

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 15 Tossups

1. **This philosopher employed the image of a glowing mass inside a hollow sphere, which leaves light everywhere even when the source is removed, to illustrate the process of *aphairesis*. This philosopher discusses how an entity with the “power of absolute ontological self-mastery” cannot really be said to exist, rather projecting being into the realm of beings. This philosopher’s work was only known to medieval Arabic scholars through a dubious, highly paraphrased translation which presented itself instead as “The (*) Theology of Aristotle.” This philosopher’s collected works are titled after their organization into six groups of nine chapters. This thinker’s philosophy held that principles (or “hypostases”) like the Soul and the Intellect emanated from the One. For 10 points, name this Greek philosopher whose writings were compiled by Porphyry as the *Enneads*, the founder of Neoplatonism.**

ANSWER: **Plotinus** <JM>

2. **A film by this director referenced Hitchcock’s *The Lodger* with an under-table shot that’s repeatedly blocked by tea saucers. This man argued that a film he produced with Jonathan Sanger should not be “construed as...soliciting the input of raging primitives” after investors criticized his choice of David Lynch to direct *The Elephant Man*. In one of this man’s films, Marcel Marceau ironically has the only speaking role. While clearing mines at the Battle of the Bulge, this director allegedly rigged his own (*) sound system to blast Al Jolson over Nazi propaganda. Frankie Laine was never told that his emotional theme song was for a *comedy* this man directed, which was originally meant to star John Wayne and Richard Pryor as the Waco Kid and Sheriff Bart. Gene Wilder starred in three films by—for 10 points—what director who wrote the song “Springtime for Hitler” for *The Producers*?**

ANSWER: Mel **Brooks** [or Melvin (James) **Kaminsky**] <JG, Other Academic>

3. **A man with this surname inaugurated his country’s tradition of literary criticism by discussing “Seven Masters” and eight genres in his “Discourse on Literature.” A man with this surname wrote the first “classical” pentasyllabic poems, while his father wrote poems like “In the Style of a Short Song” and “Though the Tortoise Lives Long...” A man with this surname wrote a novel in which a sickly woman writes an elegy after burying some (*) flowers. That man with this surname used “Prospect Garden” as the setting for much of a novel that had 40 chapters added in a 1791 edition. In a 14th-century novel, Zhūgě Liàng summons a wind to blow fire-ships toward the chained-together ships of a man with *this* surname at the Battle of Red Cliffs. For 10 points, give this surname shared by the author of *Dream of the Red Chamber* and a general villainized in *Romance of the Three Kingdoms*.**

ANSWER: **Cáo** [tsow] [accept **Cáo** Pī, **Cáo** Zhí, **Cáo** Cāo, **Cáo** Zhān or **Cáo** Xǔeqín] <JR>

4. In what is now this state, future Philadelphia mayor Jonathan Dickinson was shipwrecked and wrote a diary that describes how the Ais people used a ritual drink referenced in the name of a later rebel. A colony in this future state tricked escapees of another colony into a “Slaughter Inlet,” leading to retaliation from the escapees’ Sauriwa allies. James Moore’s raid *into* this future state during Queen Anne’s War nearly wiped out the Timucua and the namesake tribe of the Apalachee massacre. (*) Huguenots built the short-lived Fort Caroline in what is now this state, and an attack launched *from* it was thwarted at the Battle of Bloody Marsh. This state contains the starting point of de Soto’s expedition. The first permanent European settlement in North America was founded in—for 10 points—what home of St. Augustine, which often disputed its border with James Oglethorpe’s colony to the north?

ANSWER: **Florida** (The “later rebel” is Osceola.) <JG>

5. Some round artifacts in this material are often dubbed “TLV,” since their decorative motifs are shaped like those letters. Artifacts in this material often include squared-spiral patterns surrounding mysterious animal-mask motifs called *tāotiè* [tow-TYEH]. This material was used to make basket-shaped *gui* [gway]. A set of artworks named for this material includes hundreds of figural “plaques” and a number of portrait heads and figurines depicting kings called (*) *oba*. In Ancient China, this material was used to make tripod-shaped *ding*. In December 2018, the British Museum decided to partially repatriate a collection of Nigerian artifacts named for this material. Those Nigerian artifacts, which are not actually made of this material, are named for Benin. This is the most common material for sculptures made with the lost-wax process. This was the original material of Myron’s *Discobolus*. The Colossus of Rhodes was made of—for 10 points—what metal alloy?

