

# SOUTHEAST-MIDWEST HOUSEWRITE: PACKET 8

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NOTE: THESE TOSSUPS AND BONUSSES ARE PAIRED. IF THE TOSSUP GOES DEAD, SKIP THE ASSOCIATED BONUS. DO NOT GO BACK AND READ ANY BONUSSES THAT ARE SKIPPED.

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**1. David Leopold wrote about this thinker’s “Utopophobia” and his critique that utopian blueprints are fundamentally undemocratic. The “development thesis” and “primacy thesis” are the roots of this thinker’s theory of history according to Gerald Cohen, who helped found the September Group. The institution of religion distracts man from realizing his true social capability according to a text by this thinker that criticized (\*) Hegel for mystifying objects of mankind. This thinker discussed four ways that a person loses their meaning and relationship with themselves in a process known as alienation. This founder of historical materialism opened one book with, “A spectre is haunting Europe.” For 10 points, name this thinker who collaborated with Friedrich Engels on *The Communist Manifesto*.**

ANSWER: Karl Heinrich **Marx**

<Dantzler, Philosophy> [Ed. Ashbrook]

1. Upon the death of his “uncle,” a character in a work by this author realizes that that man was actually his father and comes into a 250,000 franc inheritance, enabling him to buy an estate at Chavignolles. For 10 points each:

[M] Name this author of the unfinished satirical work *Bouvard and Pecuchet*. His *Three Tales*, which he wrote at around the same time, includes a story about the servant Félicité, “A Simple Heart.”

ANSWER: Gustave **Flaubert**

[E] Flaubert intended to append one of these works “of Received Ideas” to *Bouvard and Pecuchet*, which included an entry telling readers to regard aristocrats with envy. These works are commonly published by Merriam-Webster.

ANSWER: **dictionaries** [accept Merriam-Webster **Dictionary** or **Dictionary of Received Ideas**]

[H] This author argued that Flaubert was for science “in exactly the extent to which it is skeptical.” This author of *Zazie in the Metro* founded Oulipo with mathematician Francois le Lionnais.

ANSWER: Raymond **Queneau**

<Karthik, Short Fiction/Other> [Ed. Leahy]

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**2. People whose ancestry originated in this country were forced by the ironically named Union officer Jefferson C. Davis to give up their homes to American settlers. Some schismatic religious groups such as the Molokans left this country for the Willamette Valley. The USAT *Buford* was used to deport 249 people, including the publisher of *Mother Earth*, to this country after the first (\*) Palmer Raid. Emma Goldman wrote about her “Disillusionment in ” this country. Persecuted groups including the Old Believers and Jews fleeing the late 19th century pogroms left this country for the United States. For 10 points, White emigrés fled which country after a revolution and civil war led to the Bolsheviks taking power?**

ANSWER: **Russia** [or **Russian-Americans**; accept the **Soviet Union** or the **Union of Soviet Socialist Republics** or the **U.S.S.R.**; prompt on **Ukraine** with “While it was part of what larger country?”]

<Prabhakar, American History> [Ed. Nageswaran]

2. Increased production of this hormone may be a risk factor for atherosclerosis. For 10 points each:

[H] Name this hormone, whose family forms a “system” with renin. Sartans are receptor blockers for this hormone, which is produced by the enzyme ACE.

ANSWER: **angiotensin II** [prompt on angiotensin; do NOT accept nor prompt on “angiotensin I,” “angiotensin III,” or “angiotensin IV”]

[M] Angiotensin II stimulates the production of this hormone in the hypothalamus, which is stored along with oxytocin in the posterior pituitary gland. This hormone promotes water reabsorption from the kidneys.

ANSWER: **antidiuretic hormone** [accept **ADH** or **vasopressin**; accept arginine **vasopressin** or **AVP**; accept **argipressin**]

[E] Angiotensin II is derived from angiotensinogen, which is produced in this organ. This organ also produces bile and detoxifies blood.

