

Second Set 2025-26

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Round 3

- 1) **In rhabdomyolysis, this substance smells like chicken because it enriches with muscle tissue. Issues in phenylalanine metabolism cause this substance to smell musty in patients with P·K·U. This substance smells sweet in (*) diabetics whose kidneys have deteriorated. A compound in asparagus disrupts the ammoniac odor of this substance which, like ammonia, is used to excrete nitrogen. For ten points, dehydration accentuates the odor and yellow color of what liquid?**

ANSWER: urine (accept pee or other colloquial terms; do not accept or prompt on “urea”)

Bonus 1) Name these artists whose work features balloons, for ten points each.

[10e] This pop artist's sculpture installations included *Silver Clouds*, a collection of metallic pillowy balloons, as well as "grocery carton" installations featuring Campbell's soup cans.

ANSWER: Andy Warhol (accept Andrew Warhola, Jr)

[10m] This graffiti artist has stenciled several versions of *Balloon Girl*, one of which was renamed *Love Is in the Bin* after shredding itself during an auction.

ANSWER: Banksy

[10h] This American artist has created several stainless steel sculptures emulating balloon animals, such as *Rabbit* and *Balloon Dog*. His other works include *Puppy*, a 43-foot tall sculpture made of flowers outside the Guggenheim Bilbao.

ANSWER: Jeff Koons (accept Jeffrey Lyn Koons)

- 2) **This empire's troops carried out the 1822 Chios massacre [KEE-yos "massacre"], later immortalized in art by Eugène Delacroix [oo-ZHEN del-la-krwah]. Minister of the Interior Talaat Pasha issued the May 1915 Tehcir Law [teh-jeer law], which expelled over one million people from this empire. The (*) Armenian Genocide was executed by this empire. For ten points, name this empire that, until it failed and dissolved after World War One, was led from Constantinople by members of the Young Turks.**

ANSWER: Ottoman Empire (accept Sublime Ottoman State; accept Devlet-i 'Alīye-i 'Osmānīye)

Bonus 2) This author wrote about genetic engineers living among their creations after an apocalyptic pandemic in her *MaddAddam* trilogy. For ten points each,

[10m] Name this Canadian author of *Oryx and Crake* and a novel about Offred.

ANSWER: Margaret Atwood (accept Margaret Eleanor Atwood)

[10e] Offred is a woman without rights who is given to the Commander to produce children in this 1985 novel by Margaret Atwood.

ANSWER: The Handmaid's Tale

[10h] *The Handmaid's Tale* and its sequel, *The Testaments*, are set in this fictional republic. This place is a former part of the United States in which a fundamentalist Christian group has taken power.

ANSWER: Gilead (accept Republic of Gilead)

- 3) **In this play, a pair of women mending a costume dress gossip about the "consumption of the spine" that affects the dying Doctor Rank. This play's protagonist is blackmailed by (*) Nils Krogstad, who threatens to reveal her fraud to her husband, Torvald. For ten points, name this play that ends when Nora Helmer realizes she has been treated like a toy in her own home and walks out, slamming the door behind her, written by Henrik Ibsen.**

ANSWER: A Doll's House (accept Et dukkehjem)

Bonus 3) This theorem is typically presented in two parts. For ten points each,

[10e] Name this important theorem that essentially says that derivatives and integrals are inverse operations of each other.

ANSWER: **Fundamental Theorem of Calculus** (accept **F·T·C**)

[10m] The second part of the Fundamental Theorem of Calculus explains how to perform this type of computation that finds the area between a given function and the x-axis.

ANSWER: **definite integral** (prompt on "definite;" prompt on "integral")

[10h] The first part of the F·T·C notes that every continuous function has an anti-derivative, but it doesn't promise that it will be easy to compute! For example, the square root of the quantity "one minus x to the fourth" requires an integral described by this adjective. This term also describes a type of curve exploited by Andrew Wiles in his proof of Fermat's Last Theorem.

