

## Detroit Country Day Academic Regular Tournament II

### Packet 7

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Special thanks to Neil Gurram



1. **A power contest involving two of these objects was decided when the owner of one of them cried out “hum.” One of these objects owned by Janaka was accidentally broken by the figure who married his daughter. Contestants had to successfully use one of these objects while looking at the reflection of a moving artificial fish eye to win (\*)** Draupadi’s hand in marriage. Kama is depicted as wielding one of these objects made of sugarcane. One of these weapons named Gandiva was used by the figure who rode in Krishna’s chariot during the Kurukshetra War. For 10 points, name this type of weapon used by Arjuna, who was a skilled archer.

ANSWER: **bows** and arrows [prompt on arrows]  
<Mythology, Suh> [Ed.]

Answer the following about the portrayal of Native Americans in poetry. For 10 points each:

[E] This Fireside poet depicted a Native American leader waiting “By the shore of Gitche Gumee” in “The Song of Hiawatha.” This American poet wrote the historically inaccurate poem “Paul Revere’s Ride.”

ANSWER: Henry Wadsworth **Longfellow**

[M] This poet wrote of a Native American who, “when from life released, / Again is seated with his friends” in “The Indian Burying Ground.” This “Poet of the American Revolution” also wrote “The Wild Honeysuckle.”

ANSWER: Philip **Freneau**

[H] This current U.S. Poet Laureate, the first Native American to hold the position, wrote “Some things on this Earth are unspeakable” to begin her poem “Speaking Tree.”

ANSWER: Joy **Harjo**

<US Literature, Joshi> [Ed.]

2. **John Service advocated for US support for this country after the Dixie Mission. The Three Communiqués stabilized US relations with this country. A diplomatic summit in this country was described as the “Week That Changed the World” by one leader. Relations with this country worsened after it attacked a neighboring country’s islands of (\*)** Quemoy and Matsu during a 1955 “Strait Crisis.” Secret trips by Henry Kissinger paved the way for a landmark 1972 diplomatic meeting in this country. Richard Nixon famously visited, for 10 points, what Asian country that won a Civil War against the Kuomintang?

ANSWER: People’s Republic of **China** [or **PRC**; accept **Zhōnghuá Rénmín Gònghéguó** or **Zhōngguó**; do NOT accept or prompt on “Republic of China” or “Taiwan”]

<US History, Gayden> [Ed.]

Answer the following about propaganda films in the early 20th century. For 10 points each,

[E] D.W. Griffith's 1915 film *Birth of a Nation* chronicled the creation of this racist organization after the Civil War.

ANSWER: **Ku Klux Klan** [or **KKK**; accept the First **KKK**]

[H] This 1935 propaganda film was commissioned by Adolf Hitler to portray his Nazi regime as the resurgence of German power. Hitler personally congratulated Leni Riefenstahl for her work on this film.

ANSWER: *The **Triumph of the Will***

[M] In the 1920s, Russian propagandist filmmakers like Lev Kuleshov and Sergei Eisenstein developed this film technique, in which multiple short shots are compiled together.

ANSWER: **montage** [accept Soviet **montage** theory]

<Film, Gayden> [Ed.]

3. **In this play, a group vows to not lift their slippers to the ceiling and not to be “lionesses on a cheese grater.” A magistrate in this play criticizes one character for likening diplomacy to a knot which must be pulled in all directions. After being tortured by Myrrhine in this play, Kinesias shows her a baby which has not been fed or cleaned in six days. The (\*) nude Reconciliation is used as a map at the end of this play. Lampito and Calonice aid the title character in her plan to end the Peloponnesian War in, for 10 points, what Aristophanes play in which the women of Greece withhold sex from their husbands?**

ANSWER: **Lysistrata**

<European Literature, Palavajjhala>

This city became a center of study in astronomy after the construction of an observatory by Ulugh Beg. For 10 points each:

[M] Name this city in the historical region of Transoxiana, which was revitalized under the reign of Timur.