ANSWER: **liver**

<Valan, Biology> [Ed. Lei]

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**3. In one work, this author advises the reader not to worry if they “don’t know how to die,” because “Nature will tell you what to do on the spot.” In *The Western Canon*, Harold Bloom pairs this author with Molière. In another work, this author defends the argument that scientific reason can perpetuate faith rather than refute it. That work was written during the (\*) Wars of Religion, during which this author was an advocate for peace. In one work, this author describes the Tupinamba tribe’s ritual eating of their prisoners of war, which he deems less barbaric than European warfare. This skeptic author’s works “Of Physiognomy” and “Of Cannibals” are in a collection that also features his “Apology for Raimond Sebond.” For 10 points, name this French author of the *Essays*.**

ANSWER: Michel de **Montaigne**

<Bowman, Short Fiction/Other> [Edited]

3. The first section of this treatise devises “rule-sets” that are divided into “parametric objects” and “parametric formulas.” For 10 points each:

[H] Name this 1570 treatise that includes sections on city planning and the five classical orders, as well as blueprints of its author’s own designs. This treatise ends with detailed descriptions of 26 Roman temples.

ANSWER: *The **Four Books of Architecture*** [or *I **quattro libri dell’architettura***]

[M] This Venetian Renaissance architect wrote *The Four Books of Architecture*. This architect’s namesake style, exemplified by his Villa Capra and Villa Godi, inspired Thomas Jefferson’s design for Monticello.

ANSWER: Andrea **Palladio**

[E] Palladio’s Villa Capra is also known as La Rotonda for its large central hall, which is covered by one of these features. Brunelleschi used an octagonal design for a massive one of these structures atop Florence’s cathedral.

ANSWER: **domes**

<Strombeck, Architecture> [Edited]

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**4. The Gaia and Kraken collision events both increased the size of this object. The Oort constants characterize the rotational properties of this object relative to the Sun. The two Fermi bubbles emit gamma rays from opposite sides of this object. The leading arm, which feeds this object, is part of a gaseous stream emitted by two systems orbiting this object. This object contains divisions named for (\*) Perseus and Scutum-Centaurus as well as the Orion Spur. The Large and Small Magellanic clouds orbit this object. The supermassive black hole Sagittarius A\* (“A-star”) is located at the center of this object, which is projected to collide with Andromeda in 4.5 billion years. For 10 points, name this galaxy in which the Solar System is located.**

ANSWER: the **Milky Way** galaxy

<Bowman, Astronomy> [Edited]

4. The Democratic Action Party, also known as AD, won this country's first democratic elections during El Trienio Adeco. For 10 points each:

[H] Name this country, where AD was overthrown by Marcos Pérez Jiménez in a bloodless 1948 coup. AD later signed the Punto Fijo Pact with this country's two other major parties in 1958 after Pérez Jiménez was ousted.

ANSWER: Bolivarian Republic of Venezuela

[E] AD member Rómulo Betancourt ("bay-tahn-KOOR"), who ruled for most of El Trienio Adeco, returned to power in 1959 and feuded with this country's leader Fidel Castro.

ANSWER: Republic of Cuba

[M] Betancourt's successor Raúl Leoni denounced Cuba to this multinational body after Cuban-backed guerrillas tried to overthrow him in the Machurucuto Incident. This body also negotiated an end to the Soccer War.

ANSWER: Organization of American States [accept OAS]

<Sareddy, World History> [Ed. Prabhakar]

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**5. A small one of these objects sits atop an elephant in a sculpture in the Piazza della Minerva that inspired figures in several Dalí paintings. One of these objects was installed by Domenico Fontana 100 years before an architect surrounded it with extended, curving colonnades in a design for a square. One of these objects that is topped by a Pamphili emblem stands in the (\*) Piazza Navona. That object sits above gods representing the Nile, Ganges, Danube, and Rio de la Plata in the *Fountain of the Four Rivers* by Bernini. Along with columns, many of these tall structures were brought to Rome from temples in Heliopolis and Karnak. For 10 points, name these ancient Egyptian stone towers whose modern day equivalents include the Washington Monument.**

ANSWER: obelisks [prompt on fountains by asking "what kind of object is included in the fountain design?"]

<Danzler/Strombeck, Painting & Sculpture> [Ed. Strombeck]

5. A half-man half-snake holder of this position named Erichthonius was a son of Gaia and Hephaestus. For 10 points each:

[M] Name this position. A different holder of this position threw himself into the sea after seeing black sails on a ship.

ANSWER: king of Athens [prompt on king by asking "Of where?"; accept ruler of Athens]

[E] King Aegeus of Athens threw himself into the sea because he thought this son of his had died. In reality, this son was alive after having slain the Minotaur.