ANSWER: **bronze** [accept **Benin Bronzes**] <JR>

6. A two-part unfinished work by this poet begins by describing a “man that sees the ever-whirling wheel of Change” and noting how the title figure plays “her cruel sports, to many mens decay.” This poet alluded to Petrarch’s laurel by describing “Bayleaves between and Primroses green” in a poem that was published under the pseudonym “Immerito.” The first recorded use of the word “sarcasm” in English is in a work by this poet that is narrated by the mysterious (*) “E.K.” One of this poet’s characters meets a tree who was once the man Fradubio. This poet’s *Mutabilitie Cantos* feature stanzas in “AB AB BC BC C” rhyme, consisting of eight lines of iambic pentameter plus an alexandrine. The character of Colin Clout was created by this poet, who featured allegorical figures like the Redcrosse Knight and Gloriana in an epic poem. For 10 points, who wrote *The Shepheardes Calender* and *The Faerie Queene*?

ANSWER: Edmund **Spenser** [accept **Spenserian** stanza] <WJ>

7. In a paper supporting this policy from a “behavioral realist” perspective, Jerry Kang and Mahzarin Banaji argue that it should be seen as “presentist.” One scholar argued for the ineffectiveness of this policy by examining its effects in India, Malaysia, Sri Lanka, and Nigeria, criticizing the justifications for it offered by the book *The Shape of the River* by William Bowen and Derek Bok. This policy’s prominent critic Richard Sander claims that it results in a (*) “mismatch effect.” A 2005 book by Ira Katznelson uses the Servicemen’s Readjustment Act as an example of a period of when this policy “was white.” Sandra Day O’Connor wrote that this policy should be “limited in time” and would not be necessary 25 years in the future in her majority opinion in *Grutter v. Bollinger*. For 10 points, name this policy of increasing the odds of admission or employment for underrepresented groups.

ANSWER: **affirmative action** [accept **Affirmative Action** *Around the World* or *When Affirmative Action Was White*; accept more specific forms of **affirmative action**, such as in **admissions** or **employment**; anti-prompt on racial **quotas** or descriptive answers such as **considering race in admissions**] <WHM>

8. After his 1652 death, four composers wrote *tombeaux* for a player of *this* instrument named Blancrocher [blawn-croh-SHAY]. The first pieces titled “Ricercar” were written by players of this instrument like Marco dall’Aquila and Francesco da Milano. Scholars have recently come to doubt that Bach had this instrument in mind with his two-stave transcriptions of the E-major violin partita and C-minor cello suite. An ancestor of the viola da gamba called the *viuela* was created as an alternative to this instrument. The irregularly arpeggiated *style brisé* derived from music for this instrument. A player of this instrument wrote a collection of (*) “Seven Tears” called *Lachrimae*. This instrument, which was enlarged in an “arch-” variant, derived from the Islamic *oud*. This round-backed instrument accompanies songs like “Flow My Tears” by John Dowland. For 10 points, name this early plucked string instrument similar to the guitar.

ANSWER: lutes <JR>

9. Brain iron accumulation is caused by defects in the biosynthesis of this molecule by PANK [“pank”]. This compound is liberated from a carbon chain in the first module of a polyketide synthase. Vitamin B12 is needed to isomerize methylmalonic acid that is derivatized by this compound. In an enzyme complex, the nucleophilic anion of this compound attacks the lipoamide arm of subunit E2 to generate the final product. Carnitine replaces this molecule on long carbon (*) chains to help them enter the mitochondria. Acyl carrier protein transfers two-carbon units to this small molecule. This 21-carbon compound is derived from vitamin B5, pantothenic acid, and is linked by a thioester to every intermediate in fatty acid synthesis and beta-oxidation. For 10 points, name this compound that is acetylated at the end of glycolysis to provide the feedstock to the citric acid cycle.

ANSWER: coenzyme A [or Co·A; or Co·ASH; do not accept or prompt on “acetyl CoA”] <AS>

10. John Marcum wrote a two-volume analysis of this country’s independence war subtitled “The Anatomy of an Explosion.” A journal with the slogan “Let Us Discover [this country]” was an early nationalist organizing vehicle in it. That journal was Viriato da Cruz’s *Mensagem*. António Mariano and Kulu-Xingu [koo-loo shin-goo] led a revolt that smashed the property of a cotton company in this country while chanting hymns. The (*) Baixa de Cassanje [BYE-shuh de cah-SAH-zhuh] revolt began this country’s independence war, which the Alvor Agreement ended. A rebel in this country divorced his wife to forge a marriage alliance with Joseph Mobutu, and lost the Battle of Quifangondo. A civil war in this country saw extensive Cuban support for the victors at Cuito Cuanavale and pitted Holden Roberto’s FNLA and Jonas Savimbi’s UNITA against the MPLA. For 10 points, name this country where a Portuguese colony was based at Luanda.