ANSWER: **Samarkand**

[H] Earlier, Samarkand had nearly been destroyed during Genghis Khan's 13th century invasion of this Persian empire in response to two executed Mongol ambassadors.

ANSWER: **Khwarezmian** Empire [or **Khwarazmian** Empire]

[E] For centuries, Samarkand was one of the world's wealthiest cities due to its position on this ancient trade route from East Asia to Europe. This route was named for a fiber produced by mulberry worms.

ANSWER: **Silk Road** [prompt on **silk**]

<World History, Gayden> [Ed.]

4. **This quantity must be greater than one over beta for the Frank-Tamm formula to apply. Smith et al. showed a negative value of this quantity by using split-ring resonators and copper strips to form a left-handed material. An applied electric field causes a change in this quantity in the (\*) Kerr effect. This quantity is the square root of relative permittivity times relative permeability of a material. This dimensionless quantity is related to the sines of the angles of incidence and refraction in Snell's law. For 10 points, name this quantity, the ratio of the speed of light in a vacuum to the phase velocity of light in a medium.**

ANSWER: **index of refraction** [or **refractive index** or **refraction index**]

<Physics, Chapman> [Ed.]

Answer the following about contemporary singers who don't want their lovers to move on. For 10 points each:

[M] This singer admits, "this ain't love, it's clear to see" after a one-night stand in their song "Stay with Me." This singer behind "I'm Not the Only One" reflected upon a breakup in their 2017 song "Too Good At Goodbyes."

ANSWER: Sam **Smith** [accept Samuel Frederick **Smith**]

[H] The singer of this song pleads, "I'm sorry that I couldn't get to you" and pledges to "swallow [his] pride" before his relationship fails. This song rose in popularity after Christina Aguilera's performance of it on *The Voice*.

ANSWER: "**Say Something**"

[E] In this song, Adele imagines her former lover "settled down" and "married now." This song from the album *21* resolves, "sometimes it lasts in love, but sometimes it hurts instead."

ANSWER: "**Someone Like You**"

<Popular Music, Gayden> [Ed.]

5. **This artist's visit to the Laurentian Library inspired a set of paintings designed to make the viewer feel "trapped in a room." This artist used the fugitive pigment lithol red for a series now on display at the Tate Modern. Barnett Newman's statue *Broken Obelisk* is located near fourteen paintings by this artist housed in an octagonal building in (\*) Houston called his "chapel." This artist abandoned a commission from the Four Seasons restaurant in New York's Seagram building. For 10 points, name this Latvian-born color field artist known for his paintings of irregular rectangular regions of contrasting color.**

ANSWER: Mark **Rothko** [accept Markus Yakovlevich **Rothkowitz**]

<Painting, Sun> [Ed.]

There isn't always room for Jesus in court. For 10 points each:

[M] A banner reading "Bong Hits 4 Jesus" led to *Morse v. Frederick*, which unsuccessfully cited this earlier case. This case ruled that speech like black armbands could not be restricted unless it caused a "[substantial disruption]."

ANSWER: **Tinker** v. *Des Moines*

[H] The Supreme Court ruled that a New York state law mandating a prayer at the start of each school day violated the First Amendment's Establishment clause in this 1962 Supreme Court Case.

ANSWER: **Engel** v. *Vitale*

[E] *Wisconsin v. Yoder* ruled that these people did not have to attend secondary school since it conflicted with their religious values. Members of this Mennonite branch travel by horse and buggy due to rejecting modern technology.

ANSWER: **Amish** [or **Amish** Mennonite]

<US History, Gayden> [Ed.]