ANSWER: Theseus

[H] Athena gave a box containing the baby Erichthonius to this man's daughters. This other half-man half-snake king of Athens reigned during the contest between Athena and Poseidon over who would be the city's patron deity.

ANSWER: Cecrops I

<Prabhakar, Myth> [Ed. Groger]

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**6. Tractography is performed with data from this technique, which may be done using FLAIR. It's not mass spectrometry, but steady-state free precession occurs in this technique due to overlap between free induction decay-like and echo-like signals. Pulses in this technique can lead to spin (\*) echoes. One variant of this technique uses BOLD-contrast imaging to detect blood flow. This technique commonly uses gadolinium-based agents to reduce the spin relaxation time. Patients with metal implants may not undergo this scan, which has a "functional" variant that measures brain activity. For 10 points, name this scanning technique, a medical application of nuclear magnetic resonance.**

ANSWER: nuclear magnetic resonance imaging [accept MRI or fMRI; accept nuclear magnetic resonance or NMR before mention]

<Valan, Chemistry> [Ed. Lei]

6. Answer the following about the history of drum machines, for 10 points each.

[M] This inventor and Henry Cowell developed the first drum machine, dubbed the “rhythmicon.” An instrument named for and invented by this man consists of two perpendicular antennae and is played without being touched by the performer.

ANSWER: Leon **Theremin**

[H] This Japanese company behind the popular Juno-106 synthesizer also produced a drum machine model with an iconic “sizzling” sound, the TR-808.

ANSWER: **Roland** Corporation [or **Rōrando** Kabushiki Kaisha; accept **Roland** TR-808; accept **Roland** Juno-106]

[E] The TR-808’s successor, the TR-909, relies on this technique to produce its cymbal sounds. This technique achieved through crate-digging involves repurposing a short clip of existing audio as part of another work.

ANSWER: **sampling** [accept word forms like **sample**]

<Karthik, Other> [Ed. Strombeck]

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**7. This figure’s son murdered his seventy brothers but was eventually killed when a woman dropped a millstone on his head. This figure burned down the tower of Peniel and killed the seventy elders of Succoth after they insulted him and refused to feed his troops. That incident occurred when this man was on a mission to capture Zebah and Zalmunna, two kings who had earlier fought this man’s troops. Those troops were picked by this man at a (\*) stream where those who knelt down to drink were rejected. This man accepted his fate after God caused a fleece to be wet while the ground was dry, then dry when the ground was wet. For 10 points, name this Judge of Israel, who routed the Midianites with his three hundred men and serves as the namesake of an organization that places Bibles in hotel rooms.**

ANSWER: **Gideon** [accept **Jerub-Baal**]

<Valan, Myth> [Ed. Groger]

7. Estanislao, a member of the Lakisamni, led a revolt against one of these institutions in the 1820s. For 10 points each:

[M] Name these institutions, 21 of which were built along El Camino Real. One of these institutions named for Didacus of Alcalá (“ahl-cuh-LAH”) was founded during the Portola Expedition.

ANSWER: Spanish **missions** in California

[H] The only mission constructed after Spanish rule, Mission San Francisco Solano, was built in response to this fort. This fort, built on the land of the Kashaya people, was the southernmost outpost of Russian America.

ANSWER: Fort **Ross**

[E] Conditions for indigenous Californians worsened due to the arrival of thousands of prospectors during this event. Many indigenous people were enslaved and forced to mine a certain metal during this event.

ANSWER: California **gold rush** [or the 1849 **gold rush**; accept the 1848 **gold rush**]

<Prabhakar, American History> [Ed. Nageswaran]

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**8. A slow, crescendoing piece by this composer repeats four chords under the whole notes [read slowly] "C, up to G, down to B, up to F#." A duduk solo opens a film score by this composer that also includes a "battle waltz." This composer incorporated several Shepard tones into a score that is centered on a sample of a ticking pocket watch. Roger Sayer performed a church organ on tracks like (\*) “Dreaming of the Crash” and “Day One” for a science fiction score by this composer that gained comparisons to *2001: A Space Odyssey*. This composer scored his track “Time” to a movie ending when Cobb successfully completes a dream heist. For 10 points, name this Christopher Nolan collaborator who composed the scores for *Interstellar* and *Inception*.**

ANSWER: Hans **Zimmer** (The second and third clues respectively are about the scores for *Gladiator* and *Dunkirk*)

<Strombeck, Miscellaneous Fine Arts> [Edited]

8. When this character is introduced, they claim their sins “have never so sore bound / that I cannot stir.” For 10 points each:

[H] Name this character, who descends into the grave with the protagonist of the play they appear in after characters like Five Wits and Discretion abandon him.

