a tokamak.

ANSWER: nuclear fusion [or plasma confinement until it is read] <AS>

18. A metaphorical version of this place is described as the source of "rags" used to clothe a poem's title object, which is then told, "In this array, 'mongst vulgars may'st thou roam." While passing through this place, a woman remarks how no "bridegroom's voice" will ever be heard in it and describes it as "glory richly furnished." Residents of this place include a son "whom greedy yet I miss out of his kicking place," a husband who "will listen while you read a Song," and a woman who is described as (*) "restless, waiting for him" in a poem by John Berryman. A resident of this title place, which once contained a "store I counted best," is awoken by a "thund'ring noise / And piteous shrieks of dreadful voice" in a poem titled for it, which ends by remarking that "The world no longer let me love / My hope and treasure lies above." For 10 points, name this title place of "Verses upon the Burning of our House."

ANSWER: Anne Bradstreet's house [accept any description of Anne or Simon Bradstreet's home or similar; accept "Verses upon the Burning of our House" until mentioned; prompt on partial answer; prompt on Massachusetts Bay Colony or North Andover, Massachusetts or America or The New World etc.] <WJ>

19. The spread of country music in this nation was recounted in the 2000 documentary *Buried Country*. A musical ritual indigenous to this country was made famous by a combination novel-essay-notebook published in 1987 by Bruce Chatwin. In this country, songs sung by ghosts are performed as *wangga* and are accompanied by "clapsticks." Myths from this country are reenacted in song and dance in the tradition of (*) corroboree. Some natives of this country use orally-transmitted music to mark hundred-kilometer routes called songlines. An instrument from this country is made by adding a wax mouthpiece after letting termites eat out the center of a eucalyptus tree. For 10 points, name this country home to the didgeridoo.

ANSWER: Commonwealth of Australia <JR>

20. A book titled for this concept concludes by contrasting the failure of “physico-theology” with “ethico-theology,” which can establish a moral proof of God. An “antinomy” of this concept is illustrated by the claim that it would be absurd for another Newton to explain a blade of grass according to natural laws. The categories of understanding are mapped to the logical functions of *this* capacity in a table reprising its formulator’s earlier published usage of the four (*) categories of quantity, quality, relation, and modality. The “determinate” variety of this transcendental faculty governs the ability to subsume particulars under known universal rules, while the “reflective” version of this faculty can classify things as agreeable, good, sublime, or beautiful. A book titled for this faculty is divided into halves on aesthetic and teleological kinds of it. For 10 points, name this title concept of Kant’s third *Critique*.

ANSWER: **judgment** [or Urteilskraft; accept specific kinds of **judgment**; accept word forms such as **judge** or **judging**] <SK>

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Packet 7 Bonuses

1. A 10th-century painter with this surname is best-known for his scandalously “explicit” painting of the *Night Revels of Hân Xīzài* [shee-DZYE]. For 10 points each:

[10] Give this surname of a 4th-century painter who wrote an influential essay about painting Celestial Terrace Mountain. That man with this surname also painted works like *Admonitions of the Court Instructress*.

ANSWER: **Gù** [accept **Gù Hóngzhōng** [hong-JONG] or **Gù Kǎizhī** [kye-JUR]; accept mispronunciations of the Wade–Giles transliterations **Ku** Hung-Chung or **Ku** K’ ai-chih]

[10] Both Gu Hongzhong’s *Night Revels* and Gu Kaizhi’s *Admonitions* are paintings in *this* format, which is contrasted with a similar “hanging” type. These paintings are designed to be viewed gradually on a tabletop.

ANSWER: **handscrolls** [or **shǒujuàn**; prompt on just **scrolls** or **juàn**]

[10] In his writings on painting, Gu Kaizhi repeatedly emphasizes the important of *this* body part, which he supposedly painted last. In the “*Mona Lisa* effect,” these body parts seem to “follow” the viewer of a portrait.

ANSWER: **eyes** [accept **pupils**] <JR>

2. In a novel from this country, a woman named Laila sits in Central Park while waiting to lose her virginity to a married engineer named Sihar. For 10 points each:

[10] Name this country, in which novels like Ayu Utami’s *Saman* and Djenar Maesa Ayu’s *Nayla* have been given a pejorative label translating as “fragrant literature.” The novel *Man Tiger* is also set in this country.

ANSWER: **Indonesia** (The pejorative label is *sastra wangi*.)

[10] The title character of *Saman* leaves *this* vocation to become a human rights activist. In Shūsaku Endō’s *Silence*, Sebastião Rodrigues starts out in this vocation.