6. **The protagonist of a novel by this author watches a burning building from a bookstore's laundry deck with a classmate. In one novel by this author, the protagonist bonds with Nagasawa over a mutual love of *The Great Gatsby*, and discusses his roommate, the cartographer "Storm Trooper." A novel by this author set in a world with two (\*) moons opens with Janáček's *Sinfonietta* playing over a taxicab radio. The protagonist visits Naoko at a sanatorium in a novel by this author that centers around Toru Watanabe and is named after a Beatles song. For 10 points, name this author of *Norwegian Wood* and *1Q84*.**

ANSWER: Haruki **Murakami** [accept names in either order]

<World Literature, Melkumian and Hartung>

Opposite each other at the mouth of this peninsula's namesake bay are Plymouth and the LGBTQ haven of Provincetown. For 10 points each:

[M] Name this hook-shaped peninsula in Eastern Massachusetts.

ANSWER: **Cape Cod**

[E] In addition to cod, Massachusetts became rich off of this industry centered in islands like Nantucket, which contains a museum dedicated to it. Oil from this industry was used for soaps and lamps.

ANSWER: **whaling** [accept **whale** industry; do NOT accept or prompt on "fishing"]

[H] This Massachusetts city known as the "Whaling City" was the center of the American whaling industry. It sits on Buzzards Bay near the Rhode Island border and, like Nantucket, also contains a major whaling museum.

ANSWER: **New Bedford** <Geography, Gayden> [Ed.]

7. **In January 2021, protests in this country's city of Siliana spread to Habib Bourguiba Avenue in its capital. This country's leader invoked Article 80 of its 2014 constitution to dismiss prime minister Hichem Mechichi. A party called the "Heart Of [this country]" opposes the Ennahda party, led by Rached Ghannouchi. In 2022, this country's parliament was dissolved by president (\*) Kais Saied [kais Sa-eed]. Mohamed Bouazizi self-immolation in this country began the Arab Spring in 2011. For 10 points, name this country located between Algeria and Libya.**

ANSWER: **Tunisia** [or Republic of **Tunisia**]

<Current Events, Wu> [Ed. Gayden]

The cosmological principle states that the universe is homogeneous and has this property. For 10 points each:

[H] Name this property possessed by a system that has the same properties when measured in any direction.

ANSWER: **isotropic** [EYE-suh-TROH-pik] [or **isotropy**]

[E] The isotropy of the cosmic microwave background can be explained by cosmic inflation, which occurred shortly after this event. This event is thought to have created the universe about 13.8 billion years ago.

ANSWER: the **Big Bang**

[M] The post-inflation expansion of the universe is influenced by this parameter, which Einstein called his "biggest blunder." The first letter of the lambda-CDM [C-D-M] model denotes this parameter that corresponds to vacuum energy.

ANSWER: **cosmological constant** [prompt on **dark energy**]

<Astronomy, Wu> [Ed.]

8. **James Duesenberry argued that this quantity increases as a result of the "demonstration effect." A function named after this quantity is equal to  $a$  plus  $b$  times  $Y$  sub  $d$ . The marginal propensity of this quantity equals one minus the MPS and is equal to the reciprocal of a multiplier named after this quantity. High values of one type of this quantity is the primary cause of (\*) "crowding out." John Maynard Keynes [canes] advocated for the "deficit" type of this activity to end recessions. When this quantity is less than revenue, a surplus occurs. For 10 points, name this quantity, the opposite of savings.**

ANSWER: **spending** [or **consumption**; accept government **spending**; accept **investment**; accept marginal propensity to **consume** or marginal propensity to **spend**]

<Social Science, Wu> [Ed.]

A Christopher Knowles poem is set to music in this opera in a trial scene. For 10 points each:

[M] Name this first opera of the Portrait Trilogy, which includes the section “I Feel the Earth Move.”

ANSWER: **Einstein on the Beach**

[E] Philip Glass scored “I Feel the Earth Move” for voice, bass clarinet, and the soprano type of this woodwind instrument. This instrument’s alto and tenor types are common in jazz music.