ANSWER: **elliptic** (accept **elliptic** integral; accept **elliptic** curve; do not accept or prompt on "ellipse" or "elliptical")

- 4) **The main hall of these buildings contains a minbar, and is often separated by an iwan from a courtyard where believers can perform wudu before worship. In these buildings, a (*) mihrab is a niche that shows the direction of the qibla to show worshippers the direction of Mecca. A muezzin can issue the call to prayer from a minaret on or near one of these buildings. For ten points, name these places of worship in Islam.**

ANSWER: **mosque** (accept **masjid** or **almasjid**)

Bonus 4) Radiation from one of these events, codenamed Starfish Prime, caused the first commercial communication satellite, Telstar One, to fail after just seven months of operation. For ten points each,

[10e] Name these experiments that were carried out by American military scientists between 1945 and 1992, often in the sky above or the water below Pacific atolls.

ANSWER: **nuclear test** (accept descriptions of **testing a nuclear** weapon; accept **testing** of any kind of **nuclear** weapon, such as **thermonuclear tests**, **atomic tests**, **hydrogen bomb tests**, etc.; prompt on partial answers like "weapon tests" or "nuclear")

[10m] This first nuclear weapons test took place on July 16, 1945 in the New Mexico desert. It was observed by J. Robert Oppenheimer's crew from the Manhattan Project.

ANSWER: **Trinity** test

[10h] Days after the Starfish Prime atmospheric test, the last American ground-level nuclear test was carried out, using a weapon system named for this man. This nineteenth century Tennessee Congressman died at the Alamo.

ANSWER: Davy **Crockett** (accept David **Crockett**)

Note: The weapon was called the Davy Crockett gun.

- 5) **This project won an Award for Best Score after its composer, Lorien Testard, was discovered on SoundCloud. Jennifer English plays Maelle in this video game, which begins with the main character volunteering to leave Lumière and kill (*) The Paintress. This R·P·G, alongside *Ghosts of Yotei* and *Death Stranding 2*, was nominated for all five major craft awards in 2025. For ten points, name this game by Sandfall Interactive that won the 2025 Game of the Year award.**

ANSWER: Clair Obscur: Expedition 33 (accept Clair Obscur: Expedition 33)

Bonus 5) The clathrate gun hypothesis suggests that undersea stores of this greenhouse gas could be released by warming seas, creating a drastic feedback loop. For ten points each,

[10m] Name this simplest alkane compound, consisting of four hydrogen atoms bound to one central carbon atom.

ANSWER: methane (do not accept or prompt on "CH₄")

[10e] In a methane clathrate, four molecules of methane are held in a lattice with twenty-three molecules of water, forming this type of solid with an ordered structure. Amorphous solids are contrasted with these solids.

ANSWER: crystals (accept crystalline solids)

[10h] The clathrate gun hypothesis has been studied and mostly discarded by this United Nations body with a five-word name. This group shared the 2007 Nobel Peace Prize with Al Gore for its work on climate change awareness.

ANSWER: I·P·C·C (accept Intergovernmental Panel on Climate Change)

- 6) **This author defended free speech in the essay *Areo·pagi·tica*, and said "they also serve who only stand and wait" in a poem. This poet wrote "When I consider how my light is spent" to reflect on the (*) blindness that made him dictate his work to his daughters. This poet wrote a long poem about the king of Pandemonium, who asserts that it is better to reign in Hell than serve in Heaven." For ten points, name this English poet of *Paradise Lost*.**

ANSWER: John Milton

Bonus 6) Give the following about the ancient Iceni people, for ten points each.

[10m] The Iceni were a tribe of these Iron Age people, who settled Britain and Ireland. These people included the Gauls of modern France and the Gaels of Ireland, and it later split into groups like the Scots and Welsh.

ANSWER: Celts (accept Celtic people)

[10h] In 60 C.E, this Iceni queen led a revolt that killed more than sixty thousand Roman soldiers after the will of her husband was ignored.

ANSWER: Boudica (accept Boadicea)

[10e] The Iceni were a major problem for Rome in 60 C.E, but just a century earlier, they were not even mentioned by this Roman general in his *Commentaries on the Gallic War*. This man was later stabbed on the Ides of March.