ANSWER: **Good Deeds**

[M] Good Deeds accompanies the unnamed title character of this morality play, who is allowed into Heaven after Good Deeds follows him to his grave.

ANSWER: *The Summoning of **Everyman***

[E] Morality plays developed into modern theatre in England after this queen loosened Puritan restrictions on theatre set by her father. William Shakespeare and Ben Jonson began writing during this queen’s reign.

ANSWER: Queen **Elizabeth I** [accept **Elizabethan** theatre; prompt on **Elizabeth**]

<Ashbrook, Drama> [Ed. Leahy]

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**9. A poem about these animals opens by repeating the word for these animals three times; that poem was written by a seven-year old Luo Binwang. In another poem, one of these animals cries "Rain, when will you fall? Thunder, when will you roll?" out of homesickness. A “mirror, poor and sad, which glittered long ago” appears in that poem about these animals that opens (\*) “Andromache, I think of you!” Due to the action of one of these animals, “the bawds of euphony / Would cry out sharply.” That animal of this type resides “Among twenty snowy mountains.” A Wallace Stevens poem describes “thirteen ways” of looking at one of these animals. For 10 points, name these animals that include geese and swans.**

ANSWER: **birds** [accept specific birds like **goose/geese**, **swans**, or black**birds** before mention]

<Lei, Poetry> [Ed. Leahy]

9. The tops and bottoms of these surfaces are chosen to be normal to the field lines to allow for easy calculation. For 10 points each:

[M] Name these closed surfaces through which the flux of a vector field is calculated. A pillbox is one of these surfaces that is used to find the E-field for a two-dimensional sheet.

ANSWER: **Gaussian** surfaces

[E] The flux through a Gaussian surface is equal to the amount of this quantity enclosed over epsilon-nought, per Gauss’ law. This quantity, symbolized  $Q$ , is measured in coulombs.

ANSWER: **charge**

[H] Gauss’ law can be used to derive this other equation in electrostatics, which states that the Laplacian of the electric potential is equal to negative charge density over epsilon-naught.

ANSWER: **Poisson**’s equation

<Karthik, Physics> [Ed. Bowman]

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**10. A rebellion of workers who produced these objects was crushed by Aurelian, who executed the rebellion’s leader Felicissimus. The production of these objects was overseen by an official known as the *rationalis*. A variant of these objects known as the *antonianus* was introduced under Caracalla, while Constantine’s reign saw the introduction of a new variant of these objects called the (\*) *solidus*. An edict by Diocletian futilely attempted to respond to a crisis involving these objects, a common variant of which was the *denarius*. The Roman Empire’s economic crisis was furthered as the debasement and decreased silver content of these objects led to inflation. For 10 points, what metal objects produced at mints are used as a form of currency?**

ANSWER: Roman **coins** [accept **coinage**; accept **antonianus** before mentioned; accept **solidus** before mentioned; accept **denarius** before mentioned; prompt on **currency**; prompt on **money**]

<Prabhakar, Other History> [Edited]

10. This operator is commonly denoted with a tilde or a bar in formal logic. For 10 points each:

[E] Name this operator that changes true to false and false to true. This operator is applied to the expression “P AND Q” with the NAND gate.

ANSWER: **NOT** [or **negation**; accept **logical complement**]

[M] This Englishman names a pair of laws that give alternative expressions for the negation of the AND and OR operators. In set theory, this man’s laws state that the complement of the union of two sets is the intersection of each set’s complement.

ANSWER: Augustus **De Morgan** [accept **De Morgan**’s laws]

[H] This basic argument form states that if P implies Q and Q is not the case, then P is not the case. This Latin argument form of “denying the consequent” is contrasted with a similarly-named form of “affirming the antecedent.”

