

2022-23 Solon-Adjacent Novice Set (SANDS)

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Packet 1

1. **This instrument's highest register is named after a Baroque instrument known as the chalumeau. Wolfgang Amadeus Mozart wrote a concerto for this instrument for Anton Stadler. The bandleader who popularized the song "Sing, Sing, Sing", (*) Benny Goodman, played this instrument. Unlike the oboe, this instrument is pitched in B-flat. For 10 points, name this single-reed woodwind instrument with a black body and a flared bell.**
ANSWER: **clarinet** <Auditory Fine Arts–Maiorana>

The vast majority of volcanoes that erupt this substance can be found in the Gobustan State Reserve in Azerbaijan. For 10 points each:

[E] Name this substance that floods areas in namesake "slides" as lahars after volcanic events. This substance that typically forms after rainfall is a mixture of soil and water.

ANSWER: **mud**

[H] The mud volcanoes at Gobustan State Reserve can be found near Azerbaijan's coastline on this body of water. The Volga River has its mouth in this inland sea, which is technically the world's largest lake.

ANSWER: **Caspian** Sea

[M] The town of Armero, which was affected by the world's deadliest ever lahars in 1985, is located near the city of Bogota in this South American country.

ANSWER: **Colombia** <Geography–Sareddy>

2. **This novel begins with Father Mapple delivering a sermon at New Bedford. In this novel, a gold doubloon is nailed to a ship's mast by the peg-legged captain of the *Pequod*. The line (*) "Call me Ishmael" opens this novel which includes characters like the tattooed cannibal Queequeg and the monomaniacal Captain Ahab. For 10 points, name this Herman Melville novel about the chase for the title white whale.**

ANSWER: ***Moby-Dick*** <American Literature–Ganguli>

This quantity is symbolized "E sub a" and is measured in joules per mole. For 10 points each:

[M] Name this quantity, the minimum amount of energy required for a reaction to occur.

ANSWER: **activation** energy

[E] This related quantity has a namesake constant symbolized k. It is the speed at which a chemical reaction occurs.

ANSWER: **rate** [accept **rate constant**]

[H] The rate constant is related to the activation energy in this equation named for a Swedish chemist. This equation also contains a pre-exponential factor.

ANSWER: **Arrhenius** equation <Chemistry–Chae>

3. **This empire's last effective ruler unsuccessfully offered his captors a room full of gold in exchange for his freedom. *Chasqui* runners carried knotted string messages called *quipu* along this empire's extensive network of roads. This empire's ruler Atahualpa was killed during this empire's conquest by (*) Francisco Pizarro. Cities like Cusco and Machu Picchu were a part of, for 10 points, what South American empire centered on Peru?**
ANSWER: **Incan** Empire [accept **Tawantinsuyu**] <World History–Kapadia>

The protagonist of this novel is caught stealing silverware from Bishop Myriel. For 10 points each:

[M] Name this novel by Victor Hugo about the ex-convict Jean Valjean.

ANSWER: Les *Miserables*

[H] This police inspector pursues Valjean throughout *Les Miserables*. This character drowns himself after Valjean decides to spare his life.

ANSWER: Inspector Javert

[E] Jean Valjean is initially imprisoned for stealing a loaf of this food. Sourdough and whole wheat are some types of this food.

ANSWER: bread <European Literature–Ganguli>

4. Some forms of this technology use a combination of nodes and feedback algorithms known as a neural network. Processes for developing this concept include “deep learning” and “machine learning”. A model that employs this technology to produce text is known as (*) GPT-4. Tesla is attempting to use this technology to develop self-driving cars, and it is exemplified by IBM’s Watson. For 10 points, name this technology that attempts to imitate human thinking.

ANSWER: artificial intelligence [accept AI] <Other Science–Maiorana>

The “Dancing Girl” statue was found at this civilization’s site of Mohenjo-daro. For 10 points each:

[H] Name this Bronze Age civilization, alternatively called the Harappan Civilization, which was centered on a river in modern-day Pakistan.

ANSWER: Indus River Valley Civilization [accept Harappan Civilization before mentioned]

[M] Mohenjo-daro was home to a “Great” one of these public locations, which was used for religious purification ceremonies and cleansing.

ANSWER: bath [accept Great Bath]

[E] Seals from Mohenjo-daro indicate that these birds may have been first domesticated there. Male examples of these birds called roosters are used in cockfighting.

ANSWER: chicken <Ancient/Other History–Kapadia>

5. This country’s president, formerly a comedian, formed the Servant of the People party. False allegations alleged that Joe and Hunter Biden engaged in corrupt activities through Burisma, an energy company in this country. In early 2022, a (*) “special military operation” in this country was announced by Vladimir Putin. For 10 points, name this country led by Volodymyr Zelenskyy that was recently invaded by Russia.