ANSWER: Catholic **priesthood** [accept **clergy** or **missionary** or similar answers]

[10] Many of Utami’s novels depict repression under Suharto, which *this* author of the *Buru Quartet* experienced firsthand when he was arrested for protesting discrimination against Chinese Indonesians. Eka Kurniawan, the author of *Man Tiger*, wrote a monograph on this writer’s socialist realism.

ANSWER: **Pramoedya** Ananta Toer <SK>

3. Defects in this general process are assessed prenatally by the ratio of lecithin to sphingo-myelin in the amniotic fluid. For 10 points each:

[10] Name this natural process that depends heavily upon the availability of di-palmitoyl-phosphatidyl-choline. In infants, defects in this general process are diagnosed postmortem by the accumulation of a hyaline membrane.

ANSWER: **breathing** [or **respiration**]

[10] Absence of pulmonary surfactant in preterm infants is usually due to insufficient development of Type II cells in these small cavities in the lungs where gas exchange occurs. Smoking destroys them.

ANSWER: **alveoli** [or **alveolus**]

[10] Alveoli are located at the distal end of these functional units of the lungs, which consists of a bronchiole and the alveoli clustered together in a rounded sac. In anatomy generally, this term describes exocrine glands whose secretory sections have a narrow lumen, unlike alveolar glands.

ANSWER: **acinus** [or **acini**; or **acinar** glands] <AS>

4. This man defends a contextual approach to intellectual history in a book that argues that past thinkers ought not to be read as addressing “perennial issues” in their thought. in this. For 10 points each:

[10] Name this historian who collected methodological essays like “Meaning and Understanding in the History of Ideas” in the series *Visions of Politics*.

ANSWER: Quentin (Robert Duthie) **Skinner**

[10] Skinner made *this* city central to his analysis of civic humanism. Skinner’s Cambridge School colleague, J.G.A. Pocock, used the thought of Niccolò Machiavelli to explain *this* city’s role in the *Atlantic Republican Tradition*.

ANSWER: **Florence** [or **Firenze**]

[10] In 1502, Machiavelli’s patron Piero Soderini was elected to *this* Florentine office for life. Machiavelli’s friend Francesco Guicciardini [frah-n-cheh-skoh gwee-chyahr-DEE-nee] favoured life appointments to *this* only non-guild related office of the *Signoria*, because it meant the officeholder did not have to be concerned with maintaining popularity.

ANSWER: **gonfaloniere** <DJG>

5. Answer the following about campaign contributions by individuals to U.S. elections, for 10 points each.

[10] Using data from the online tool ActBlue, Bernie Sanders announced that his 2016 presidential campaign had an average individual donation of *this* shockingly small number of whole dollars. It’s also the number of amendments in the U.S. Constitution.

ANSWER: **27**

[10] This 2-syllable term refers to rich people who dodge the spirit of individual donation limits by gathering maxed-out individual donations from lots of other rich people they know. The “Super Rangers” were a set of them who aided the 2004 Bush campaign.

ANSWER: **bundlers**

[10] In 2014, this 5-4 party-line Supreme Court decision left up an individual contribution limit of \$2,700 per election, but struck down “aggregate limits” on how much an individual can donate across any number of separate elections per two-year cycle.

ANSWER: **McCutcheon v. FEC** [or *Shawn McCutcheon et al. v. Federal Election Commission*] <MJ>

6. Joshua Kertzer and Dustin Tingley assessed the status of political psychology in international relations scholarship in the 2018 *Annual Review of Political Science*. Answer the following about their article, for 10 points each.

[10] The article notes lower interest in *this* phenomenon, in which people don’t share conflicting views with a consensus-seeking clique. Irving Janis coined this term and studied how it warped JFK’s foreign policy toward Cuba.

ANSWER: **groupthink**

[10] The overview notes a shift toward studies of *this* kind of “cognition” suffused with emotion. A Canadian scholar used this one-syllable adjective to denote a type of “media” which completely engages a single sense in “high definition” with little need for mental effort.

ANSWER: **hot** or **hot** cognition; or **hot** media] (The psychology distinction is between “hot and cold cognition”; Marshall McLuhan contrasts “hot and cool media.”)

[10] Kertzer and Tingley cite four works by *this* Columbia theorist, who wrote 2017’s *How Statesmen Think*. This theorist of “system effects” brought psych to IR in his book *Perception and Misperception in International Politics*.