ANSWER: **modus tollens** [or **modus tollendo tollens**]

<Bowman, Philosophy> [Edited]

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**11. In one appearance, this character is warned to “trust not to rotten planks” and is later compared to a “doting mallard” after ignoring that advice. After a group of attendants refuse this character’s urging for them to flee, this character bemoans that his “very hairs do mutiny; for the white/reprove the brown for rashness.” In another play, while standing beside a dead body, this character foretells the arrival of a vengeful spirit “with Até by his side” who will (\*) “cry ‘Havoc!’ and let slip the dogs of war.” In one speech, this character declares “ambition should be made of sterner stuff” and claims a man thrice refused a crown on Lupercal. This character delivers a funeral oration beginning with the call “Friends, Romans, countrymen.” For 10 points, name this character who appears in a Shakespeare play titled for him and Cleopatra.**

ANSWER: Mark **Antony** [or Marcus **Antonius**; accept **Antony and Cleopatra**]

<Delot-Vilain, Drama> [Ed. Leahy]

11. Max Muller translated the collective name for these texts as “secret doctrine.” For 10 points each:

[M] Name these texts, ten of which are usually considered *mukhya* (“mook-yuh”), or “principal.” *Tat tvam asi*, or “That thou art,” is one of the “great sayings” from these texts.

ANSWER: **Upanishads**

[H] “*Tat tvam asi*” appears in the Chandogya (“chan-DOHG-yah”) Upanishad, a commentary on this Veda. This Veda is primarily composed of verses from the *Rigveda* set to music.

ANSWER: **Samayeda**

[E] The Chandogya Upanishad begins by discussing the chanting of this sound, signifying the essence of ultimate reality, or *Atman* (“aht-mahn”). The Shanti Mantra ends with this sound being followed by “Shanti, Shanti, Shanti.”

ANSWER: **Om** [accept **Aum**]

<Prabhakar, Religion> [Edited]

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**12. An international guild of altar servers headed by the Archbishop of Westminster is named after this person. Along with Philip the Evangelist, this person was appointed as part of a group of seven people in Greece to settle a distribution dispute between Greek and Hebrew Jewish widows. This person called a group “stiff-necked” and “uncircumcised” after being accused of changing the laws of Moses by the Synagogue of the Freedmen. This person stated, “I see the (\*) heavens opened and the Son of Man standing at the right hand of God” after testifying in front of the Sanhedrin (“san-HEE-drin”). This person’s feast day immediately follows Christmas. Saul of Tarsus makes his first Biblical appearance to hold the garments of those who stone this man. For 10 points, name this first martyr of Christianity.**

ANSWER: Saint **Stephen** [or Deacon **Stephen**; accept **Stéphanos** HaKadosh]

<Valan, Religion> [Ed. Ashbrook]

12. This instrument plays the French tune “Partant pour la syrie” in a brief solo near the end of the “Fossils” movement of *The Carnival of the Animals*. For 10 points each:

[H] Name this instrument that also plays a staccato eighth-note “C A-flat” motif from offstage to represent the title “Cuckoo in the Deep Woods” of *The Carnival of the Animals*’ ninth movement.

ANSWER: (B-flat) **clarinet**

[E] *The Carnival of the Animals* is a suite by this prolific French composer. “Fossils” quotes this composer’s tone poem *Danse Macabre*.

ANSWER: Camille **Saint-Saëns**

[M] “Fossils” also quotes the melody of this tune as a quick, ascending canon. Mozart wrote a set of 12 variations on this originally French tune in 1781.

ANSWER: “**Twinkle, Twinkle, Little Star**” [accept “**Ah vous dirai-je, Maman**”]

<Karthik, Classical Music> [Ed. Strombeck]

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**13. An account called *A Reminder to the Obvious* provides biographies of this city’s rulers after it was captured by one empire. One scholar based in this city described how a monarch accidentally killed his own mother in the *Chronicle of the Seeker*. The ethics of slavery were discussed by this city’s most prominent scholar, Ahmed Baba, who studied at an institution that was designed by the (\*) Andalusian architect Abu Ishaq as-Sahili. This city was home to the Sidi Yahya and Djinguereber (“JING-uh-ray-bair”) mosques. Over a million manuscripts were in the library of this city’s Sankore University, which was established after this city was annexed by Mansa Musa. For 10 points, name this West African center of learning located in present-day Mali.**

ANSWER: **Timbuktu**

<Prabhakar, World History> [Edited]

13. Due to the large absorption cross-section of its nucleus, this element is sometimes bombarded with neutrons to treat cancer. For 10 points each:

[M] Name this element, two atoms of which are found in an explosive compound with 3 center 2 electron bonds that also contains six atoms of hydrogen. The trifluoride of this element is a Lewis acid.