ANSWER: **saxophone** [accept specific types like soprano **saxophone** or alto **saxophone**]

[H] It’s not solfège, but in sections of *Einstein on the Beach* like the first Knee Play and “A Prematurely Air-Conditioned Supermarket,” the chorus repeatedly sings these kinds of words, thought to reference Einstein’s scientific discoveries.

ANSWER: **numbers** [or **numerals** or **digits**; accept cardinal **numbers**]

<Opera, Gayden> [Ed. Bowman]

9. **Samples can be prepared for this technique by placing them in CHCA or sinapinic <sup>[sih-NAP-in-ick]</sup> acid. During this technique, carbonyl <sup>[KAR-buh-neeel]</sup> compounds with gamma hydrogens can form alkenes <sup>[AL-keenZ]</sup> in the McLafferty rearrangement. One prep method for this technique impacts molecules with high-energy electrons, while another uses a laser to vaporize a matrix and is called (\*) MALDI <sup>[MALL-dee]</sup>. Carbon-13 produces an M+1 <sup>[M plus one]</sup> peak in this technique, which uses a magnetic field to deflect molecular ions according to their size. For 10 points, name this technique that measures the mass-to-charge ratios of molecular fragments.**

ANSWER: **mass spectrometry** [or **mass spectroscopy** or **MS**; prompt on **spectrometry** or **spectroscopy**]

<Chemistry, Wu> [Ed. Yin]

In a short story from a collection titled for these things, Bibi Haldar is cured of an illness after being raped. For 10 points each,

[H] Siddhartha Mukherjee described Cancer as the “Emperor of all” of what things in a so-called biography?

ANSWER: **maladies** [or **malady**; accept *The Emperor of All Maladies: A Biography of Cancer* or *The Interpreter of Maladies*]

[M] “The Treatment of Bibi Haldar” is a story from this author’s collection *The Interpreter of Maladies*. In another story by this author, Miranda’s lover calls her sexy, which means “loving someone you don’t know.”

ANSWER: Jhumpa **Lahiri** [or Nilanjana Sudeshna **Lahiri**]

[E] In the title story of *The Interpreter of Maladies*, the tour guide Mr. Kapasi saves Bobby Das from one of these hungry primates after Mrs. Das leaves a trail of puffed rice. W.W Jacobs wrote a short story titled for the paw of one of these primates.

ANSWER: **monkeys** [accept “The **Monkey**’s Paw”]; anti-prompt on **orangutans**]

<US Literature, Melkumian> [Ed. Gayden]

10. **This ruler apocryphally had the dancer Anarkali killed, disapproving of her relationship with his son. This ruler built a temple for the saint Salim Chishti that eventually grew into his capital city. This ruler introduced the *mansabdar* military unit to his empire. Abul Fazl documented this ruler's capital of (\*) Fatehpur Sikri while a member of his Nine Jewels court. This ruler created the syncretic Din-i Ilahi religion which combined Hindu, Muslim, and Zoroastrian beliefs. This ruler repealed the *jizya* tax on non-Muslims and succeeded Humayun as ruler. For 10 points, name this "Great" Mughal emperor.**

ANSWER: **Akbar** the Great [or Jalaluddin Muhammad **Akbar**]

<World History, Hartung> [Ed. Nageswaran]

These cells are killed by streptozotocin [STREP-tuh-ZOH-tuh-sin] or alloxan to induce a condition in research animals. For 10 points each:

[H] Name these cells that secrete the polypeptide amylin [AM-il-in]. These cells secrete connecting peptide after glucose enters their GLUT2 [gloot-two] channels.

ANSWER: **beta** cells (connecting peptide is abbreviated “C-peptide”)

[E] Beta cells are found in this abdominal organ, where their secretion of insulin helps this organ regulate blood sugar levels.

ANSWER: **pancreas**

[M] Within the pancreas, beta cells are among the hormone-producing cells contained in “islets” [EYE-lets] named for this German scientist. He also names a type of macrophage that resides in the skin.