ANSWER: Republic of Angola [accept Republika ya Ngola] <MW>

11. The “apocalypse” in this text’s first section is widely believed to be a much later addition. This book contains the chronologically-first unequivocal shift in the Bible from a henotheistic theology to monotheism proper. Bernhard Duhm noted that the name of this text’s title figure stops appearing after its first sections. This book is often divided “proto-,” “deutero-,” and “trito-[this book]” parts, the third of which was identified by its repeated mentions of (*) Cyrus. The phrase “beat(ing) swords into ploughshares” originates from this text, whose insistence that “there is no other god” exemplifies its commitment to preserving Judaism during the exile. This book’s “Songs of the Suffering Servant,” mention of a “voice crying out from the wilderness,” and prophecy of a son called “Immanuel” were later taken to refer to Christ. The Book of Jeremiah comes after—for 10 points—what first and longest Major Prophet?

ANSWER: Book of Isaiah [or Sefer Yeshayahu] <JM>

12. This man built on the work of Lagrange by proving that an odd number whose divisors sum to k can be represented as the sum of four squares in $8k$ different ways, using a formula that generalizes Euler's pentagonal number theorem. A function named for this man is given by a series with terms " e to the ' π - i n -squared tau,' times e to the ' $2\pi i n z$.'" This man used his triple product formula to rewrite his namesake (*) theta functions. Anti-commutative operators like the cross product are not associative, but do satisfy this man's namesake identity. A matrix named for this man generalizes the derivative or gradient for vector-valued functions. Changing coordinates in a multiple integral requires multiplying by this man's namesake determinant. For 10 points, what man names the matrix of all of a function's first partial derivatives?

ANSWER: Carl Gustav Jacob **Jacobi** [accept **Jacobi theta function** or **Jacobi identity** or **Jacobian matrix** or **Jacobian determinant**] <JR>

13. They're not soldiers or law enforcement, but Jeremy Deller recruited over five hundred historical re-enactors to play *these people* for a project published as *The English Civil War Part II*. The Electric Ballroom hosted a benefit concert for these people by the Bronski Beat. Activists wore black armbands to protest the deaths of two of these people named Davy Jones and Joe Green. A non-singer named Michael Jackson worked with Mark Ashton to found "Lesbians and Gays Support [these people]." The South (*) Yorkshire Police paid compensation for the unlawful arrest of these people after conducting mounted charges against them in Orgreave. The Ridley Plan and these people's failure to hold a national ballot contributed to the defeat of their union, which was led by Arthur Scargill against the Thatcher government. For 10 points, name this profession who went on strike in 1984 to protest pit closures.

ANSWER: coal **miners** <DS>

14. NOTE TO MODERATOR: Please look over answer line before beginning to read this tossup. All answers that say "prompt on" in the answer line to this tossup should be outright accepted before the (#) sign.

These people have been the subject of most of the original research by Temple University psychologist Laurence Steinberg. These people use "verbatim" assessments *more than* "gist-based" intuition about risk, per Valerie Reyna's "fuzzy-trace" theory of emotion. In an early use of the "experience sampling method," 75 of these people got beepers that rang at random times for a 1984 study by Reed Larson and Mihaly Csikszentmihalyi [mee-HAI-yee chick-sent-mee-HAI-yee] on *Being* (#) this sort of person. Morris Rosenberg developed a 30-point (*) self-esteem scale when studying these subjects. David Elkind's studies of these people noted concern for an "imaginary audience," a sign of egocentrism. G. Stanley Hall described the "storm and stress" in this demographic which, according to Erik Erikson, struggles with "identity vs. role confusion." For 10 points, what age cohort attains Jean Piaget's "formal operational" stage of cognition alongside a major "growth spurt"?

ANSWER: **adolescents** [or **teenagers**; or **pubescent** individuals; or people undergoing **puberty**; or **middle school** age students or **high school** age students; accept *Being Adolescent*; prompt on **children**, **youths**, **young adults**, **students**, **minors**, or other answers that don't specify beyond 0-to-legal adulthood] <MJ>

15. In a story by an author with this *first* name, the protagonist begins to hate "Chanel and furs and good food" after her one night stand demands that she take a bath. Another author with this *first* name ended a story with the protagonist sitting in her parents' basement between boxes of Barbies, thinking "the sensation of being outside yourself" "isn't such a bad feeling at all." An author with this first name wrote about Meg's night with Mr. Breen in "The Man in the Brooks Brothers Shirt", a story in *The Company She Keeps*. An author with this first name wrote *Because She Wanted To*, as well as a story about the (*) typist Debby, who is aroused by her boss spanking her. The story "Secretary" appears in *Bad Behavior*, by an author with this first name and surname Gaitskill. For 10 points, give the first name of Edmund Wilson's wife, who wrote about Kay Strong and her friends from Vassar in *The Group*.