ANSWER: Julius Caesar (accept Gaius Julius Caesar; prompt on "Caesar")

- 7) **In this state, Dick Rowland tripped and frightened elevator operator Sarah Page, leading to rumors that he assaulted her and was lynched for it. In the ensuing violence in this state, pilots dropped flaming tarballs on a neighborhood known as "Black Wall Street," the (*) Greenwood District. A white mob looted and murdered hundreds of people in, for ten points, what Great Plains state during the 1921 firebombing of Tulsa?**

ANSWER: Oklahoma

Bonus 7) Give the following about the motion of a hockey puck on ice, for ten points each.

[10e] Ice has a low coefficient of this force, which allows for the puck to slide a long distance.

ANSWER: friction

[10h] A resting puck on flat ice exerts a force against the ice. At the same time, the ice applies this equal and opposite force against the puck.

ANSWER: normal force

[10m] The normal force always has this angular relationship with the resting puck. Orthogonal vectors and line segments that meet at ninety-degree angles also have this relationship.

ANSWER: perpendicular (accept word forms like perpendicularity)

- 8) **This instrument opens and closes the "Game of Pairs" from Bela Bartok's *Concerto for Orchestra*. This instrument plays a two-bar rhythm that begins with one eighth note and triplet sixteenth notes and repeats almost two hundred times in a piece named for a (*) Spanish dance. Maurice Ravel's *Boléro* begins with an ostinato for, for ten points, what basic drum whose staccato sound is caused by the namesake wires stretched across the bottom?**

ANSWER: snare drum (prompt on "drum;" prompt on "drum set" by asking the player, "What part of the drum set?")

Bonus 8) In this short story, Elizabeth leaves the title character when he refuses to remove his head covering. For ten points each,

[10h] Name this short story collected in *Twice-Told Tales*, in which Reverend Hooper shocks his parishioners when he begins wearing "two folds of crape."

ANSWER: The Minister's Black Veil

[10e] The Minister's Black Veil is by this author of *The Scarlet Letter*, who collected his short stories in *Twice-Told Tales* and *Mosses from an Old Manse*.

ANSWER: Nathaniel Hawthorne

[10m] Hawthorne's collection *Mosses from an Old Manse* includes this short story, in which the title Puritan believes he sees his wife, Faith, joining a Satanic coven.

ANSWER: Young Goodman Brown

- 9) **The BINGO radio telescope detects this type of energy by mapping baryon acoustic oscillations. A flat rotation curve requires matter described as baryonic or as this adjective, which is combined with (*) "cold" in the lambda-C·D·M model. MACHOs and WIMPs are candidates for this type of matter, which makes up eighty-five percent of the universe's mass but can't be observed. For ten points, what mysterious type of matter and energy is named because it doesn't interact with light?**

ANSWER: dark (accept dark matter or dark energy)

Bonus 9) Name these Egyptian deities involved in the path of the sun through the day, for ten points each.

[10e] This Egyptian god of the Sun carried it on a boat across the sky. He is depicted with the head of a falcon, and he was fused with Amun in the New Kingdom.

ANSWER: Ra (accept Amun-Ra)

[10m] This goddess swallows the Sun to travel through her body and be reborn after each night. This sky goddess is the sister and wife of Geb.

ANSWER: Nut

[10h] This serpentine "Lord of Chaos" threatens the Sun each night by attacking Ra on his solar barge.

ANSWER: Apophis (accept Apep)

- 10) **A tour of these facilities was the cover story for the trip that led to Alexis de Tocqueville's *Democracy in America*. Marxist Antonio Gramsci wrote dozens of notebooks while in one of these facilities. Jeremy (*) Bentham designed one of these facilities that could be run by a single central officer, called the Panopticon; that design typically does not involve doors on its cells. For ten points, name this type of punitive facility where criminals are held.**

ANSWER: prisons (accept jails; accept other equivalents like penitentiary; accept Prison Notebooks)

Bonus 10) Give the following about the Balearic Islands, for ten points each.

[10e] The Balearic Islands are an autonomous community of this country in the Mediterranean Sea. The largest island, Majorca, is due east of its city of Valencia and south of Barcelona.

ANSWER: Spain (accept España; accept Kingdom of Spain; accept Reino de España)

[10m] Majorca is due north from this African capital city on the Mediterranean coast. Tunis is also on the Mediterranean, but it's significantly east of Majorca and this city.