ANSWER: **boron** [accept **B**]

[H] In the presence of a base and a palladium complex catalyst, an organoboronic (“organo-bor-ON-ic”) acid is coupled with a halide in this cross-coupling reaction discovered in 1979.

ANSWER: **Suzuki** reaction/coupling [accept **Suzuki-Miyaura** cross-coupling]

[E] Akira Suzuki conducted his research in this country. Another scientist from this country, Akira Yoshino, won the Nobel Prize in Chemistry in 2019 for his work on lithium-ion batteries.

ANSWER: **Japan**

<Zhao, Chemistry> [Ed. Lei]

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**14. A suite by this composer ends with a G minor passacaglia that the Norwegian violinist Johan Halvorsen arranged for violin and viola. He’s not Corelli, but a keyboard suite by this composer includes a slow D minor dance that uses the chord progression of *La Folia*. This composer wrote an orchestral suite that calls for side drums to play *ad libitum* and ends with two Menuets after a section marked (\*) *Largo alla siciliana*. That suite includes a trumpet fanfare in its movement “La Rejouissance” (“ray-jwee-SAHNSS”). This composer featured French horns in his “Alla Hornpipe,” a movement from a set of three suites that were written for performance on the royal barge of George I. For 10 points, name this German-English composer of *Music for the Royal Fireworks* and *Water Music*.**

ANSWER: George Frideric **Handel** [or Georg Friedrich **Händel**]

<Dantzer, Classical Music> [Ed. Strombeck]

14. The usage of one good produced in this city supposedly began with its mythological king Phoenix. For 10 points each:

[M] Name this city famous for its purple dye, which was produced from the murex snail. Much of this city was destroyed after Alexander the Great captured this city by building a causeway.

ANSWER: **Tyre** [accept **Sur**]

[E] Tyre was established by the Phoenicians, who also produced purple dye in this major North African city. This city fought the Punic Wars against the Roman Republic.

ANSWER: **Carthage** [accept **Qart-Hadasht** or **Carthago**]

[H] While Tyrian purple was highly prized, its production left a rancid stench in the city according to this Pontic historian. This historian noted Tyre's stench in his 17-volume *Geographica*.

ANSWER: **Strabo**

<Prabhakar, Other History> [Edited]

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**15. Calls for disarming college campus police in this city were revitalized by the two year anniversary of Jason Washington's death in June 2020. Mark Pettibone alleged being confronted by men in camouflage at 2 a.m. in an action in this city denied by Chad Wolf. Michael Reinoehl ("rye-NELL") was killed during a police raid four days after killing a (\*) Patriot Prayer supporter in this city. Homeland Security officers were first reported using unmarked vans to grab and detain protestors in this city. In July 2020, federal troops outside this city's courthouse tear gassed a crowd including this city's mayor, Ted Wheeler. For 10 points, protests took place over 100 consecutive days during the summer in what largest city in Oregon?**

ANSWER: **Portland**, Oregon

<Strombeck, Current Events> [Edited]

15. The neighbor of this poem's narrator wishes he had "stuck to pipes and beer" instead of pursuing a career as a preacher. For 10 points each:

[H] Name this poem that describes a "starlit stonehenge" amidst Camelot. The sounds of this poem's title action "shook all our coffins as it lay" and caused the narrator to think it was "Judgement day."

ANSWER: "**Channel Firing**"

[E] "Channel Firing" was written by this author, who included the poem's character Parson Thirdly in his novel *Far From The Madding Crowd*.

ANSWER: Thomas **Hardy**

[M] Hardy wrote about "an Immanent will" which "stirs and urges everything in "The Convergence of the Twain," which described one of these things. Adrienne Rich described "the drowned face / always staring towards the sun" in a poem titled for "Diving Into" one of these things.