ANSWER: **Mary** [accept **Mary** Gaitskill or **Mary** McCarthy] <DS>

16. A house designed by this man includes two symmetrical wings leading out to pavilions that sport sundials underneath the pediments of their façades. After his death, a theater designed by this man was given a *trompe-l'œil* set designed to look like a long street heading upstage. A church designed by this man uses white marble for a four-column, elevated classical temple façade that's superimposed over a second, lower temple façade. A country house designed by this man has (*) porticos facing each of the four cardinal directions. This designer of the Olympic Theater adapted Roman temple designs for his many villas in and around Vicenza. Monticello was built on principles inspired by this designer of San Giorgio Maggiore. For 10 points, name this Venetian Renaissance architect who wrote the *Four Books on Architecture* and designed the Villa Rotonda.
ANSWER: Andrea Palladio [or Andrea di Pietro] <JR>

17. The Fowler–Nordheim equation for field-stimulated emission is derived assuming this quantity is zero. Because the Zener and avalanche effects have inverse responses to changes in this quantity, a Zener diode at the transition near 5.6 volts can be used to measure it. The Richardson equation predicts flux to vary quadratically with this quantity, and total intrinsic carrier density varies with it cubed. In the Shockley equation, the ideality factor is multiplied by a characteristic (*) voltage that depends only on this variable. A Fermi–Dirac distribution becomes a step function as this quantity tends to zero. Carrier diffusivity increases linearly with this quantity times mobility. A mix of a chromel and alumel alloy measures this quantity by probing its impact on electrical resistance in the Seebeck effect. For 10 points, name this quantity measured by a thermocouple.
ANSWER: absolute temperature [or T] <AS>

18. This author asked the “interpreters” of one of his plays to “treat [the] play as they would a masterpiece like *Macbeth*,” but to treat him “without any respect.” A poem by this author begins by describing a “Sunday heavy lid on the boiling of blood.” A fictional version of this author describes war as “capitalism with the gloves off” and says “It takes courage to sit down and be counted.” This non-English-language author meets Lenin in a play centering on Henry Carr’s production of *The* (*) *Importance of Being Earnest*. This man wrote *The Approximate Man* and, in Tom Stoppard’s play *Travesties*, he makes a poem by pulling cut-up words from a Shakespeare sonnet out of a hat. A play by this author ends with the line “This will end with a lovely marriage” and features characters called Mouth, Ear, Eye, Nose, Neck, and Eyebrow. For 10 points, name this author of *The Gas Heart*, a Romanian-born Dadaist.
ANSWER: Tristan Tzara [accept Samuel Rosenstock or S. Samyro] <MW>

19. *Description acceptable.* The ex-footman Robert Dodsley made his fortune selling *this good* in Pall Mall. Companies bought pre-agreed amounts of this good in syndicates called Congers. A seller of this good named Baker & Leigh evolved into Sotheby’s. Tokens with the image of James Lackington could be redeemed for this good at its largest London retailer. It’s not coffee, but the current London Stock Exchange is built over a hub for this good called Paternoster Row. A thirty-year “Battle of [this good’s] sellers” began in 1731 when the Statute of (*) Anne expired. Pope’s *Dunciad* attacks an unethical seller of this good named Edmund Curll. Queen Charlotte bought these objects from John Hatchard, whose shop is still extant. Producers of these goods once lived on Grub Street. For 10 points, name these objects whose 17th-century production was controlled by the Worshipful Company of Stationers.
ANSWER: books [accept specific types of book or equivalents like print or literature] <DS>

20. Elementary reactions with this property have a nonzero intercept on their first deplot. The effectiveness factor depends on the \tanh [tanch] of the Thiele [“thee-lee”] modulus near a slab if a reaction has this property. The Damköhler [“dawn-koh-ler”] number for these reactions is exactly the rate constant times the residence time. If diffusion is limiting and there’s an infinite sink, as in physi-sorption, a reaction will have the “pseudo-” form of this property. Reactions in Lindemann theory *lack* this property at low pressure despite their (*) molecularity. The basic substitution and elimination mechanisms named for having this property have carbocation intermediates. Michaelian [“mick-kail-ee-un”] enzymatic reactions have this property if the substrate concentration is low. In these reactions, the rate constant has units of Hertz. For 10 points, name this type of reaction whose rate depends linearly on concentration.

ANSWER: **first-order** reaction [or **$N = 1$**] <AS>

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Packet 15 Bonuses

1. For 10 points each—answer the following about milk...in Supreme Court cases:

[10] In *Nebbia v. New York*, the Court ruled that a state-imposed milk price did not violate this provision of the 5th and 14th Amendments, which restricts the state’s ability to arbitrarily deprive citizens of “life, liberty or property.”

ANSWER: **due process**

[10] In *United States v. Carolene Products Co.*, the Court found that a ban on interstate shipping of filled milk passed *this* loosest standard of judicial review, but set the groundwork for the more stringent “strict scrutiny” in a footnote.