ANSWER: Ukraine <Current Events–Rao>

This god’s lover breaks a promise saying she will never look upon him and injures him with hot oil. For 10 points each:

[M] Name this lover of Psyche, the Roman counterpart of Eros.

ANSWER: Cupid

[E] Cupid is often depicted with wings and a bow to shoot these weapons. Cupid uses a gold-tipped variety of these weapons to make people fall in love.

ANSWER: arrows

[H] After Psyche enters a coma, Cupid begs Jupiter to grant Psyche immortality, resulting in her being given this food of the gods. It’s not nectar, but those who consume this food typically bleed ichor instead of blood.

ANSWER: ambrosia <Mythology–Ganguli>

6. **Radicals are created through homolytic cleavage of these interactions. The angle between these interactions is reduced when lone pairs are added to a molecule. When this type of interaction occurs between cysteines, it is termed (*) disulfide.** These bonds, which are depicted on Lewis diagrams, are typically formed between two non metallic elements. For 10 points, name these chemical bonds which involve the sharing of electrons as opposed to ionic bonds.

ANSWER: **Covalent bonds** [prompt on bonds] <Chemistry–Sivaram>

Fiji's first Olympic medal was a gold at the sevens variant of this sport. For 10 points each:

[H] Name this sport that has “union” and “league” types. One national team of this sport, the All Blacks, are best known for performing a Māori ritual before games.

ANSWER: **rugby**

[E] The All Blacks are the national rugby team of this country home to the Māori people. Auckland is the largest city in this island country surrounded by the Pacific Ocean.

ANSWER: **New Zealand**

[M] The aforementioned ritual performed by the New Zealand All Blacks is the *haka* type of these performances. The *hula* type of these performances is common among Hawaiian natives.

ANSWER: **dance** <Geography–Sareddy>

7. **To garner international support for this cause, Count Cavour entered Piedmont-Sardinia into the Crimean War. The success of this cause resulted in the crowning of Victor-Emmanuel II as king. The Red Shirts advanced this cause under (*) Giuseppe Garibaldi by conquering the Kingdom of the Two Sicilies.** For 10 points, what 19th century cause sought to consolidate provinces like the Papal States and Venice into a single country?

ANSWER: **Italian Unification** [or *Risorgimento*] <European History–Kapadia>

An increase in this quantity is associated with economic growth in a country. For 10 points each:

[M] Name this quantity that is a measure of the total value of goods and services produced in a country. This value is typically used by economists as a rough measure of how a country's economy is performing.

ANSWER: **gross domestic product** [or **GDP**]

[E] Dividing GDP by this value for a country gives the GDP per capita, which is used to measure the standard of living of the country's citizens. This is the measure of the number of people in a country.

ANSWER: **population** size

[H] GDP can be calculated via the expenditures method by summing consumption, investment, net exports, and this value. The national debt increases when this value exceeds tax revenue. A description is acceptable.

ANSWER: **government spending** [or **government expenditures**; accept any description that indicates the amount that the government spends; prompt on just “spending” or “expenditures”] <Social Science–Sareddy>

8. **One of these places in Utah has multiple spires of rock called hoodoos. Climbers visit monoliths like Half Dome and El Capitan in another one of these places. A tri-state one of these places is home to multiple geysers including Old Faithful. Some of these places in California include (*) Joshua Tree and Yosemite.** For 10 points, name these protected areas in the United States, the oldest one of which is Yellowstone.

ANSWER: American **national parks** [accept Arches **National Park** or Yosemite **National Park** or Joshua Tree **National Park** or Yellowstone **National Park** until mentioned; prompt on park alone; prompt on Arches or Yosemite or Joshua Tree or Yellowstone alone before mentioned with “What designation is given to this place?”] <Geography–Sareddy>

A “respiratory blanket” composed of this substance helps humidify inhaled air. For 10 points each:

[M] Name this substance secreted by goblet cells which traps dust and bacteria before they enter the lungs and which is routinely cleared from the body by cilia.

ANSWER: **mucus**

[H] This disease, caused by a delta F508 mutation on the CFTR protein, results in an overproduction of mucus in the airways.

ANSWER: **cystic fibrosis** [accept **CF**]

[E] One place where mucociliary clearance occurs is in this sense organ which contains olfactory bulbs for smell.

ANSWER: **nose** <Biology–Kodali>

9. **This philosopher describes a slave doubling the area of a square in *Meno*. This philosopher, who claimed “I know that I know nothing,” is referred to as “the gadfly of the state” in one work. Crito attempts to convince this man to escape prison after he is tried for (*) “corrupting the youth of Athens” in the *Apology*. For 10 points, name this philosopher who was sentenced to death by drinking hemlock, a teacher of Plato.**

ANSWER: **Socrates** <Philosophy–Ganguli>

This leader initiated the Empty Chair Crisis after protesting the use of foreign levies in one policy initiative. For 10 points each:

[H] Name this former French president who names Paris’s international airport. During World War II, this man commanded the forces of Free France that fought against the Vichy government.

