

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 5 Tossups

1. **J.D. Muhly argued that the first appearance of amber in Greece coincides with *this* good’s appearance in Mycenaean graves. In Britain, “bounds” granted rights to produce this good in exchange for a portion of output. Owners of the “Blowing Houses” that produced this good regulated its trade from Crockern Tor. Michael an Gof led a revolt after Henry VII revoked privileges granted to this industry by Edward I. That revolt over taxes on this good ended at the Battle of Blackheath. Ancient Greeks thought their whole supply of this good came from either the (*) island of “Ictis” or a namesake archipelago north of Spain. This good’s trade had its own law code in the mining regions of Devon and Cornwall, where it was regulated by “Stannary Parliaments.” This metal replaced arsenic as the smaller portion of an alloy that names the period after the Chalcolithic. For 10 points, what metal alloys with copper into bronze?**

ANSWER: tin [accept cassiterite] <JG>

2. **This play’s author described it as “a unit of theatrical time that is then juxtaposed with other units to convey meaning.” In this play, a limousine driver who often ends his sentences with “you see what I’m saying” befriends a boy he describes as a “blunt little shit.” A student in this play recounts how “the one thing that my parents didn’t see me do” was his performance of a “killer scene” from *Angels in America*. A crowd sings “Amazing Grace” as activists dressed as angels interrupt a (*) protest in this play, which ends with Andy Paris saying that he could see the “sparkling lights” of its title town. During a trial in this play, a father remembers his son as a “winner” and decides to “show mercy” for his murderer Aaron McKinney. The Tectonic Theater Project and Moisés Kaufman wrote—for 10 points—what play about the murder of Matthew Shepard in the title Wyoming town?**

ANSWER: *The Laramie Project* <WJ>

3. **George Box introduced a factor to correct this value for deviations from sphericity in repeated-measures ANOVA. For non-OLS linear models, this value is effectively the trace of the identity minus the hat matrix. Specifying a model term as a random effect reduces this quantity by less than if it were a fixed effect. When variances are unequal, this quantity is estimated as a weighted harmonic mean of it for each variable in Satterthwaite’s approximation. This value is the rank of the (*) residuals when calculating a test statistic. An F distribution is a ratio of two chi-squares normalized by this quantity. When estimating k parameters from n samples in OLS, this value for residuals equals n minus k . A t -distribution becomes normal as this parameter goes to infinity. For 10 points, what term describes the number of values in a distribution that can vary?**

ANSWER: number of residual degrees of freedom [prompt on d.f. or nu] <SK>

4. This opera was the subject of Susan McClary's only monograph on a single work. The leads of a film based on this opera were criticized for their "taffy-colored" appearance and acting in an essay subtitled "The Dark is Light Enough." After attending its Vienna premiere, Johannes Brahms went to see this opera over twenty times. Harry Belafonte and Dorothy Dandridge starred in the all-black cast of a film version of this opera, which gives its title character the surname (*) "Jones." In Act II, this opera's title woman is shown a now-dry flower she once tossed to her lover. The first aria for this opera's title woman begins with a midtempo chromatic descent from D. This opera begins with a choir of urchins outside a cigar factory. This opera's aria "Votre toast, je peux vous le rendre" [voh-truh "TOAST," zhuh puh luh RON-druh] includes the refrain "Toréador, Toréador!" For 10 points, name this opera about a gypsy woman by Georges Bizet.

ANSWER: Carmen [accept Carmen Jones] (The essay is by James Baldwin.) <JR>

5. Stephen Collins examined the arguments about this doctrine in a monograph titled for this kind of *Persons*. While explicitly agreeing with this principle, the Pudgalavada school introduced the confusing notion of a "neither conditioned nor unconditioned" entity to dispel problems with this doctrine. The *Nyaya-sutra* argues against this doctrine by noting that different senses, like hearing and sight, can influence each other. Vasubandhu argued for this position by enumerating the five (*) *skandhas* or "aggregates" to explain the origin of desire. Some Tibetan Monks have been found chanting texts by Derek Parfit, whose reductionism aligns with this doctrine. Hindu philosophers argued that a chariot must have a driver to challenge Buddhists to explain karma and rebirth in light of *this* doctrine. For 10 points, name this Buddhist doctrine, the denial of a persistent personal identity.