ANSWER: **rational basis** review

[10] The 1951 case *Dean Milk Co. v. City of Madison* applied *this* interpretation of the Commerce Clause, which prohibits states from passing laws that discriminate against interstate commerce.

ANSWER: **Dormant** Commerce Clause <SE>

2. Answer the following about legends commemorated by temples in Tamil Nadu, for 10 points each.

[10] The Meenakshi Temple is named for an incarnation of *this* member of the Tridevi born as a three-breasted, “fish-eyed” warrior queen to a royal couple praying for a son. Sati was reborn as this goddess after performing the original instance of her namesake self-immolation.

ANSWER: **Parvati** [accept **Gauri**, Adi **Parashakti**, or any regional name like **Uma**, **Mahakali**, or Ibu **Pertiwi**; prompt on deities treated as forms or incarnations like **Durga**, **Kali**, **Annapurna**, or the **Mahavidyas** with “who is considered a form of which goddess?”]

[10] Meenakshi married Sundareshwarar, who is unsurprisingly an avatar of *this* member of the Trimurti and “lord of the dance.” The Brihadishvara Temple in Thanjavur holds one of the largest *lingams* that symbolize this deity.

ANSWER: **Shiva** [accept **Mahadeva** and anything else that can be demonstrated to be an alternate name]

[10] A temple in Villivakkam commemorates the spot where *this* sage killed two demons who would turn into fruit, trick travelers into eating it, then tear them apart from the inside. This husband of Lopamudra was born when the *apsara* Urvashi’s pure sexiness caused Varuna and Mitra to spontaneously ejaculate into the same mud pot.

ANSWER: **Agastya** Kumbayoni <JG>

3. This object’s luminosity is used as a scaling factor of the y-axis of the Hertzsprung-Russell diagram. For 10 points each:

[10] Name this object that is usually depicted in astrophysical equations by a subscripted circle around a dot, which is a pretty simple cartoon of its position in the Solar System.

ANSWER: the **Sun** [or **Sol**]

[10] In the main sequence, luminosity scales as a power law of mass, with an exponent that’s usually capped at *what* integer? For most galaxies, this integer is the approximate power law dependence of luminosity in the Faber-Jackson and Tully-Fisher relations.

ANSWER: **four** [or **fourth** power]

[10] Bolometric magnitude, on the other hand, is defined to scale with luminosity raised to this power. Either an exact answer or an answer to one decimal place is sufficient.

ANSWER: **2.512** [or the **fifth root of 100**; or **100 to the 0.2** power; or **100^{0.2}**; or mathematical equivalents] <AS>

4. An artist of this ethnicity depicted the entirety of it moving into a single dystopian building in the video project *Nation Estate*, while another depicted its history in the 114-meter long *Improvisations of Life*. For 10 points each:

[10] Give this ethnicity of Larissa Sansour and Muṣṭafā al-Ḥallāj. Mona Hatoum, an artist of this ethnicity, read letters from her mother over photos of her mother showering in the installation *Measures of Distance*.

ANSWER: **Palestinians** [or **Filistīniyyīn**; prompt on any of Arabs, Levantes, Shāmiyyīn, Israelis, or Israeli Arabs; prompt on Lebanese/Lubnānī since Muṣṭafā al-Ḥallāj grew up in a refugee camp in Lebanon]

[10] This anonymous British graffiti artist criticized the West Bank barrier by putting up a “Walled-Off Hotel” with “the worst views in the world” in Bethlehem. This artist created the pop-up exhibition “Dismaland.”

ANSWER: **Banksy**

[10] ‘Asim Abū Shaqrā, one of few Palestinians accepted by the Israeli canon, is best known for paintings of *this* plant, which often symbolizes identity and endurance in Palestinian and Israeli art, in the foreground of cityscapes.

ANSWER: **cactuses** [or **cacti**; accept **sabār** or **sabrā** or **tzunbar**; accept **prickly pear**] <JG>

5. Early examples of this genre tended to use decasyllables, while later examples use alexandrines and introduce end rhyme. For 10 points each:

[10] Name this genre of poetry that emerged during the 11th century. Many poems in this genre follow the adventures of William of Gellone and his nephew Vivien, who gets massacred at the fictional battle of Aliscans.

ANSWER: **chanson de geste** [shaw-saw duh ZHEHST] [prompt on partial answer]

[10] This early *chanson de geste* follows a nephew of Charlemagne who dies blowing his horn at the battle of Roncevaux Pass.

ANSWER: *The **Song of Roland*** [or **Chanson de Roland**]

[10] *Chansons de geste* were traditionally divided into three cycles, including poems about William of Gellone and poems about Charlemagne. It’s not going on crusade, but the *third* cycle consists of poems that include *this* plot element; a description is fine.