ANSWER: Algiers (do not accept or prompt on "Algeria")

[10h] After Majorca and Minorca [mah-YOHR-kah and mah-NOHR-kah], this island north of Formentera is the third largest of the Balearic Islands. This island's tourist economy is almost entirely based on dance music.

ANSWER: Ibiza (pronounced [ee-BEE-tha], but be lenient)

- 11) **In a Peter Paul Rubens painting of this scene, one man avoids looking at the central figure as he holds a loaf of bread. That painting illuminates the central figure's head, as does a Tintoretto painting of this scene set diagonally with darker tones. A (*) doorway was cut through a painting of this scene featuring a figure knocking over salt painted by Leonardo da Vinci. Judas is often depicted as stressed in, for ten points, what biblical scene of Jesus' final meal with his apostles?**

ANSWER: The **Last Supper** (accept Il **Cenacolo**, accept L' **Ultima Cena**)

Bonus 11) The name Onondaga is shared by one subgroup of these people, as well as the capital of an alliance that issued the Great Law of Peace. For ten points each,

[10m] Name this group of Native American tribes. Its namesake confederacy of five nations added a sixth, the Tuscarora, in 1722.

ANSWER: **Iroquois** (accept **Iroquois** Confederacy; accept **Iroquois** League; accept **Haudenosaunee** Confederacy)

[10e] The modern Onondaga Reservation is just south of the city of Syracuse in this modern-day state, where the Iroquois Confederacy was primarily based at the height of its power.

ANSWER: **New York**

[10h] Throughout the seventeenth century, the Iroquois consolidated power and defeated tribes like the Algonquins, Mohicans, and Hurons in a series of wars named for this animal.

ANSWER: **Beavers** (accept **Beaver** Wars)

- 12) **A character in this novel who resembles Henry Fonda is investigated by his Scotch terrier working for the F·B·I, and is promoted by "an I·B·M machine with a sense of humor." This novel's protagonist encounters the title (*) rule when he tries to get a medical discharge from Doc Daneeka while serving against his will under Major Major Major Major. For ten points, name this novel about the misadventures of World War Two soldier John Yossarian, written by Joseph Heller.**

ANSWER: **Catch-22**

Bonus 12) This man helped develop the first vaccines for anthrax, cholera, and rabies. For ten points each,

[10m] Name this French "father of bacteriology," who names a process of heating food to kill pathogens.

ANSWER: Louis **Pasteur** (accept **pasteurization**; accept word forms like **pasteurize**)

[10e] Pasteur first used pasteurization to prolong the shelf life of wine, though the process is more often associated with treating this dairy product.

ANSWER: **milk** (accept raw **milk**)

[10h] Pasteur's work with cholera pathology and food treatment helped him expand the adoption of germ theory, publicly denouncing this outdated theory that disease is transmitted through bad air.

ANSWER: **miasma** theory (accept **miasmatic** theory)

- 13) **This country sentenced Hervé Falciani [air-VAY fall-CHA-nee] to five years in prison for leaking the Lagarde list of tax evaders. This country, which granted women's suffrage in 1971, is home to the headquarters of the World Trade Organization and (*) World Health Organization, despite only joining the United Nations itself in 2002. Bern is the capital of, for ten points, what European country with a reputation for neutrality and secure banking?**

ANSWER: **Switzerland** (accept **Swiss** Confederation)

Bonus 13) Give the following about Swedish composer Ludwig Göransson, for ten points each.

[10e] This 2018 Marvel film, the first superhero movie to be nominated for the Best Picture Oscar, earned Göransson his first Oscar for Best Original Score. Chadwick Boseman played T'Challa in this film, two years before his passing.

ANSWER: **Black Panther**

[10m] Göransson has won two Oscars for Best Original Score: one for *Black Panther* and another for this 2023 Christopher Nolan bio-pic. This movie won Best Picture by beating out, among other films, *Barbie*.

ANSWER: **Oppenheimer**

[10h] Outside of film, Göransson has produced all five studio albums by this hip-hop artist, including "*Awaken, My Love!*" and *Bando Stone & the New World*. Göransson met this artist on the set of the TV show *Community*.

ANSWER: **Childish Gambino** (accept Donald **Glover**; accept Donald McKinley **Glover** Jr.)