ANSWER: no-self [or anatta; or anatman; accept selflessness; accept descriptions like "that people don't have a soul/self"] <JM>

6. In this city, a protagonist stages a "great revolution" by shaking a batch of eggs to prevent them from hatching. In this city, Quimet raises war pigeons on the roof and the naïve stream-of-consciousness narrator Natalia is driven to kill her starving children in the novel *The Time of the Doves*. Another book describes this city as "a town where the working class was in the saddle," since "every wall was scrawled with the hammer and sickle and with the initials of the revolutionary parties." After being shot in the (*) throat by a sniper, the protagonist of that book returns to this city only to find that his party, the P·O·U·M is being purged. That book concludes that Stalin's repression of rival leftist groups in this city lost the Spanish Civil War for the Republicans. For 10 points, name this setting of much of George Orwell's *Homage to Catalonia*.

ANSWER: Barcelona <JR>

7. Much of the religious history of *this* place was first surveyed by Katherine Routledge. This place's society was led by an *ariki*, who was supposed to be a direct descendant of its mythical first settler, Hotu Matu'a. Inhabitants of this place once annually competed to fetch the first tern egg and thus be recognized as a medium. The most famous monuments from this place originally had objects made of scoria called (*) *pukao* atop them. This place's many petroglyphs include a "script" called Rongorongo. It's not Delphi, but this place's endonym means "navel of the world." This place turned to the Bird Man cult after it was depopulated from the introduction of rats and near-total deforestation. Makemake is a god from—for 10 points—what island home to many *Moai* statues with giant heads?

ANSWER: Easter Island [or Rapa Nui; or Isla de Pascua] <JM>

8. Fermions described by the *opposite* of this adjective are named for their electronvolt energy scales as “keVins” and “geVins.” A recent theory where this adjective is preceded by “meta-” allows for the late decay of relics and therefore gives a linear Lyman alpha power spectrum. This is the first adjective in the name of a model that wrongly predicts cusped density distributions rather than flat ones and fails to explain the missing satellite problem. Unlike neutrinos and axions, (*) WIMPs can be described by this adjective due to their large masses. In the prevailing explanation of CMBR anisotropy, baryons are outnumbered by dark matter with this property. For 10 points, name this adjective that refers to nonrelativistic particles and describes the principal characteristic of dark matter in the lambda-C·D·M model.

ANSWER: cold [accept cold dark matter] <AS>

9. This man gained the support of the left-wing Red Battalions after forming an alliance with the House of the World Worker. At a meeting *organized* by this man, Antonio Díaz Soto y Gama was nearly shot for insulting the national flag. Enrique Krauze is the foremost proponent of the theory that this man’s death was a suicide; in any event, it came after his failure to secure Ignacio Bonillas as his successor. This former ally of the Sonoran dynasty was repudiated by them in the Plan of (*) Agua Prieta. This man organized but did not attend the Convention of Aguas-calientes. He denounced his predecessor’s conduct during the Ten Tragic Days in the Plan of Guadalupe, which named this man “First Chief” of a consolidated rebel army. For 10 points, name this head of the Constitutionals who ousted Victoriano Huerta and was succeeded as President of Mexico by Álvaro Obregón.

ANSWER: Venustiano Carranza (Garza) <SE>

10. Cubist ideas were integrated into *this* technique by Lucien-Victor Guirand de Scévola. The “father” of this technique depicted his daughter Mary with wings in the painting *Angel*. Liú Bólin [lyoh bwoh-lin] used this technique in his best-known photographs, and Roland Penrose wrote a manual of it that included a nude photo of his wife Lee Miller in their yard. Norman Wilkinson invented one form of this technique, which was first advocated by Abbott Handerson Thayer. Andy Warhol’s last self-portrait was part of an unfinished series named for this technique. Vorticist Edward (*) Wadsworth oversaw the use of this technique on objects he later depicted in the painting *Dazzle-ships in Drydock at Liverpool*. Ellsworth Kelly served in the Ghost Army with a unit named for this technique. Many painters were employed during the World Wars to design—for 10 points—what patterns used to disguise military targets?

ANSWER: camouflage [accept dazzle before mention] <DS>

11. D·A·S·T is often preferred over alternatives in organic synthesis since it *doesn’t* produce *this compound* as a byproduct. A milliliter of the common 48% stock solution of this compound is neutralized by a gram of boric acid. Niobium and tantalum are purified from their oxides by first reacting with this compound. Olah’s reagent is a 70-30 mix of it with pyridine. In refineries, hydrocarbon alkylation is catalyzed by sulfuric or this **other** (*) acid, which is mixed with a pentavalent antimony complex to synthesize the strongest superacid. Labs using this compound must have calcium gluconate gel at hand since it causes hypocalcemia. This compound etches silica glass; unfortunately, it has the unpleasant side effect of also dissolving your bones. For 10 points, name this extremely toxic yet “weak” binary acid formed from the lightest halogen.