ANSWER: a king being **betrayed** by his vassals [or **rebellions**, or **treason** or anything similar] <DS>

6. If you linearize the Poisson-Boltzmann equation, this quantity falls out as the natural length scale. For 10 points each:

[10] Name this quantity, the distance away from a charged spherical particle in an electrolyte over which the electric potential decreases by 63%.

ANSWER: **Debye length** [prompt on lambda-D]

[10] Charge screening in an electrolyte is accomplished by the formation of an ionic double layer, like the one that adheres to the surface of these devices in galvanic cells. These devices are the sites of redox chemistry in a battery.

ANSWER: **electrodes** [or **anode and cathode** given together; do not accept or prompt on partial answers, though]

[10] Screened Coulomb potentials between charged particles in electrolytes, as in a colloid, are addressed by DLVO theory, which predicts the potential energy to vary as this function of r , the distance between particles. This is the general form of a Yukawa potential; give your answer only in terms of r , neglecting all constants.

ANSWER: the **exponential of negative r , over r** [or **e to the negative r , over r** ; or ; or the **negative exponential of r , divided by r** ; or other mathematical equivalents; do not accept or prompt on partial answer] <AS>

7. As a child, this man reputedly sat at the feet of the philosopher Gorgias, the eponym of Plato's dialogue. For 10 points each:

[10] Name this Greek physician and contemporary of Socrates, who is often referred to as "the Father of Medicine." The phrase "first do no harm" notably does *not* appear in the text of this man's namesake "Oath".

ANSWER: **Hippocrates** of Cos [accept **Hippocratic** Oath; do not accept or prompt on "Hippocrates of Chios"]

[10] This text from the Hippocratic corpus was the first treatise on environmental health. The beginning of this text argues that a traveling physician can determine the causes of a city's diseases from its location, while another section claims that inhabitants of Asia have gentler dispositions because of the mildness of their seasons.

ANSWER: *On **Airs, Waters, and Places*** [accept *Peri **airohn, hudatohn, topohn***]

[10] This sixteenth-century Swiss physician and alchemist rejected many of Agrippa's ideas and adapted Hippocrates' theory of the four humors by claiming that the body was composed of salt, sulfur, and mercury. This man's adopted name indicated that he was "beyond" a first-century Roman medical author.

ANSWER: **Paracelsus** [or Philippus Aureolus **Theophrastus** Bombastus von **Hohenheim** (accept either)] <MK>

8. This actress credited many of her ideas to Harold Clurman's Group Theatre. For 10 points each:

[10] Name this actress who, in books like *Respect for Acting* and *A Challenge for the Actor*, championed the method of "transference" or "substitution," in which the actor or actress draws on personal experiences to flesh out their feeling for a role.

ANSWER: Uta (Thyra) **Hagen**

[10] Hagen and Clurman were developing the techniques of *this* director, who badgered actors with repeated admonishments of "I don't *believe* you" to create a Naturalistic style of acting. This man's revival of Chekhov's *The Seagull* convinced the playwright to take up writing again.

ANSWER: Konstantin (Sergeievich) **Stanislavski**

[10] Uta Hagen was probably best-known as an actress for originating the role of George's wife Martha in *this* double-length play by Edward Albee.

ANSWER: ***Who's Afraid of Virginia Woolf?*** <JR>

9. An article by Atul Gawande argued these organizations could become more efficient by emulating the Cheesecake Factory. For 10 points each:

[10] Name these organizations. Amy Finkelstein and coauthors have shown they act more like organizations in "normal" industries than commonly thought.

ANSWER: **hospitals**

[10] An issue in providing health insurance is *this* problem of asymmetric information, in which customers may spend more if the insurer will cover everything.

ANSWER: **moral hazard** [or **hidden action**; do not accept "adverse selection"]

[10] Einav, Finkelstein, and Schrimpf measured moral hazard among Medicare recipients by studying bunching near *this* infamous feature of the Medicare Part D pricing schedule. For dollar amounts in the range of this feature, but *not* above or below, all spending on prescription drugs was out-of-pocket.

ANSWER: **doughnut hole** <SB>

10. Albert Munsell defined a system for defining *this* kind of visual element that the USDA adopted for classifying soil. For 10 points each:

[10] Name these visual elements that can be defined in cylindrical geometry using the hue-saturation-lightness system. Isaac Newton invented a diagram that lays these things out along a wheel.

ANSWER: **colors**

[10] This geographer has published well-tested color schemes for maps and other data visualizations as part of a software tool whose name affixes “Color” to this woman’s surname.

ANSWER: Cynthia A. **Brewer** [accept **ColorBrewer**]

[10] ColorBrewer was made to be used in thematic maps, such as *these* maps in which regions are colored or patterned according to the value of some variable.