ANSWER: Charles **de Gaulle**

[M] During the Empty Chair Crisis, de Gaulle protested the CAP of this multinational organization that succeeded the European Coal and Steel Community. This organization was established by the 1992 Treaty of Maastricht.

ANSWER: **European Union**

[E] The CAP was a group of policy initiatives and laws surrounding this industry. Productivity in this industry increased after the introduction of new technology like GMOs and chemical fertilizers in the Green Revolution.

ANSWER: **agriculture** [or **farming**] <European History–Sareddy>

10. **For her role in this event, boarding house owner Mary Surratt became the first woman executed by the U.S. federal government. Dr. Samuel Mudd treated this event’s perpetrator for a broken leg he got while jumping on to the stage of (*) Ford’s Theatre during a performance of *Our American Cousin*. The words “Sic semper tyrannis” were shouted by the perpetrator of, for 10 points, what event that saw John Wilkes Booth kill the 16th President?**

ANSWER: **assassination** of Abraham **Lincoln** [accept **murder** or **death** or **killing** instead of **assassination**] <American History–Kapadia>

These processes involve particles or radiation deviating from their trajectory. For 10 points each:

[M] Name these types of processes that have types named after Compton and Rayleigh.

ANSWER: **Scattering**

[H] Compton scattering involves a photon interacting with a particle with this property. Coulomb's law describes the force between two particles with this property.

ANSWER: **Charged** [accept answers about **having charge**]

[E] Rayleigh scattering causes the sky to appear this color. Large bodies of water often appear to be this color.

ANSWER: **Blue** <Physics–Chae>

11. **An untitled steel statue by this artist is located in Chicago's Daley Plaza. A large black-and-white painting by this artist is titled for a town destroyed in a 1937 war. Fruit lays on a table in front of five women wearing African-inspired (*) masks in this artist's *Les Femmes d'Alger*. This artist painted scenes such as *The Old Guitarist* and *La Vie* during his Blue Period. For 10 points, name this Spanish painter of *Guernica*, a co-founder of Cubism.**

ANSWER: Pablo **Picasso** <Visual Fine Arts–Maiorana>

Inheritance named for this man can be visualized through Punnett Squares. For 10 points each:

[M] Name this Austrian monk who published his results on pea plant hybridization. He introduced the laws of Segregation, Dominance, and Independent Assortment.

ANSWER: Gregor **Mendel**

[E] Mendel coined this term to describe alleles that are often masked by their dominant counterparts. Two copies of these alleles are required to express their trait.

ANSWER: **Recessive** alleles

[H] This scientist's work related to the ideas of Mendelian inheritance showed that genes are carried on chromosomes. He studied *Drosophila melanogaster*, the fruit fly.

ANSWER: Thomas Hunt **Morgan** <Biology–Chae>

12. **Rhadamanthus and Aeacus serve as judges in this location, which includes the Fields of Asphodel and Elysium. The Phlegethon and Styx rivers flow through this location, where Sisyphus rolls a boulder up a hill for eternity. Eating (*) pomegranate seeds forces Demeter's daughter to live in this location for half the year. Cerberus guards the entrance to, for 10 points, what location, ruled over by Persephone and Hades?**

ANSWER: Greek **underworld** [accept **Hades** before mention; accept **Tartarus**; **Hell**] <Mythology–Ganguli>

This company's board chairman stepped down in 2018 when a recording of him saying a racial slur during sensitivity training was leaked. For 10 points each:

[M] Name this company founded by John Schnatter. This company's motto claims that "better ingredients" make its signature product better.

ANSWER: **Papa John's**

[E] Papa John's and its main competitor Domino's are best known for selling this food product.

ANSWER: **pizza**

[H] From 2010 to 2018, Papa John's was the official pizza of this organization. This organization recently partnered with Tide to promote cold water washing, which they claim works well on their uniforms.

ANSWER: **NFL** [**National Football League**] <Other Academic/Miscellaneous–Kapadia>

13. **This is the only player in Davidson College's history to have a jersey number retired. This player, who in 2022 broke a record held by Ray Allen, recently won his fourth NBA championship and first finals MVP after defeating the (*) Boston Celtics. This player is a member of the "Splash Brothers" with Klay Thompson. For 10 points, name this point guard for the Golden State Warriors.**

ANSWER: Wardell Stephen **Curry** <Popular Culture–Ganguli>

Both Leibniz and Newton name notations for performing this operation. For 10 points each:

[M] Name this operation that can find the slope of the tangent line at a point for a function. This operation can also be described as finding a function's instantaneous rate of change.