ANSWER: Paul **Langerhans** [LAHN-gur-hahnz] [accept islets of **Langerhans** or **Langerhans** cells]

<Biology, Melkumian> [Ed.]

11. **On USGS maps, this rock is symbolized by a rectangular pattern resembling bricks. Flat surfaces of this rock with grid-like fissures are called its namesake type of “pavement.” Cations [KAT-eye-onz] in this rock are replaced with magnesium during the formation of dolomite. Most speleothems [SPEE-lee-oh-thems] are made of a type of this rock called (\*) travertine [TRAV-ur-teen], which can be deposited by hot springs. Metamorphism of this rock creates marble, which – like this rock – is vulnerable to acid rain. This rock is composed of the minerals aragonite [uh-RAG-uh-night] and calcite. For 10 points, name this sedimentary rock made of calcium carbonate.**

ANSWER: **limestone** [accept **limestone** pavement; do NOT accept or prompt on “calcite” or “aragonite” or “lime”]  
<Earth Science, Yin> [Ed.]

The node voltage method is used to analyze these systems. For 10 points each:

[E] Name these systems consisting of voltage sources and components such as resistors and capacitors.

ANSWER: electrical **circuits** [or electrical **networks**]

[M] AC circuits can be characterized by this quantity analogous to a DC circuit’s resistance. The imaginary part of this quantity is the reactance.

ANSWER: **impedance** [prompt on  $Z$ ]

[H] This theorem in circuit analysis, named for a Frenchman, states that any combination of voltage sources and resistors can be replaced with a single voltage source and resistor in series.

ANSWER: **Thévenin**’s [TAY-vuh-nin’z] theorem

<Physics, Chapman> [Ed. Liu]

12. **The losers of this battle allied with Duke Maurontus a year later. The main source of information regarding this battle is the Mozarabic Chronicle. The victors of this battle used a phalanx formation to counter their opponents’ cavalry, which they themselves lacked. Edward Gibbon claimed that this battle saved (\*) Christendom by halting the advance of the Umayyad commander Abd el-Rahman. After this battle, its Frankish victor became known as “The Hammer.” For 10 points, name this 732 battle where Charles Martel stopped the Muslim invasion of Europe.**

ANSWER: Battle of **Tours** [accept Battle of **Poitiers**]

<European History, Pavlou> [Ed. Gayden]

The company Poseidon owns the U.S.'s largest one of these facilities in Carlsbad, California. For 10 points each:  
[H] Poseidon has seen its approval suspended to build another one of what facilities in Huntington Beach amidst a long-term drought?

ANSWER: **desalination** plants [accept word forms like **desalinating** plants; prompt on water purification plants]

[M] The proposed desalination plant would be built in this county's city of Huntington Beach. This traditionally conservative Los Angeles county contains the city of Anaheim.

ANSWER: **Orange** County

[E] Many of the concerns over the plant center around its potential impact on marine life in this large body of water, which contains a namesake "great" garbage patch.

ANSWER: **Pacific** Ocean [accept Great **Pacific** garbage patch]

<Current Events, Gayden>

13. **This man once told an opponent "I own Rio De Janeiro." This man's 15 win streak ended after losing to Nate Diaz. After beating Eddie Alvarez for the title of Lightweight Champion, this man became the first to hold two (\*) UFC belts in two weight divisions simultaneously.** Before their match at UFC 229, Khabib Nurmagomedov told this man to "send me location" after he threw a steel dolly at a bus Khabib was in. This person lasted 10 rounds before being TKOed [T-K-O'd] by Floyd Mayweather. For 10 points, name this Irish MMA fighter nicknamed "The Notorious."

ANSWER: **Conor** Anthony **McGregor** [accept either underlined portion; prompt on "The Notorious" before it is read]  
<Sports, Chae> [Ed.]