ANSWER: Robert **Jervis** <MJ>

7. This man declared “What we’re going to try to do, is we’re going to try to rap and educate” in his November 1969 speech “It’s A Class Struggle Goddammit!” For 10 points each:

[10] Name this man, who, along with Mark Clark, was killed in his sleep during a Chicago Police Department raid just a month after that speech.

ANSWER: Fred **Hampton**

[10] Fred Hampton led the Illinois chapter of *this* leftist organization, which was founded by Huey Newton and Bobby Seale.

ANSWER: **Black Panther** Party (for Self-Defense) [or **Black Panthers**; prompt on **BPP**]

[10] The raid on Hampton’s apartment was made possible by William O’Neal, a Black Panther-turned-FBI informant. Another major informant for the FBI was *this* Japanese-American Field Marshal and activist, who was posthumously found to have been leaking information from within the Black Panthers.

ANSWER: Richard (Masato) **Aoki** <WJ>

8. This opera’s most famous aria has a faster middle section in 2/4 time and C major, by contrast with its “A” section, which is in G major and is marked “Tempo di Minuetto.” For 10 points each:

[10] Name this unfinished *singspiel* [ZING-shpeel] by Mozart, which is by far best known for including the high soprano showpiece “Ruhe sanft” [ROO-uh ZANFT].

ANSWER: **Zaide**

[10] “Ruhe sanft” is written for a voice very similar to the one required for *this* role, who sings the aria “Ach, ich fühl’s” [AKH eekh fyewlss]. The opera’s protagonist sings “Dies bildnis” [deez BILT-niss] after getting *this* woman’s picture from the Three Ladies.

ANSWER: **Pamina**

[10] Pamina escapes the Queen of the Night in *this* other *singspiel* by Mozart.

ANSWER: *The Magic Flute* [or *Die Zauberflöte*] <JR>

9. This poem is dedicated to Wilhelm Heinse. For 10 points each:

[10] Name this elegy. Its seventh section laments, “But friend, we come too late. It’s true that the gods live, / but up over our heads, up in a different world,” and describes poets as “holy priests of the wine god, / moving from land to land in the holy night.”

ANSWER: “**Bread and Wine**” [or “**Brod und Wein**”]

[10] “Bread and Wine” was written by *this* German Romantic author of “Patmos.” In an epistolary novel, this author described Hyperion’s struggle to overthrow Turkish rule in Greece during the Orlov Revolt.

ANSWER: Johann Christian Friedrich **Hölderlin**

[10] This poet addressed Hölderlin as the “most wandering [spirit] of all.” In one of his own elegies, this poet asked “Who, if I cried out, would hear me among the Angelic Orders?”

ANSWER: Rainer Maria **Rilke** (The poem is the first Duino Elegy) <MK>

10. In face-centered cubic geometries, these planes form the closest packed layers and are separated by a distance of the lattice constant over the square root of three. For 10 points each:

[10] Give the Miller indices for these planes, so named because they are formed from the three vertices of the unit cell that are exactly adjacent from the origin in all three directions.

ANSWER: **(111)** [“one one one”] planes

[10] An extra coordinate is added to describe the Miller indices for planes in this crystalline geometry, which can pack just as efficiently as face-centered cubic crystals. The unit cell of graphene is this 2D shape.

ANSWER: **hexagon** [or **hexagonal** close packed; or **HCP**]

[10] On an FCC crystal, the (111) planes can scatter electrons, since this quantity, which scales with the square root of scattering intensity, is nonzero. It is calculated as: “the sum over all atoms of the atomic scattering factor, times the exponential of two pi *i*, times *h k l* dotted with the atom’s coordinates.”

ANSWER: **structure factor** [prompt on *E*] <AS>

11. Some followers of this religious figure’s tradition founded the organization BAPS, which you may know from their *sattvic* snack brand, BAPS Shayona. For 10 points each:

[10] Name this Hindu ascetic who founded a namesake tradition most prominent in Gujarat, and who codified his strict ethical teachings in the *Shikshāpatrī*. His followers venerate him as an incarnation of Para-brahma.

ANSWER: **Swāmi-nārāyaṇa** [or **Sahajanand** Swāmi; or Ghanshyām **Pānde**]

[10] Because of his commitment to nonviolence, Swāmi-nārāyaṇ performed many of *these* Vedic fire sacrifices without using animals.

ANSWER: **yajña** [or **yagna**; accept **homa** or **havana**]

[10] Like Smarta Brahmins, Swāminārāyaṇ Hindus are instructed to venerate the gods equally as manifestations of Brahman. In practice, many of their rituals center around *this* butter-loving, *gopi*-seducing avatar of Vishnu, who speaks with Arjuna in the *Bhagavad Gītā*.