ANSWER: hydrofluoric acid [or hydrogen fluoride; or HF] <AS>

12. An author from this country founded the literary magazine *Brittle Paper*. Cordite Books was founded to make up for this country's lack of crime fiction by the author of *Oil on Water*, Helon Habila. Ulli Beier founded this country's first publishing house, as well as its magazine *Black Orpheus* and the literary Mbari Club. This country's first published female novelist founded Tana Press after the success of her book *Efuru*. In the 1960s, three books from this country inaugurated a series published by Heinemann. An author from this home of (*) Cassava Republic Press wrote about the life of Nnu-Ego in *The Joys of Motherhood*. Citadel Press was co-founded in this country by the author of "Elegy for Alto." A man from this country called Joseph Conrad a "thoroughgoing racist" in "An Image of Africa." For 10 points, name this home of Flora Nwapa, Buchi Emecheta, Christopher Okigbo, and Chinua Achebe.

ANSWER: Federal Republic of Nigeria <DS>

13. A recent *Washington Post* op-ed by Princeton professor Rhae Lynn Barnes describes her research on the cultural history of amateur performances in this genre. This genre allowed working-class viewers to both identify with and deride its characters according to Eric Lott's book *Love and Theft*. The original name of the Elks Club, the "Jolly Corks," alludes to its origin as a social club for performers in this genre. Dan Emmett, (*) Daddy Rice, and E.P. Christy founded performing troupes in this genre, who often used burnt cork. Songs like "Camptown Races" and "Old Folks at Home" by Stephen Foster were written for this kind of performance, whose stock characters included the dandy Zip Coon and the slave Jim Crow. For 10 points, name these variety shows performed by white people with painted faces.

ANSWER: blackface minstrelsy [or minstrel shows; prompt on blackface] <SK>

14. In a 1995 *Forbes* article, John Hayes claimed this company would be "the Internet's first victim." Disgruntled employees of this company founded a competitor to *Lingua* called *Glossa*. This company's controversial practices include high APCs that are repeatedly charged through double-dipping. In September 2018, this company's stock price plummeted after one of its executives disparaged a European scheme called Plan S. This company's critics include Fields Medalist Timothy Gowers and (*) Nobel Laureate Randy Schekman. In 2012, this company's Scopus platform created a metric called SNIP to justify its high impact factors. This company, which owns Mendeley, was boycotted by the University of California in February 2019 after its failure to adopt open access for *The Lancet* and *Cell*. For 10 points, name this Dutch publisher of many academic journals.

ANSWER: Elsevier ["ell-severe"] <AS>

15. A monograph on *Discourse* in these places was written by Harvard professor Courtney Cazden. Edward Vockell argued that these places have a drastic negative impact via the "minus-two sigma problem," an inversion of the earlier "two-sigma problem." In a 1965 study, Robert Rosenthal and Lenore Jacobson purported to measure "Inflected Acquisition" in these places. Elliot (*) Aronson proposed dividing these locations into "jigsaw"-like small groups. Randomly describing some people in these places as "spurters" induced the first experimental attestation of the Pygmalion effect. Workers in these often use Bloom's taxonomy to shape goals like "analyzing" and "evaluating." The "flipped" variety of these places has been advocated by Salman Khan. For 10 points, name these spaces where activity is often semi-scripted by lesson plans.

ANSWER: classrooms [accept primary or secondary schools; accept kindergartens; accept pre-Kindergartens; accept reasonable equivalents and descriptive answers] <MJ>

16. *Description acceptable.* Kevin Kiernan used UV light to study this object, which was first described by Franciscus Junius. This object is the subject of Andy Orchard’s book *Pride and Prodigies*. Kemp Malone improved Nikolaj Grundtvig’s reconstructions of text from the edges of this object. The first writer of this document stopped in the middle of a sentence and was replaced by a scribe who spelled a name in it with an “I” instead of an “E.” This document includes a letter from Alexander the Great to Aristotle and a bestiary called the *Wonders of the East*. The (*) Ashburnham House fire scorched this object, which contains the poem *Judith*. This document, which was most likely created around the early 11th century, is often named after its first owner, Laurence Nowell. This document’s central section contains characters like Onela, Heardred, Hygelac, and Wiglaf. For 10 points, identify this source of the longest poem in Old English.