The phrase "Ik Onkar," which describes a central aspect of this figure, are the first words of the *Mul Mantar*. For 10 points each:

[H] Name this figure whose many names are the subject of contemplation in the *Naam Japo*.

ANSWER: the **God** of **Sikhism** [or **Akal Purakh**; accept **Waheguru**; prompt on God by asking "of what religion?"; accept descriptive equivalents of God such as the **supreme deity**]

[M] The aforementioned *Mul Mantar*, which describes the Oneness of the Sikh God, is the opening verse of the Adi Granth, the holy scripture of Sikhism. It is considered to be the final, eternal one of these masters of Sikhism.

ANSWER: **guru** [goo-roo]

[E] More than 6,000 of these compositions in the Adi Granth praise the Sikh God. Christian examples of these musical works include "A Mighty Fortress is Our God" and "Amazing Grace."

ANSWER: **hymns**

<Religion, Yang, and Peela> [Ed. Suh]

14. **This composer quoted the folk songs "We'll Not Return to the Woods" and "Sleep, Child, Sleep" in a work representing gardens in a violent rainstorm. A Prelude, Sarabande, and Toccata make up this composer's suite "For the Piano." This composer who was inspired by Javanese gamelan for the "Pagodas" movement of his piano suite (\*) *Estampes* [uhss-tahmp] drew on Islamic designs for his two Arabesques.** This composer included a "Passepied" in his Suite Bergamasque, whose third movement was inspired by a Paul Verlaine poem about moonlight. For 10 points, which French impressionist composer wrote Clair de lune?

ANSWER: (Achille) Claude **Debussy**

<Classical Music, Bowman> [Ed.]

This character claims that another character had “thrice refused” a “kingly crown.” For 10 points each:

[M] Name this character who laments that another character is “The Noblest Roman of them all.”

ANSWER: Marc **Antony** [accept Marcus **Antonius**]

[E] Marc Antony gives his funeral oration in this Shakespearean tragedy in which the title Roman is murdered by Brutus and his conspirators on the Ides of March.

ANSWER: **Julius Caesar**

[H] In his funeral oration, Marc Antony sarcastically refers to Brutus as this kind of “man” to highlight his disloyalty.

ANSWER: “an **honorable** man” [accept “for Brutus is an **honorable** man”]

<British Literature, Peela> [Ed. Siddiqui]

15. **Ancient Levantine cities built from this substance are elevated on characteristic “tells.” Lahars [lah-HARZ] are volcanic events involving violent movements of this substance. Shale is one example of a class of sedimentary rocks named for this substance. Azerbaijan contains half of the world’s “volcanoes” named for this substance, which produce not lava but slurry. The largest building made of (\*) “bricks” named for this substance is the Great Mosque of Djenne; the Spanish word for such bricks is adobe. “Flows” of this substance occur when a steep slope is oversaturated. For 10 points, name this substance formed when soil mixes with water.**

ANSWER: **mud** [accept **mudbrick**; prompt on soil or clay on first line]

<Geography, Ma> [Ed.]

A boy grins while holding a crutch over his shoulder in *The Clubfoot*, a painting by an artist from this country. For 10 points each,

[H] Name this country, which is also home to an artist who painted a martyred Saint Serapion in white robes with his arms tied to a tree.

ANSWER: **Spain** [The first artist is Jose de Ribera]

[E] That artist of *Saint Serapion*, Francisco Zurbaran, has been called the Spanish version of this artist due to his heavy use of chiaroscuro. Jesus calls upon a tax collector to follow him in this artist’s *The Calling of Saint Matthew*.

ANSWER: **Caravaggio** [or Michelangelo Merisi da **Caravaggio**]

[M] In one painting, Zurbaran painted one of these animals with its limbs tied. The bottom center panel of the Ghent Altarpiece titled for the Adoration of this animal shows the blood of this animal pouring into a chalice.