ANSWER: **Krishna** <SK>

12. Xenophanes of Colophon was accused of *asébeia* for claiming that animals would zoomorphize these entities if they had them. For 10 points each:

[10] Name these entities, an attack on which is sometimes read into Protagoras’ dictum that “man is the measure of all things.” Socrates was accused of corrupting the youth and of denying these entities.

ANSWER: **Gods** [accept obvious equivalents or general terms like **deities**, the Greek **pantheon**, or **theoi**, or **theai**]

[10] Protagoras created a paradox widely discussed by Renaissance logicians like Lorenzo Valla by arranging to be paid under *this* condition. Leibniz created a solution where the student pays him during a *repetition* of the scenario.

ANSWER: Protagoras arranged to be paid when his student **wins his first case** [accept equivalent descriptions; this scenario is often called “the Paradox of the **Court**,” “the **Rhetor’s Dilemma**,” or “**Euathlus**’ Counterdilemma,” so accept any of those answers as well]

[10] The Cyrenaic philosopher Theodoros the Atheist was infamous for both vocal *asébeia*, or impiety, and for snarky debates with Hipparchia of Maroneia, a member of *this* school. This school founded by Antisthenes advocated *askesis* along with the Stoics.

ANSWER: **Cynics** <JG>

13. Dozens of churches had a lower side-door used only for these people, who were the subject of unfounded rumors about their misshapen earlobes or their affinity for carpentry. For 10 points each:

[10] Name this group from western France and the Pyrenees. They've been discriminated against for a millennium but nobody knows why, as there are no major genetic, religious, or social traits setting them apart from neighbors.

ANSWER: **Cagots** [kah-GOH] [or **Agotes** or **Gahets** or **Capets** or **Capots** or **Caqueux** or **ladres** or **gésitains** or **chrestiaa**; prompt on **carpenters** or **charpentiers**]

[10] Medieval French documents often conflate cagots with sufferers of *this* disease. Its victims often had extreme skin lesions and were exiled to “colonies” such as the one preached to by Father Damian on Molokai in Hawaii.

ANSWER: **leprosy** [or **Hansen's** disease; accept **leper**s or **leper** colonies]

[10] This pope issued a bull declaring equal treatment of the cagots, which locals ignored or protested. His other declarations include *Exsurge Domine*, which condemned the heresy of at least 41 points from a longer list.

ANSWER: **Leo X** [or **Giovanni** di Lorenzo de' **Medici**; prompt on just **Medici** or **Leo**] (*Exsurge Domine* was a response to Martin Luther's Ninety-Five Theses.) <MJ>

14. *Description acceptable.* This decision was defended in a *New Yorker* essay that describes waiting for the “Big One” and claims that Monet's paintings are “big in different ways” from Tintoretto's in the section “How to Define Greatness.” For 10 points each:

[10] Identify this controversial 2012 decision that affected Denis Johnson and debut novelist Karen Russell.

ANSWER: **not** awarding a **Pulitzer** Prize for Fiction [accept clear descriptions of there being **no Pulitzer**]

[10] That *New Yorker* essay was written by *this* author and jury member. This author himself wrote a Pulitzer-winning novel in which a poet dying of AIDS protests to a former lover that he doesn't deserve the Carrouthers Prize.

ANSWER: Michael **Cunningham** (The novel is *The Hours*.)

[10] Besides Johnson's *Train Dreams* and Russell's *Swamplandia!*, the third Pulitzer nominee in 2012 was *this* man's unfinished novel *The Pale King*. He also wrote a novel that features a number of scenes set at the Incandenza family's tennis academy.

ANSWER: David Foster **Wallace** [accept **DFW**] <DS>

15. The time-temperature superposition is used to describe polymers that possess this general property. For 10 points each:

[10] Name this property of materials that demonstrate hysteresis in their stress-strain curves and suffer from creep, because the relationship between their stress and strain is time-dependent.

ANSWER: **viscoelasticity** [or word forms; do not accept or prompt on “viscous” or “elastic” by themselves]

[10] The properties of viscoelastic materials are characterized by these *two* elastic moduli, which vary with the sine and cosine of the phase between stress and strain, and are usually symbolized with one and two primes.

ANSWER: **storage** AND **loss** moduli [prompt on partial answer]

[10] The ratio between the storage and loss moduli, tan-delta, is generally used in physics to represent dissipation. For materials, it measures this effect, the decrease in the amplitude of mechanical oscillations caused by friction.