ANSWER: the **Beowulf manuscript** [accept similar answers; accept **Nowell Codex** before “Laurence Nowell”]; accept **Cotton MS Vitellius A.xv**; prompt on answers indicating a poem rather than the physical document] <DS>

17. Lovisa von Burghausen’s memoir of her time with *this* industry was a sensation in 18th-century Sweden. Jukka Korpela argued that this industry’s most sought-after product were called *nemtsy* in a region whose merchants, according to Toby Green, brought this industry to the New World. The Muravsky Trail supplied this industry. Textiles and *this* product were the main goods brought from Europe by the Radhanite merchant clan. The (*) Genoese port of Caffa was a hub of this industry under the Crimean Khanate. Bari was one of this industry’s largest centers in medieval Europe. Iceland’s Vestmannaeyjar Islands and the Irish town of Baltimore were depopulated by this industry. African products of this industry were often called *Zanj*. Corsair raids often supplied this industry, whose products were called *thralls* by the Vikings. For 10 points, what industry supplied the Janissary corps?

ANSWER: **slave** trade [accept word forms; accept any description of selling **people** or human **trafficking**; prompt on **prostitution**; prompt on **piracy**, Barbary **corsair** stuff, or **raiding** with “with the intention to steal what?” until mentioned] <JG>

18. This stage occurs in steps 7-9 in the “normal table” developed by Nieuwkoop [NYOO-koop] and Faber. Transcription factors like *Zelda* accumulate during this stage in *Drosophila* to enable a transition in it governed by the ratio of nucleus to cytoplasm. Whitefish at this stage are frequently used in classroom demonstrations of mitosis. Deep cells and EVLs accumulate during this pre-epiboly [uh-PIH-boh-lee] stage in preparation for lengthening of the 15-minute cell cycle. The (*) inner cell mass is harvested at this stage, during which the Spemann [SPEE-mawn] organizer forms in *Xenopus* [ZEE-noh-pus], thus directing formation of the animal cap and the vegetal layer. The embryo at this stage has the first zygotic transcription and consists of at least 32 cells surrounding a fluid-filled cavity. For 10 points, name this stage of development in which a hollow spherical embryonic structure forms from the morula before gastrulation.

ANSWER: **blastocyst** [or **blastula**; accept **blastulation**; prompt on **trophoblast**; prompt on **blastocoel**] <AS>

19. In the 13th century, arches topped with buildings were drawn in one of *these* books produced as an illuminated manuscript for the German city of Worms. An even older one of these books was compiled and emended by Simhah of Vitry. When these books are used, the *Haftarah* cycle is broken to read about the birth of Samuel and the *parshah* is always about the birth of Isaac. These books usually include an alphabetical acrostic of first-person plural verbs beginning (*) “*Ashamnu, bagadnu, gazalnu...*” and a verse called the *Unetaneh Tokef*. Modern ones include a text about renouncing or abandoning “all vows,” and sometimes ask the reader to reflect on how they’ve “missed the mark.” For the Days of Awe, the *siddur* is replaced by—for 10 points—what specialized prayer book used on Rosh Hashanah and Yom Kippur?

ANSWER: **mahzor** [or **machzor**; prompt on **siddur** before “siddur,” prompt on **hymnal**, **prayer book**, etc.] (“All vows” is an English translation of *Kol Nidre*.) <MJ>

20. Farrukh Fateh Ali Khan used *this* instrument to accompany the vocals of his brother Nusrat. This instrument supplanted the *sarangi* as the standard accompaniment for *Qawwālī* vocalists. A derivative of this instrument used to play drones is called a *shruti* box. Rabindranath Tagore's older brother Dwijendranath introduced this instrument to the Indian subcontinent, where, despite complaints that it was incapable of glissandos, it eventually became widespread in (*) Hindustani music. In the 19th century, this relatively cheap and portable instrument, which is in the same family as the accordion, was often used in smaller churches, where it was later displaced by an electric instrument created by Laurens Hammond. This instrument doesn't usually have a pedalboard, since the player's feet are used to work the bellows. For 10 points, name this organ-like free reed keyboard instrument.

ANSWER: **harmonium** [accept **reed organ**, **pump organ**, and **melodeon**; prompt on **organ**; do not accept or prompt on "pipe organ"; anti-prompt on "shruti box" before mention by asking "which is a type of what instrument?"] <JM>

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Packet 5 Bonuses

1. After the death of Lín Biāo, Chairman Máo’s wife Jiāng Qīng started a campaign called “Criticize Lín, Criticize [this other man]”. For 10 points each:

[10] Name this man. After a 1966 rally to “Annihilate [this man’s] Family Business,” a team of Red Guards were sent to blow up his grave with dynamite.

ANSWER: **Confucius** [or **Kǒngfūzi** or “**K’ung-fu-tzu**” or **Kǒngzǐ**]

[10] During their campaign against the Four Olds, the Red Guard also burned many of *these* cultural items, collected in books called *zúpǔ*. Confucius’ family possesses the world’s longest and oldest one of these items.