ANSWER: **Lamb** [accept **Lamb of God** or **Agnus Dei**] <Painting, Guo> [Ed. Sun]

16. **Camagu encounters the prophetess Nonqawuse in a Zakes Mda novel that parodies this novel’s title. A man in this novel repeats that another character has “enlarged [his] mind” and reminds the protagonist of a harlequin. This novel’s narrator calls a brickmaker a “papier-mâché Mephistopheles” and imagines a city representing a (\*) “whited sepulcher.” A report in this novel reads, “Exterminate all the brutes!” One character in this novel cries “The horror! The horror!” on his deathbed. Marlow travels down the Congo in search of the ivory trader Mr. Kurtz in, for 10 points, what novella by Joseph Conrad?**

ANSWER: **Heart of Darkness** (The first clue refers to Zakes Mda’s *The Heart of Redness*)

<British Literature, Melkumian> [Ed. Gayden]



[NOTE TO MODERATOR: Please review the first answerline carefully before reading]

This commodity was first produced in the port city of Sidon. For 10 points each:

[M] Name this commodity, which was made by boiling *Murex* snails. This commodity was often used to decorate Roman togas for formal occasions.

ANSWER: Tyrian **purple** dye [accept royal **purple** dye or **imperial dye**; accept, but do NOT otherwise reveal **Phoenician red**; accept, but do NOT otherwise reveal **Phoenician purple**; prompt on (Tyrian) **dye** alone; do NOT accept or prompt on “red” alone]

[E] Tyrian purple was a key export of the Phoenicians, who founded this North African city as a trading post. This city fought the Punic Wars with Rome.

ANSWER: **Carthage** [or **Karthago**]

[H] The process of making Tyrian purple was documented in this Roman scholar’s *Natural History*. This scholar reportedly declared “Fortune favors the bold” before embarking on a failed rescue mission.

ANSWER: **Pliny the Elder** [or Gaius **Plinius Secundus**; prompt on **Pliny**; do NOT accept or prompt on “Pliny the Younger”]

<Ancient History, Gayden> [Ed.]

17. **After his death, a rotating wheel was placed in the portico of an orphanage designed by this person. This person omitted the need for scaffolding by using a herringbone brick pattern in a work topped by a posthumously completed lantern. In one experiment, this person viewed a mirror through a tiny hole in a painting, thus rediscovering linear perspective. This (\*) architect used a double-layered design for an octagonal brick structure that sits atop the Santa Maria del Fiore without the need for Flying Buttresses. For 10 points, name this Renaissance architect of the *duomo* of the Florence Cathedral.**

ANSWER: Filippo **Brunelleschi** [prompt on **Pippo**]

<Architecture, Gayden> [Ed.]

The Larsen-Miller relation predicts the effect of this process on the deformation experienced by a material. For 10 points each:

[H] Name this process in which a material is heated to a temperature below its critical point, and then is allowed to cool in still air.

ANSWER: **tempering**

[E] This alloy is often subject to tempering in order to release its internal stresses. The Bessemer process manufactures this alloy composed of iron and carbon.

ANSWER: **steel**

[M] Stainless steel contains at least 11% of this element by mass. Adding this transition metal prevents the steel from rusting and increases its resistance to heat.

ANSWER: **chromium** [or **Cr**]

<Chemistry, Wu> [Ed.]

18. **Sally Wister wrote a firsthand account of this city’s occupation during the Revolutionary War. Robert Yates kept personal notes on one event in this city. A politician from this city nicknamed the “Penman of the Revolution” published 12 “Letters from a Farmer” to protest the Townshend Acts. At an meeting in this city, (\*) Roger Sherman proposed the Connecticut Compromise, which was rejected in favor of James Madison’s Virginia Plan. This city hosted both Continental Congresses as well as the Constitutional Convention. For 10 points, name this Pennsylvania city home to the Liberty Bell.**

ANSWER: **Philadelphia** [accept **Philly**]

<US History, Gayden> [Ed.]