ANSWER: ship**wrecks** [accept Diving Into the **Wreck**, accept equivalent active actions like a **ship sinking**]

<Mehra/Leahy, Poetry> [Edited]

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**16. One subset of these cells synthesize most of the body's supply of quinolinic acid and are present in a namesake "fountain" in the corpus callosum. These cells are the main target of the amastigotes of *Leishmania* and the tuberculosis bacterium, which parasitize them. Glucocerebroside accumulates in these cells in Gaucher's ("goh-SHAY's") disease. One type of these cells synthesizes (\*) ornithine while another type synthesizes nitric acid from arginine. B cells, dendritic cells, and these cells present antigens using MHC class II molecules. Kupffer cells are examples of these cells located in the liver. For 10 points, name these large white blood cells that, like neutrophils, engulf pathogens using phagocytosis.**

ANSWER: **macrophages** [accept **monocytes**; accept **microglia**; prompt on white blood cell or WBC; prompt on glial cell with "what type of glial cell?"]

<Lau, Biology> [Ed. Lei]

16. This city funded social programs through the “Breitner Tax” on luxuries, such as servants. For 10 points each:  
[H] Name this city, whose “Red” period saw it governed by the Social Democrats. Leftist policies implemented in this city during the Interwar period included the construction of 60,000 units of public housing.

ANSWER: Vienna [accept Wien]

[E] Leftist politicians also implemented similar policies during the First Biennium of this country’s Second Republic. That Second Republic ended after Francisco Franco’s forces won this country’s civil war.

ANSWER: Spain [accept Second Spanish Republic or Kingdom of Spain or Reino de España]

[M] Socialized housing was one of the policies implemented during this country’s short-lived Soviet Republic after World War I. This country lost much of its territory as part of the Treaty of Trianon.

ANSWER: Hungary [accept Kingdom of Hungary or Hungarian Soviet Republic or Magyarország]

<Karthik, British/European History> [Ed. Prabhakar]

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**17. Naomi Murakawa described how liberals ultimately increased racism in this system in her book *The First Civil Right*. Rules like “don’t ever say thank you” were listed as “part of the bid’ness” of this system, according to a book by Shane Bauer based on his time working in it. The Auburn Plan was a method of profiting off of people in this system. The groups UNICOR and CCA operate privately in this system. (\*)** Michelle Alexander examined how this system propagated the rebirth of a racial caste in her book *The New Jim Crow*. The documentary *13th* is about this system and how lawmakers have caused the buildup of an “industrial complex” named after it. For 10 points, name this system that centers around the containment and supposed rehabilitation of criminals.

ANSWER: United States prison system [or U.S. correctional system; accept logical equivalents of “prison” such as jail; accept prison-industrial complex; accept private prisons or private prison system; prompt on criminal justice system or justice system]

<Kapadia, Other Social Science> [Ed. Ashbrook]

17. A miniscule light shines out from a boat window during an aurora borealis in a painting by this artist that was inspired by the Arctic travels of his student Isaac Hayes. For 10 points each:

[M] Name this American artist and member of the Hudson River School. His many tropical landscapes include *El Rio de Luz* and *The Heart of the Andes*.

ANSWER: Frederic Edwin Church

[H] One of these objects sits on an outcropping above mountains in Church’s painting titled for it “in the Wilderness.” One of these man-made objects appears near two tiny figures in *The Heart of the Andes*.

ANSWER: crosses [accept Cross in the Wilderness]

[E] The background of *The Heart of the Andes* includes a dormant one of these features, Chimborazo. Another Church painting, *Cotopaxi*, shows an active one of these features at sunset.

ANSWER: volcanoes [prompt on mountains]

<Ashbrook, Painting & Sculpture> [Edited]

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**18. This technology generates pseudo-random codes like the C/A code, which modulates the L1 carrier, and the more precise P(Y) code. The assisted type of this technology uses an internet connection to decrease the time-to-first-fix. Both general and special relativity must be taken into account to adjust the small time offsets measured by (\*)** atomic clocks to calculate distance in this technology. This technology is a type of GNSS much like GLONASS and Galileo. In this technology, a “user segment” communicates with a NAVSTAR network, which uses trilateration between three of this technology’s 24 satellites. For 10 points, name this technology that uses a network of satellites to determine the location of a receiver.