ANSWER: **genealogies** [or **pedigrees**, or **family registers**, or clear equivalents]

[10] Rituals honouring Confucius were resumed in 1984, during the rule of *this* paramount leader who presided over China’s transition to a market economy.

ANSWER: **Dèng Xiǎopíng** <DS>

2. This thinker identified 31 recurrent “narratemes” like the protagonist’s wedding or the liquidation of obstacles in his analysis of Russian tales. For 10 points each:

[10] Name this Soviet folklorist who employed a formalist approach in his works, including *The Morphology of Folktales*.

ANSWER: Vladimir (Yakovlevich) **Propp**

[10] Propp recognized the monomyth of *this* figure’s “Journey” through syntagmatic analysis. That theory popularized by a Joseph Campbell book titled *The [this figure] with a Thousand Faces*.

ANSWER: **Hero** [accept **Hero**’s Journey or *The Hero with a Thousand Faces*]

[10] In modern folkloristics, tales are indexed under almost 2400 different classes in *this* system. Propp criticized this system for grouping stories according to the motifs present in them without regard to the *function* of the motifs.

ANSWER: **Aarne–Thompson**–Uther Classification System(s) [prompt on **AT**] <JM>

3. These substances spontaneously self-assemble into phases like lamellae according to the value of the interaction parameter times the degree of polymerization. For 10 points each:

[10] Name these copolymers in which the monomers are not dispersed randomly, but are instead concentrated in regular short discrete intervals.

ANSWER: **block** copolymers

[10] If the monomers in a block copolymer have opposite charges, they may spontaneously form one of these insoluble liquid polymer-rich phases in solution. One of these phases is generated when gelatin is mixed with gum arabic, and much origin of life research focuses on how they could form protocells.

ANSWER: **coacervates** [co-ASS-er-vate] [or word forms; or complex **coacervates**]

[10] Coacervation forms two liquid phases, as opposed to flocculation, the precipitation of particulates from these mixtures where a phase is suspended in a different phase. They include gels and emulsions.

ANSWER: **colloids** [prompt on **suspensions**] <AS>

4. This artist's mural of Mother Earth nursing bear cubs was rejected from Expo 67 for being too explicit. For 10 points each:

[10] Name this artist who founded the Woodlands style of painting and often signed his name in Cree syllabics that translate to "Copper Thunderbird." His works often feature brightly colored figures divided by thick, black outlines.

ANSWER: Norval **Morrisseau**

[10] Like Carl Ray and Daphne Odjig, Morrisseau was part of a group of artists known as the "Indian" version of *this* group. This group of modernist landscape painters was led by Lawren Harris.

ANSWER: **Group of Seven**

[10] The Group of Seven included some of the most iconic artists from this country, where Morrisseau grew up on an Ojibwe reserve.

ANSWER: **Canada** <SK>

5. James Barrett's 2002 book *Staged Narrative* examined the role of *these* characters in Greek tragedy. For 10 points each:

[10] Name these tragic characters who report events which have occurred off-stage. In Sophocles' *Oedipus Rex*, one of these characters narrates Jocasta's suicide and Oedipus' self-blinding.

ANSWER: **messengers** [accept **heralds**; accept **kehruks** or **kehrukays**]

[10] In *this* tragedy, a messenger's bad news prompts Atossa to summon her husband from the dead in order to rebuke their son. It is believed to be the oldest surviving Greek play.

ANSWER: *The* **Persians** [accept **Persai** or **Persae**] (by Aeschylus)

[10] A charioteer reports the death of *this* title character in a tragedy controversially attributed to Euripides. The so-called "Doloneia," which many scholars would excise from the *Iliad*, also centers around the death of this figure.

ANSWER: **Rhesus** [or **Rhesos**] <MK>

6. *Note to moderator: "Btfsplk" is "pronounced" by blowing a raspberry.* Characters in this comic strip included the impossibly collateral damage-prone Dick Tracy parody "Fearless Fosdick" and the walking bad luck charm "Joe Btfsplk," who is always shadowed by a personal rain cloud. For 10 points each:

[10] Name this influential comic strip that follows a title member of the redneck Yokum family in the "Dogpatch." Andy Capp's use of political satire in this comic inspired strips like *Pogo* and *Doonesbury*.

ANSWER: **Li'l Abner**

[10] *Li'l Abner* popularized the term "skunkworks," which this company adopted for its main research site. This company made the SR-71 Blackbird and the over-budget F-35.