ANSWER: **damping** [or word forms] <AS>

16. Kenny Dorham's 1955 record was named for people of African descent from this country, whose eponymous style of jazz was popularized in America by Dizzy Gillespie. For 10 points each:

[10] Name this home of Arturo Sandoval, a Caribbean nation where conga, rumba, salsa, and the cha-cha-chá originated.

ANSWER: Republic of **Cuba** [or República de **Cuba**; accept **Afro-Cubans**]

[10] Afro-Cuban music is organized around *these* usually-syncopated rhythmic motifs, one of which can be counted "1 2 3, 1 2 3, 1 2 3 4, 1 2, 1 2 3 4." These patterns share their name with the pair of wooden sticks that are hit together to play them.

ANSWER: **claves** [KLAH-vay] [accept son **clave** or **clave son**]

[10] The first American jazz standard to be built around a clave rhythm was *this* Dizzy Gillespie song based on Mambo rhythms. Its name is Afro-Cuban slang for marijuana.

ANSWER: "**Manteca**" <JM>

17. In a play of unknown authorship, this character is given the retort that "thou comest when I had thee least in mind." For 10 points each:

[10] Name this character from the play *Everyman*. At the play's start, he is sent by God to tell Everyman that it's time to go on a journey.

ANSWER: **Death**

[10] *Everyman* was originally written in this language, which was also used in William Langland's *Piers Plowman* and Geoffrey Chaucer's *Canterbury Tales*.

ANSWER: **Middle English** [prompt on partial answer]

[10] A different version of allegorical Death appears in *this* Canterbury Tale, in which three thieves go try to kill Death under an old oak tree, only to find a bunch of treasure there and kill each other over it.

ANSWER: The **Pardoner's** Tale <MJ>

18. Studies of these people, which often employ ACE models, are often the most direct way to estimate the heritability of traits. For 10 points each:

[10] Name these sets of individuals. Mono-zygotic sets of them tend to have more similar personalities than di-zygotic sets.

ANSWER: **twins** [accept identical **twins**; accept fraternal **twins**; accept monozygotic **twins**; accept dizygotic **twins**; prompt on **siblings** or **brothers** or **sisters**; prompt on *n*-**tuplets**]

[10] Twin studies and adoption studies are at the core of *this* subfield with a two-word name, which assesses the relative influence of DNA and the environment on a person. John DeFries founded this field's namesake journal.

ANSWER: **behavioral genetics** [prompt on partial answer]

[10] Copious twin studies show that intelligence gets *more* heritable as *this* other variable increases, a finding sometimes called the Wilson Effect. "Disengagement theory" and "activity theory" are two approaches to studying people at high values of it.

ANSWER: **age** [or **aging**; or **time** that someone has been alive; accept any answer indicating how **old** a person is] <MJ>

19. In 2009, Hector Williams declared himself “Wihta Tara” or “Great Judge” while declaring an independent state named for *these* people, among whom the culture-bound syndrome “grisi siknis” is endemic. For 10 points each:
[10] Name these people represented by the party YATAMA, and whose risky dives for spiny lobsters have led to many health issues. These people are currently disputing land with *mestizo* settlers who bought illegal permits in the Rio Coco region despite Law 445.

ANSWER: **Miskito** peoples

[10] Miskito advocates have been highly critical of Daniel Ortega’s inaction on illegal settlement, exacerbating long-standing tensions with *this* party led by Ortega. This ruling party of Nicaragua was opposed by the Contras.

ANSWER: **Sandinista** National Liberation Front

[10] Before returning to power in 2007, Ortega was unseated in the 1990 election by a politician and former ally of *this* surname. The murder of a *La Prensa* editor with this surname was a major spark of the Sandinista revolution.

ANSWER: **Chamorro** <JG>

20. Under constrained resources, this process can be done by constructing Taguchi arrays that enable fractional but orthogonal coverage of every test variable. For 10 points each:

[10] Name this process that is done optimally using a set of techniques devised by Kirstine Smith, with the aim of minimizing bias and variance when calculating parameters.

ANSWER: **design of experiments** [or **experimental design**; or **experimentation**; or word forms of any of these options; or **DoE**]

[10] D-optimal experimental design aims to maximize the determinant of this matrix. For a given set of values for independent variables X , this matrix equals X transpose times X .

ANSWER: the Fisher **information** matrix

[10] Each term in the information matrix is this function of the score derived from the fit’s likelihood function. For a data set, *this* function equals the average of the squared differences from the mean, or, the standard deviation squared.

ANSWER: **variance** [or **sigma-squared**] <AS>