- 14) **The mass intensity of these chemical species is a common measurement in green chemistry. Moving forward past a transition state creates these species. Chemicals with this role have positive stoichiometric coefficients, and their concentrations appear in the numerator of the law of (*) mass action.** The appearance of these chemicals is usually coupled to a disappearance of substrate. For ten points, name these chemicals that are made by a reaction.

ANSWER: **products** (accept additional adjectival descriptors like "the **products** of a reaction" or "the desired **product**")

Bonus 14) Candles have historically held a great deal of symbolic power in Christian churches. Answer the following about the Christian use of candles, for ten points each.

[10m] In many Christian churches, candles are lit during readings from this group of four books that begin the New Testament.

ANSWER: **gospels** (prompt on "Matthew, Mark, Luke, and John" in any order by asking, "What is the collective name for that group of books?")

[10e] A Paschal Candle is used throughout the year in some Christian churches, but is named for being used during this spring holiday that commemorates the resurrection of Jesus.

ANSWER: **Easter** (accept **Easter** Sunday; accept **Resurrection Sunday**; accept **Pascha**)

[10h] Closing a book, ringing a bell, and blowing out a candle were part of this ceremony, which was done "by anathema" to represent a symbolic death.

ANSWER: **excommunication** (accept word forms like "**excommunicate** someone")

- 15) **This state's Boca Chica Peninsula, south of South Padre Island, became partially incorporated by SpaceX as "Starbase" in 2025. This state's cities of Odessa and Midland are centers for Permian Basin (*) oil production.** The college towns of College Station and Waco lie within this state's triangle "megaregion" bounded by Fort Worth and San Antonio. The longest border with Mexico is controlled by, for ten points, what U-S state with capital Austin?

ANSWER: **Texas**

Bonus 15) Identify the following poetic forms, for ten points each.

[10e] Matsuo Basho was a master of this Japanese poetic form, which usually has three lines of five, seven, and five "on," or "syllables," each.

ANSWER: haiku

[10m] The ancient Roman poet Horace wrote a collection of these poems, whose classical form is made up of a strophe [STROH-fee], antistrophe [an-TIH-stroh-fee], and epode [AY-pohd]. In modern use, this term refers to a poem addressed to someone or something.

ANSWER: ode (accept Odes)

[10h] The twentieth-century Welsh poet Dylan Thomas may be most famous for one of these highly structured, nineteen-line poems, which begins, "Do not go gentle into that good night."

ANSWER: villanelle

- 16) **In two novels in this language, the Andalusian shepherd Santiago finds his home after going to Egypt to seek treasure and a doctor's wife is the only one in her city not struck with the title condition. This is the language of *The (*) Alchemist* and *Blindness*.** For ten points, name this language used by Paolo Coelho [POW-loh koh-WELL-oh] and José Saramago, authors from Brazil and a European nation with capital Lisbon.

ANSWER: Portuguese (accept língua portuguesa)

Bonus 16) A five-factor model of this concept is remembered via acronyms like CANOE or OCEAN. For ten points each,

[10m] Name this psychological concept whose "Big Five" traits include openness, agreeableness, and neuroticism. This term describes the behavior and emotional patterns of a person.

ANSWER: personality

[10h] The "C" in the Big Five stands for this trait, which encompasses how responsible or careful one is.

ANSWER: conscientiousness (accept word forms, like being conscientious; listen carefully, and do not accept or prompt on "conscience")

[10e] The "E" in the Big Five stands for extraversion, a measure of sociability that is contrasted with this quality. This term describes being reserved and preferring solitary behaviors.

ANSWER: introversion (accept word forms like introvert)

- 17) **Lagrangian mechanics are parameterized by generalizing coordinates and this quantity. The Navier-Stokes equations are derived by conservation of this vector quantity. Force is the time derivative of this quantity. A capital J symbolizes the (*) change in this quantity, impulse. Since collisions don't change the total amount of this quantity, an object slows down if it rams into something heavy. For ten points, name this quantity symbolized p equal to mass times velocity.**

ANSWER: momentum (accept linear momentum; prompt on "p" before it is read in the last sentence; do not accept or prompt on "angular momentum")

Bonus 17) This general tried to establish the Yan Dynasty, which did control the capital of Chang'an but lasted for a scant seven years. For ten points each,

[10h] Name this man whose namesake Chinese rebellion began in 755 C.E and is firmly within the ten deadliest wars of human history.