ANSWER: **Lockheed** Martin [the Skunk Works was founded prior to Lockheed's merger with Martin Marietta, so only **Lockheed** Corporation is needed]

[10] *Li'l Abner* also featured *these* fast-breeding bowling pin-shaped creatures, which briefly destroy greedy corporations' profit margins by, for example, happily frying themselves for the hungry.

ANSWER: **Schmoos** <JG>

7. The advantage of this formulation is that its degrees of freedom are specified using $2N$ first-order differential equations, rather than N second-order differential equations. For 10 points each:

[10] Name this formulation of mechanics which is only really useful to solve actual problems if you can make a canonical transformation to a basis in which most of the coordinates are cyclic.

ANSWER: **Hamiltonian** mechanics

[10] The independent variables in Hamiltonian mechanics are the N generalized coordinates and N of *these* generalized quantities, which, as usual in classical mechanics, are represented by a p .

ANSWER: generalized **momentum** [or generalized **momenta**]

[10] The equations of motion and the chain rule prove that if a canonical transformation f on a symplectic manifold is time-independent, then the time evolution of f equals *this specific operation* applied to f . The quantum mechanical analog of this operation gives the time evolution of an operator in the Heisenberg picture. You can give either.

ANSWER: **Poisson bracket** with the **Hamiltonian** [or **Poisson bracket with H** ; or i over h-bar times the **commutator** with the **Hamiltonian**; or i over h-bar times the **commutator** with **H** ; prompt on partial answers just mentioning “Poisson bracket” or “commutator” by asking “with what quantity?”] <AS>

8. This man popularized the use of pierced splats. For 10 points each:

[10] Name this author who included designs in rococo, *chinoiserie*, and neo-Gothic styles in his 1754 *Director*.

ANSWER: Thomas **Chippendale**

[10] Chippendale’s pierced splats allowed for elaborate tracery in the backs of *these* pieces of furniture. Florence Knoll helped produce both the “Barcelona” and “Tulip” designs for these items.

ANSWER: **chairs**

[10] In his later career, Chippendale was heavily influenced by Robert Adam’s work in *this* artistic style. This broad movement gave birth to the Empire, Federalist, and Regency styles.

ANSWER: Neo**classicism** [accept word forms like Neo**classical**] <JR>

9. This play, which coined the phrase “cold comfort” and contains a precursor of the phrase “gild the lily,” may have inspired Nathaniel Hawthorne with a line calling life “as tedious as a twice-told tale.” For 10 points each:

[10] Name this Shakespeare history play whose title king dies of poison-induced dysentery. Its action takes place earlier, chronologically, than any other Shakespeare history set in England.

ANSWER: **King John**

[10] Early in the play, John is advised by *this* woman, who is also a major character in James Goldman’s 20th-century play *The Lion in Winter*.

ANSWER: **Eleanor** of **Aquitaine** [or **Aliénora** d’**Aquitaine**; prompt on “his **mother**”]

[10] In a monologue from *King John*, the bastard Philip Faulconbridge “rail[s] on” *this* “tickling” trait, a four-syllable term which in his archaic usage denotes a “bias” toward acquisitiveness or pursuit of riches.

ANSWER: **commodity** [do not accept or prompt on any other answer] <MJ>

10. According to a tombstone at Ancram Moor, a “fair maiden” named Lilliard joined combat in this war to avenge her loved ones, and fought so fiercely that she kept going after her legs were cut down to stumps. For 10 points each:

[10] Name this military campaign with a major engagement at Solway Moss, which Henry VIII launched four years before his death.

ANSWER: War of the **Rough Wooing** [or **Eight Years’ War** or **Nine Years’ War**; prompt on answers like **Anglo-Scottish Wars** or **Anglo-Scots War**]

[10] The “Rough Wooing” in question was an attempt to wed crown prince Edward VI to *this* then-infant ruler of House Stuart, who was beheaded decades later by her rival queen Elizabeth I.

ANSWER: **Mary**, Queen of **Scots** [or **Mary Stuart**; or **Mary I of Scotland**; prompt on just **Mary**; do not accept or prompt on “Bloody Mary” or “Mary Tudor”]

[10] A year into the Rough Wooing, Henry VIII sent troops toward the Isle of Wight to disrupt *this* diplomatic arrangement, which had protected Scotland from English aggression for centuries.

ANSWER: **Auld Alliance** [accept any answer indicating the **alliance** between **Scotland** and **France**] <MJ>

11. This woman’s husband Aristide founded a namesake publishing house, for which she edited many volumes of the series *Le Trésor des Pianistes*. For 10 points each:

[10] Name this French virtuoso pianist and composer, best-known today for her chamber and piano music. She taught generations of students as piano professor at the Paris conservatory from 1842 until her death in the 1870s.