The mouse Josephine insists that her singing is not “ordinary piping” in a story by this author. For 10 points each,  
[E] Name this Czech-German author who wrote about Gregor Samsa transforming into a “monstrous vermin” in *The Metamorphosis*.

ANSWER: Franz **Kafka**

[H] In this Kafka story, a man spends his whole life using all the money he has to bribe a doorkeeper to let him enter a gate, to which the doorkeeper continually says he can, “but not now.”

ANSWER: “**Before the Law**” [prompt on “*The Trial*” or “the parable from *The Trial*” or “the story within *The Trial*”]

[M] A priest tells Josef K. the parable “Before the Law” near the end of this Kafka novel, which ends with Josef dying “like a dog.”

ANSWER: *The **Trial*** [or “*Der **Prozess***” or “*Der **Process***”] <European Literature, Melkumian>

19. **Stephen Hubbell developed a “unified neutral theory” of this property. A value that measures this property equals 1 minus a summation of the squares of “little  $n$  over big  $N$ .” This property is highest at intermediate levels of disturbance, and it is measured by both the Simpson index and a version of the (\*) Shannon entropy. Richness, evenness, and dominance are aspects of this property. “Hotspots” with high values of this property include the Amazon rainforest. Conservation biology aims to preserve, for 10 points, what property that represents the number of species living in a given area?**

ANSWER: bio**diversity** [or species **diversity**; accept word forms such as bio**diverse**; accept (Simpson or Shannon) **diversity** index; accept species **richness** before “richness” is read; prompt on **Simpson** index before “Simpson” is read] <Biology, Wu> [Ed.]

This work contrasts between egotistic and altruistic types of the title phenomenon. For 10 points each:

[M] Name this work that argues high levels of anomie lead to the title phenomenon’s higher rate among men than women.

ANSWER: **Suicide**: (*A Study in Sociology*)

[E] This French sociologist and author of *The Division of Labor in Society* wrote *Suicide*.

ANSWER: Émile **Durkheim** [ay-MEEL dur-kem]

[H] In *The Division of Labor in Society*, Durkheim contrasts the “mechanical” and “organic” types of this concept, which refers to society’s perception of common interests that transcend class division.

ANSWER: **solidarity** [accept mechanical or organic **solidarity**]

<Social Science, Wu> [Ed.]

20. **The speaker claims, “love is the only fortress strong enough to trust” in a poem titled for a “paper” one of these animals by Marianne Moore. In another poem, one of these animals that “knew the old no more” is revealed to contain an “irised ceiling” and a “sunless crypt unsealed.” That poem’s speaker hears from the “dead lips” of this animal “clearer notes... than ever Triton blew.” One of these title animals commands, (\*) “build thee more stately mansions!” in a poem that describes its “lustrous coil.” Oliver Wendell Holmes, Sr. wrote about a “chambered” one of, for 10 points, what spiral-shelled, tentacled mollusks?**

ANSWER: **nautilus**es [NAW-tih-lus-es] or **nautili** [NAW-tih-LIE] [accept “The Paper **Nautilus**” or “The Chambered **Nautilus**”; prompt on **mollusks** before it is read]

<US Literature, Gayden> [Ed.]

This historian described the “calamitous” fourteenth century in her book *A Distant Mirror*. For 10 points each:  
[H] Name this historian who described the military escalations of the July Crisis in *The Guns of August*.

ANSWER: Barbara W. **Tuchman**

[E] *The Guns of August's* chapter “Outbreak” describes the assassination of this Austrian Archduke by Gavrilo Princip, which led to the start of World War I.

ANSWER: Archduke **Franz Ferdinand** [prompt on partial answer; or Archduke **Franz Ferdinand** Carl Ludwig Joseph Maria of Austria]

[M] The chapter “The Flames of Louvain” describes German atrocities in this country during the war, which was the first invaded in the Schlieffen plan.

ANSWER: **Belgium**

<Hartung, European History> [Ed.]