ANSWER: An Lushan

[10m] An Lushan rebelled against this Chinese dynasty, which was the dominant force in the region from 618 to 907 C.E. This dynasty, which followed the Sui [swee], oversaw a Chinese Golden Age of culture and poetry.

ANSWER: Tang Dynasty

[10e] The An Lushan Rebellion is believed to have officially resulted in ten to fifteen million deaths, but according to this type of government record, thirty-six million people were lost. This process calculates the population of a country.

ANSWER: census

- 18) **A number is called an eigenvalue ["eye"-ghen-"value"] of one of these objects if multiplying the vector by this object is the same as multiplying the vector by the eigenvalue. A quantity called (*) trace is found by summing the values along the main diagonal of these objects. The formula "A times D minus B times C" is commonly taught to compute the determinant of one of these objects with two rows and two columns. For ten points, name these rectangular arrays of numbers.**

ANSWER: matrix (accept matrices; accept square matrix)

Bonus 18) These works depict natural features like a thunderstorm and the crackling of freezing ice, according to the sonnets its composer wrote to accompany them. For ten points each,

[10e] Name this set of violin concertos that begins with "La primavera," or "Spring."

ANSWER: The **Four Seasons** (accept Le **quattro stagioni**; prompt on, but do not otherwise reveal, "The Contest Between Harmony and Invention")

[10m] *The Four Seasons* is a work by this Italian composer.

ANSWER: Antonio **Vivaldi**

[10h] *The Four Seasons* are actually part of this larger collection of twelve concertos, including two that were reworked for an oboe soloist. The title of this collection names two styles of composition, in which one writes according to rules or by following their creativity.

ANSWER: The **Contest Between Harmony and Invention** (accept Il **cimento dell'armonia e dell'invenzione**)

- 19) **This man, who wrote the "You Are Now My Enemy" letter, once remarked at the Constitutional Convention that George Washington's chair had "a rising and not a setting Sun" on its back. The *Pennsylvania (*) Gazette* was published by this man, who served as Minister to France and as the first Postmaster General. *Poor Richard's Almanac* was written by, for ten points, what American founding father, scientist, and honoree on the one hundred dollar bill?**

ANSWER: Ben **Franklin** (accept Benjamin **Franklin**)

Bonus 19) The largest spill of radioactive material in U-S history, the Church Rock spill, released almost one hundred million gallons of radioactive solution into the Puerco River, poisoning a Navajo reservation. For ten points each,

[10e] The radioactive solution had a value of one-point-two for this quantity, making it as acidic as stomach acid.

ANSWER: **pH**

[10m] The spill contaminated this type of underground water source, consisting of water-bearing rock. Wells are drilled into these layers of rock under the water table.

ANSWER: **aquifer**

[10h] In 1983, the Church Rock site was deemed a Priority Site under this program of the Environmental Protection Agency. This program's namesake sites are considered the most toxic and in need of federally funded cleaning in America.

ANSWER: **Superfund** (accept **Superfund** site)

- 20) **During this conflict, Protesilaus died shortly after a man leapt onto his own shield, in an attempt to avoid a prophecy that the first man in this conflict to step foot on land would die. Odysseus tricked Achilles into joining this conflict, in which Achilles mutilated (*) Hector's corpse and was killed by a prince's arrow guided by Apollo. That prince, Paris, sparked this war by eloping with Helen. For ten points, name this mythical war described in Homer's *Iliad*, which ended with an ambush from inside a wooden horse.**

ANSWER: Trojan War

Bonus 20) This author's unfinished novel *Sanditon* and her early epistolary novel *Lady Susan* were published after her death. For ten points each,

[10m] Name this English author of "manners novels" like *Sense and Sensibility* and *Emma*.

ANSWER: Jane Austen

[10e] In this Jane Austen novel, Fitzwilliam Darcy and Elizabeth Bennett overcome the title alliterative emotions to fall in love.

ANSWER: Pride and Prejudice

[10h] This Jane Austen novel follows Fanny Price as she is sent to live with her uncle, Sir Thomas Bertram, in the title home.

ANSWER: Mansfield Park