ANSWER: (Jeanne-)Louise **Farrenc** [accept Louise **Dumont**]

[10] Farrenc first became recognized as a major composer after *this* violinist and others premiered her Nonet. This friend of Clara Schumann championed the anti-Wagnerian music of friends like Johannes Brahms.

ANSWER: Joseph **Joachim**

[10] Farrenc was a major figure in the revival of keyboard music from *this* period, writing a major treatise on how to perform its many ornaments. This term is generally applied to music of the 17th and early 18th centuries.

ANSWER: **Baroque** <JR>

12. For 10 points each—answer the following about modeling hydrology within a watershed:

[10] Many GIS-based watershed models can use a rastered DEM, where the “E” stands for this topographic variable. Stream drop is the decline along a branch of a stream of this value, which is conventionally zero at sea level.

ANSWER: **elevation**

[10] To determine where overland flow paths lie, hydrological models simulate two major mechanisms of runoff generation, which are caused by excesses beyond the capacity of these *two* processes. Name *both*.

ANSWER: **saturation** AND **infiltration** [or word forms]

[10] A lot of groundwater modeling focuses on the complex hydrology of this unsaturated zone, which sits between the phreatic zone and the soil surface. The Richards equation includes a term for the hydraulic conductivity in this zone as a function of volumetric water content.

ANSWER: **vadose** zone <SK>

13. For 10 points each—answer the following about literary critics who wrote books with related titles.

[10] This critic collected essays like “Notes on Camp” in her collection *Against Interpretation*. She also wrote *On Photography* and *Regarding the Pain of Others*.

ANSWER: Susan **Sontag**

[10] In his book *Against the American Grain*, Dwight MacDonal used *this* 1952 novella as an example of “midcult” literature. MacDonal attacked its “fake-biblical prose” and dialogue like “Have faith in the Yankees, my son.”

ANSWER: *The **Old Man and the Sea***

[10] This founder of the literary magazine *n + 1* published the essay collection *Against Everything* in 2016. He recounted the intertwined history of American literature and intellectual life from 1933–1973 in the book *The Age of the Crisis of Man*.

ANSWER: Mark **Greif** <DS>

14. A 2001 paper by Bertrand and Mullainathan show this quantity moves just as much with “obvious luck” as with actual performance. For 10 points each:

[10] Name this quantity. Emmanuel Saez has argued that its rise since the 1970s is due mainly to increased rent extraction, rather than changes in market structure or productivity.

ANSWER: **CEO pay** [or **CEO compensation**; or **executive pay**; or **executive compensation**; prompt on partial answer]

[10] Shareholders may try to incentivize CEOs to promote long-term growth by granting them *these* compensation schemes. These agreements stipulate some future date when their holders may purchase shares at an agreed upon strike price and then resell at the market rate.

ANSWER: employee stock **options**

[10] A trader may pursue *this* strategy if they think the market rate will be far from the strike price (in either direction). This strategy consists of purchasing a call and a put option with the same strike price and expiration date.

ANSWER: **straddle** <SB>

15. Rifā‘ah Rāf‘i al-Ṭaḥṭāwī helped kick off this movement with texts like *The Extraction of Gold, or an Overview of Paris*. For 10 points each:

[10] Name this modernizing “Renaissance” that spread through North Africa and the Levant in the 19th century. It was the subject of Albert Hourani’s book *Arabic Thought in the Liberal Age, 1789–1939*.

ANSWER: al-**Nahḍah** al-adabiyyah

[10] This British historian denied Hourani’s claim that the Western and Liberal ideas of the Nahḍah had had profound and lasting influence in Islamic societies. Edward Said attacked this man’s racism in the final chapter of *Orientalism*.

ANSWER: Bernard **Lewis**

[10] The Nahḍah was mostly confined to *this* “Gunpowder Empire,” which also underwent the modernizing Tanzimat reforms. This empire disbanded its Janissary corps after the Auspicious Incident in 1826.

ANSWER: **Ottoman** Empire <JR>

16. For 10 points each—answer the following about medieval theories of language:

[10] A medieval philosopher with this surname expanded on Augustine’s theory of linguistic signs as triadic relations in his work *De signis*. A later philosopher with this surname advocated the scientific method in his *Novum Organum*.

ANSWER: **Bacon** [accept Roger **Bacon** or Francis **Bacon**]

[10] Roger Bacon’s idea that a common grammar underlies all languages influenced *this* school of philosophers across northern Europe, whose most famous member was Thomas of Erfurt. These philosophers emphasized that signification relies on understanding, which itself is grounded in the external world.