ANSWER: **choropleths** <SK>

11. *Description acceptable.* Geographers at University College London recently claimed this quantity’s fall before 1600 indirectly led to a global temperature drop. For 10 points each:

[10] Name this quantity. Drawing on statistics taken from Bartolomé de las Casas and projecting backwards, Henry Dobyns estimated this value at over 100 million, though the current consensus puts it closer to 50 million.

ANSWER: **population** of the **pre-Columbian America**s [or things like **population** of **American** Indians in **1492**; or **population** of North and South **America before Columbus** or **Europeans** or the **Spanish**; prompt on answers like “population of the Americas” with “When?”]

[10] In his book *Ecological Imperialism*, this historian argued that European invaders were as successful as they were thanks to the simultaneous spread of familiar European plants, animals, and diseases to the Americas.

ANSWER: Alfred W(orcester) **Crosby**

[10] Crosby considered *this* to be one of the few diseases that went from the New World to the Old in the Columbian Exchange, though he became less certain of its New World origins over time. It was called the “French disease” after it was spread by French troops attacking Naples in 1495.

ANSWER: **syphilis** [prompt on *Treponema pallidum* or *T. pallidum*] <SB>

12. This literary technique is often exemplified by Julius Caesar’s declaration “Veni, vidi, vici.” For 10 points each:

[10] Name this literary technique with a Greek-derived name, in which clauses are simply juxtaposed with simple syntax and no subordinating conjunctions.

ANSWER: **parataxis**

[10] The term “parataxis” has often been used to characterize *this* literary movement, whose poets included Amy Lowell and H.D.

ANSWER: **Imagism** [accept word forms like **Imagist**]

[10] Imagism was developed by *this* anti-Semitic, fascist American modernist. A poem by him juxtaposes the images of “The apparition of these faces in the crowd” and “Petals on a wet, black bough.”

ANSWER: Ezra (Weston Loomis) **Pound** <JR>

13. Most experimental invalidations of this statement rely on spontaneous parametric downconversion to create a pair of photons with four total polarization states. For 10 points each:

[10] Name this statement that has been invalidated with certainty of more than 200 standard deviations by using detectors oriented in different directions and measuring the probability each detector reports the same polarization. It is written as variants of: “the probability of $A B$ is less than the probability of $B C$ plus the probability of $A C$.”

ANSWER: **Bell's inequality** [or **Bell's theorem**; or the **CHSH inequality**]

[10] The photons produced by spontaneous parametric downconversion have this property, which implies that measuring the polarization of one fixes the other, despite their spatial separation. Einstein didn't believe in it.

ANSWER: quantum **entanglement** [or word forms]

[10] Entanglement is hand-waved away as an experience that just improves an observer's estimate of the system's prior in this alternative to the Copenhagen interpretation popularly championed today by David Mermin.

ANSWER: **quantum bayesianism** [or **QBism**] <AS>

14. The traditional music for a dance from this country begins on beat 5 in 6/8 time, with the notes [read slowly] “C B C, A G-sharp A, F E F, C.” For 10 points each:

[10] Name this country, home to a traditional dance in which a man places a hat on the ground and kicks his leg over the woman's head when she stoops down to pick it up.

ANSWER: **Mexico** [or **United Mexican States**; or **Estados Unidos Mexicanos**; accept **Mexican Hat Dance**]

[10] That hat dance, the *jarabe tapatio*, was popularized abroad by *this* Russian dancer, who was the first ballerina to go on tour with her own company. Michel Fokine created the ballet *The Dying Swan* for her.

ANSWER: Anna Pavlovna (Matveyevna) **Pavlova**

[10] The accompaniment for *jarabe tapatio* is typically played by performers in *this* traditional musical style of Mexico, which prominently features trumpets in addition to violins, guitars, and accordions.

ANSWER: **mariachi** <JR>

15. This philosopher argued that if Hobbes himself were as selfish as he claims people are in general, then he wouldn't have tried to better humanity by writing *Leviathan*. For 10 points each:

[10] Name this English philosopher who described people's attitudes toward their own affections as a “moral sense” identical to the sense of beauty in his *Characteristics of Men, Manners, Opinions, Times*.

ANSWER: Earl of **Shaftesbury** [accept Lord Anthony **Ashley-Cooper**]

[10] In the third dialogue of *this* philosopher's *Alciphron*, the character Euphranor rebuts the realist aesthetic views of Shaftesbury and Francis Hutcheson by showing that the beauty of a chair or a door is dependent on its function. This British empiricist also wrote *Three Dialogues between Hylas and Philonous*.

ANSWER: George **Berkeley**

[10] In an Allan Ramsay dialogue on *this* faculty, Colonel Freeman claims that only by convention would a Corinthian capital be less beautiful upside-down. A David Hume essay identifies the “standard” of this faculty of aesthetic judgment as the “joint verdict” of “true critics.”