ANSWER: GPS [or Global Positioning System; accept GNSS before mention; accept GLONASS, Galileo, BeiDou, or other specific satellite navigation systems before “P(Y)”]; accept satellite navigation systems until “P(Y)” and prompt afterwards]

<Karthik, Engineering> [Ed. Bowman]

18. Palm Jumeirah (“ju-MAY-rah”) and the World Islands are artificial archipelagos located in this city. For 10 points each:

[E] Name this most populous city in the United Arab Emirates. The world’s tallest building, the Burj Khalifa, is located in this city.

ANSWER: **Dubai**

[M] This city built its international airport on an artificial island after the closure of its Kai Tak Airport. The Jumbo Floating Restaurant can be found in this city’s Aberdeen Harbor.

ANSWER: **Hong Kong** [accept **Xiang Gang**]

[H] India’s largest artificial island is Willingdon Island, part of this state’s city of Kochi. Many houseboats can be found in the backwaters of this state, which markets itself to tourists as “God’s Own Country.”

ANSWER: **Kerala**

<Sareddy/Prabhakar, Geography> [Ed. Prabhakar]

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**19. One faction that emerged during this century wore sea-green ribbons and bunches of rosemary in support of their cause. Supporters of the manifestos *Case of the Armie* and *An Agreement of the People* triggered the Corkbush Field Mutiny during this century. A proposal for manhood suffrage at one event in this century was called “anarchy” by Henry (\*) Ireton. At the Putney debates during this century, the Levellers argued for the equality of free Englishmen, but the debates were suspended upon the escape from Hampton Court Palace of King Charles I. For 10 points, name this century, during which the New Model Army under Oliver Cromwell won the English Civil War.**

ANSWER: **17th** century [accept **1600s**]

<Karthik, British/European History> [Edited]

19. The protagonist of this novel becomes attracted to the “white and matchless nudity” of Guido Reni’s Saint Sebastian. For 10 points each:

[M] Name this novel whose protagonist, Kochan, attempts to date the sister of his crush Kusano to repress his homosexuality.

ANSWER: ***Confessions of a Mask*** [accept ***Kamen no Kokuhaku***]

[H] In *Confessions of a Mask*, Kochan becomes infatuated with this person at a young age after seeing this person in a picture book. This person wonders “O Lord, how long” until saints are accepted in a George Bernard Shaw tragedy.

ANSWER: **Joan of Arc** [or **Jeanne D’Arc**; accept **Saint Joan**]

[E] *Confessions of a Mask* is a novel by this Japanese author of *The Temple of the Golden Pavilion*, who committed suicide on national television.

ANSWER: Yukio **Mishima** [accept Kimitake **Hiraoka**]

<Kala, Long Fiction> [Ed. Leahy]

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**20. Police officers in this novel ignore mysterious reports of a rain of leeches. A character in this novel is informed that he should quit his job and instead find the missing half of his shadow. This novel’s title song explains how “the drowning girl’s fingers / search for the entrance stone.” In response to feminists complaining about the position of books by women authors, a (\*) librarian in this novel reveals he is transgender. A character in this novel who can talk to cats forms an unlikely friendship with a truck driver and is instructed to kill Johnnie Walker. The title character of this novel has an alter-ego named Crow and believes Miss Saeki is his mother. For 10 points, name this novel centering on the old man Nakata and the title 15-year-old runaway by Haruki Murakami.**

ANSWER: ***Kafka on the Shore*** [accept ***Umibe no Kafuka***]

<Nageswaran, Long Fiction> [Ed. Leahy]

20. This function is the partition function for the primon gas, a visualization that connects this function to quantum field theory. For 10 points each:

[M] Name this function. All of the non-trivial zeros of this function are hypothesized to have real part equal to  $\frac{1}{2}$ , though it hasn't been proven yet.

ANSWER: **Riemann zeta** function [prompt on zeta function]

[E] The trivial zeros of the Riemann zeta function are the negative set of these numbers. The function's analytic continuation contains " $t$  over 2" terms that are resolved because these numbers are defined as being divisible by 2.

ANSWER: **even** numbers

[H] The Riemann hypothesis can be generalized to a statement about the roots of  $L$ -series named for this mathematician, who used them in a proof of a theorem about the occurrence of primes in arithmetic sequences.

ANSWER: Peter Gustav Lejeune **Dirichlet**

<Karthik, Math> [Ed. Bowman]

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