ANSWER: **Modists** [or **Modistae**; or **Modism**; or **speculative grammarians**]

[10] Thomas of Erfurt is suspected to have studied in the arts faculty at *this* university, where St. Thomas Aquinas studied under Albertus Magnus. John Buridan was a lifelong arts master at this university.

ANSWER: University of **Paris** [accept **Sorbonne**] <SK>

17. Since this denomination’s ambiguously modalist statements on the Trinity have prompted repeated condemnations from anti-cult groups, they have become one of the most litigious religious communities of all time. For 10 points each:

[10] Name this large Protestant Christian movement founded by Witness Lee and Watchman Nee, which has only recently seen acceptance by Christian groups outside of its home country.

ANSWER: **Local Churches** movement [or **difāng shàohuì**]

[10] The Local Churches are among the many clandestine Protestant movements growing in this large East Asian country, in which only Communist Party-approved Christian movements like the Three-Self Church are legal.

ANSWER: People’s Republic of **China** [or **Zhōngguó**; do not accept or prompt on “Republic of China”]

[10] Christianity was present in China in *this* form from the Táng Dynasty, when a “Stele” named for this doctrine was written to document the history of its expansion into China through the missionary Alopen. This belief emphasizes the separation of Christ’s dual natures and was condemned in the west at the Council of Ephesus.

ANSWER: **Nestorianism** <JM>

18. This novel’s protagonist slaps herself in the face while taking a bath after her aunt calls her a “viper” for stealing a book. For 10 points each:

[10] Name this novel whose author published it in 1943 at the age of 23. It narrates the inner life of a Spinoza-loving woman named Joana through episodes from her childhood and her marriage to her adulterous husband Otávio.

ANSWER: ***Near to the Wild Heart*** [or ***Perto do coração selvagem***]

[10] *Near to the Wild Heart* is by *this* author of *The Passion According to G.H.* In a recent essay, Katrina Dodson, who translated this writer’s complete stories, noted that most photos of her actually show lookalikes like Rita Elmôr, who starred in a one-woman play titled *What Mysteries Has [This Author]?*

ANSWER: Clarice **Lispector**

[10] Lúcio Cardoso suggested the title of *Near to the Wild Heart* from *this* novel, which Lispector had not read at the time. Father Arnall’s sermon appears in this novel about the early life of Stephen Dedalus.

ANSWER: ***A Portrait of the Artist as a Young Man*** (by James Joyce) <SK>

19. When this process is done *in vitro*, its efficiency can be directly observed by the formation of a cloud of precipitating pyrophosphates. For 10 points each:

[10] Name this process which is done *in vitro* to make RNA. This step from DNA to RNA is the first step of the central dogma and is catalyzed by RNA polymerase.

ANSWER: *in vitro* **transcription** [or **TX**]

[10] To purify RNA, the nucleic acid is precipitated by ethanol, phenol-chloroform extracted, and then fractionated on a PAGE ["page"] gel incorporating this substance as a denaturant. In molecular biology, this common chaotrope ["KAY-oh-trope"] is usually prepared at an 8 to 10 molar stock.

ANSWER: **urea** [or **carbamide**]

[10] The usual RNA polymerase for *in vitro* transcription is harvested from this bacteriophage. Recombinant protein production in *E. coli* is usually driven by this phage's polymerase, which is genomically integrated in (DE3) ["D-E-three"] strains.

ANSWER: **T7** RNA polymerase <AS>

20. The *factorij* [fahk-toh-rye] of Fort Beversreede was built at the Great Minquas Path's terminus on the confluence of a tributary with *this* river, where a colony was conquered by Peter Stuyvesant. For 10 points each:

[10] Name this river where a colony was founded with the help of Peter Minuit. Susquehannock allies of that colony on it crossed the undefended Hudson to launch the Peach Tree War.

ANSWER: **Delaware** River [accept **Schuylkill** River]

[10] While Peter Minuit certainly purchased this island for New Netherlands, its famous \$24 price point is unlikely. Possible etymologies for this island's name range from "Hilly Island" to "Place of General Intoxication."

ANSWER: **Manhattan** [accept **Manna-hata** or **Mannahattanink**; prompt on **New York** or **New Amsterdam**]

[10] The Dutch West India Company attracted settlers to New Netherlands by offering *these* semi-feudal tracts, consisting of 16-mile grants from a bank of the Hudson or 8-mile grants on both sides, to anybody who brought 50 settlers with them. The richest of these allotments, Rensselaerswyck, was central to the later Anti-Rent War.

ANSWER: **Patroonship** system [accept "grants under the **Charter of Freedoms and Exemptions**"] <JG>