ANSWER: **taste** <SK>

16. In 2013, the first examples of these systems resembling a human brain were used to model microcephaly. For 10 points each:

[10] Name these synthetic organs that can be produced by growing stem cells in 3D in a Petri dish patterned with morphogenetic gradients.

ANSWER: **organoids**

[10] Organoids are typically cultured on this name-branded proteinaceous substrate formed from mouse sarcoma cells, which can be seeded with fibroblasts to resemble a basement membrane. A common angiogenesis assay is named for this material.

ANSWER: **Matrigel**

[10] Those organoid studies became a prescient concern in 2015 due to the first major Western outbreak of the mosquito-borne illness caused by this flavivirus, which causes microcephaly in infants.

ANSWER: **Zika** virus [or **ZIKV**] <AS>

17. This idea's developers applied Anthony Giddens's structuration theory to predict that more hierarchical and professionalized fields will be more likely to display this property. For 10 points each:

[10] Name this term coined by DiMaggio and Powell to describe how organizations tend to become more similar, even if it doesn't improve efficiency. They put forth normative, mimetic, and coercive mechanisms for it to arise.

ANSWER: institutional **isomorphism**

[10] DiMaggio and Powell's paper "The Iron Cage Revisited" takes its name from an image presented in *this* book by Max Weber, which describes the trend toward bureaucratic rationalization as a process of "disenchantment."

ANSWER: *The **Protestant Ethic** and the Spirit of Capitalism* [or *Die **protestantische Ethik** und der Geist des Kapitalismus*]

[10] Duff McDonald's book *The Firm* applies the theory of isomorphism to the way *this* consulting firm makes its clients more similar. Marvin Bower developed much of the secretive, decentralized culture of this firm, which came under fire in 2019 for signing an illegal contract with the state-owned South African utility Eskom.

ANSWER: **McKinsey** & Company <SK>

18. In England, a long-standing one of *these* laws limited peasants to a coarse cloth known as russet. For 10 points each:

[10] Give this term derived from the Latin for "expense," which describes laws restricting extravagant purchases. Though in practice largely unenforceable, they aimed to restrict the clothing people wore along social class lines.

ANSWER: **sumptuary** laws [or leges **sumptuariae**]

[10] This English monarch issued at least three sweeping sumptuary laws across his five-decade reign. He ruled over England during the Black Death and the start of the Hundred Years' War.

ANSWER: **Edward III** Plantagenet [prompt on just **Edward**]

[10] Later, during Elizabeth I's reign, sumptuary statutes were handed down by *this* advisory body made up of 19, then 11, of her favorite lords. Its members could sit alongside judges as the Court of Star Chamber on Wednesdays and Fridays.

ANSWER: **Privy Council** <MJ>

19. Supposedly, when playing at a club which required performers to use sheet music, this man was called out for putting the music on the stand upside-down, prompting him to claim that “real musicians” could read it that way. For 10 points each:

[10] Name this jazz pianist, known for his heavily-delayed swing and for sitting on a stack of phone-books while he played. He wrote the standard “Misty.”

ANSWER: Erroll (Louis) **Garner**

[10] Garner made heavy use of *this* technique, in which each note of the melody is harmonized in one hand with the namesake chords. Scales harmonized with these chords often alternate between add-6s and diminished sevenths.

ANSWER: **block** chords [do not accept or prompt on “cluster chord(s)”]

[10] A popular version of Garner’s “Misty” was performed by this “First-Lady of Jazz,” famed for her scat prowess in songs like “Mack the Knife,” “How High the Moon,” and “A-Tisket A-Tasket.”

ANSWER: **Ella** (Jane) **Fitzgerald** [accept either underlined part] <JM>

20. For 10 points each—answer the following about the poem “The New and Old Masters.”

[10] The poem begins by stating that “About suffering . . . the old masters / disagree” in response to *this* W.H. Auden poem about Bruegel’s *Landscape with the Fall of Icarus*.

ANSWER: “**Musée des Beaux Arts**”

[10] About half of “The New and Old Masters” is devoted to *this* painting at the Uffizi. The poem describes how “angels like Little People” and “a sheaf of wheat, a jar / and a glass of flowers” are arranged around this painting’s “small, helpless, human center”.

ANSWER: **Portinari** Altarpiece [or **Portinari** Triptych; accept **van der Goes’ Nativity**]

[10] “The New and Old Masters” was written by this American poet and Auden critic. In his most famous poem, the title soldier “hunched” in the belly of the state “till my wet fur froze” before being “washed out” of the title location “with a hose.”

ANSWER: Randall **Jarrell** (The poem is “The Death of the Ball Turret Gunner.”) <DS>