ANSWER: **differentiation** [accept **derivative**]

[E] The Fundamental Theorem of Calculus states that the inverse of differentiation is integration, which can find this quantity under a curve. For a square, this quantity can be found by multiplying two of its side lengths together.

ANSWER: **area**

[H] For a function to be differentiable at a point, that point must have this property. Functions with this property obey the Intermediate Value Theorem.

ANSWER: **continuous** <Other Science–Chae>

14. In this play, the hymn “Blessed Be the Tie That Binds” is repeatedly sung by a choir directed by the suicidal Simon Stimson. After dying during childbirth, one character relives her twelfth birthday in Grover's Corners in this play, which is narrated by the (*) Stage Manager. This play details the lives of George Gibb and Emily Webb. For 10 points, name this play written by Thornton Wilder.

Answer: **Our Town** <American Literature–Ganguli>

The tritone and the minor second are the most dissonant of these things. For 10 points each:

[M] Name this musical concept defined as the perceived distance between two notes, such as the major third between C and E.

ANSWER: **intervals**

[E] This interval is widely considered to be the least dissonant, and is named for its width of eight scale degrees. C up to the next C is an example of this interval.

ANSWER: **octave**

[H] Like chords, intervals can have this process applied to them. When chords undergo this process, the order their notes appear in changes. Changing a “C-E-G” chord to “E-G-C” is an example of this process.

ANSWER: **inversion** [accept **inverting**] <Auditory Fine Arts–Maiorana>

15. A system of these things is numbered from 1-100 and was created by an 1956 act passed by Dwight D. Eisenhower. DOTs regulate and maintain these things, which may meet in interchanges. Users of these things may pay (*) tolls to gain access to examples of them such as the Pennsylvania Turnpike. For 10 points, name these structures such as interstates, which are driven on by cars.

ANSWER: **roads** [accept **highways**, **freeways**, or **interstates** before mentioned]

<Other Academic/Miscellaneous–Maiorana>

Despite being recalled, Nicholas Trist continued to negotiate the Treaty of Guadalupe-Hidalgo, which ended this conflict. For 10 points each:

[E] Name this conflict fought from 1846 to 1848 between the U.S. and its southern neighbor.

ANSWER: **Mexican-American** War

[H] During the war, the U.S. was led by man, the first “dark horse” president. This president became associated with the slogan “Fifty-Four Forty or Fight” during the Oregon Boundary Dispute.

ANSWER: James **Polk**

[M] Polk used the war as an excuse to secretly encourage the “Bear Flag Revolt” that freed this west coast state from Mexican control.

ANSWER: **California** <American History–Kapadia>

16. **One character in this work is accused of losing a swimming contest to Breca. Unferth gives the protagonist of this work his sword, Hrunting, which he uses to defend Heorot, the banquet hall of King Hrothgar. A (*)** descendent of Cain and its mother are defeated by the protagonist of this epic. For 10 points, name this Old English epic poem in which the title Danish hero defeats Grendel.

ANSWER: **Beowulf** <British Literature–Ganguli>

Hypnosis is used to send the mind of this film’s protagonist to a dark void called the “Sunken Place.” For 10 points each:

[H] Name this film, whose protagonist, Chris, discovers that the Armitage family is transplanting the brains of old white people into the bodies of young black people.

ANSWER: **Get Out**

[M] *Get Out* was directed by this man, who directed *Us* shortly after. This man achieved initial fame through the sketch comedy duo he formed with Keegan-Michael Key.

ANSWER: Jordan **Peele**

[E] Both *Get Out* and *Us* are films in this general genre. Jump scares are frequently employed in this film genre, which is similar to the “suspense” and “thriller” genres.

ANSWER: **horror** <Popular Culture–Kapadia>

17. **The law-giver Lycurgus devised this city’s Great Rhetra constitution. Young males in this city were encouraged to steal food without getting caught as part of the agoge training system. At the Battle of (*)** Thermopylae, this city’s king Leonidas died in a last stand with 300 of his men. During the Peloponnesian War, Athens fought against, for 10 points, what militaristic Greek city state?

ANSWER: **Sparta** <Ancient/Other History–Kapadia>

One of this leader’s self-bestowed titles called him “Lord of All the Beasts of the Earth and Fishes of the Seas.” For 10 points each:

[H] Name this erratic and allegedly cannibalistic African dictator who overthrew Milton Obote to come to power in 1971.

ANSWER: Idi **Amin** Dada

[E] Amin faced the Entebbe Raid after he harbored members of the PFLP, who committed this type of crime by unlawfully seizing an airplane.

ANSWER: **hijacking** [prompt on kidnapping]

[M] Another of Amin’s self-bestowed titles called him the conqueror of this empire, whose former African colonies include Egypt and Sudan.

ANSWER: **British** Empire [accept **United Kingdom** or Great **Britain**] <World History–Kapadia>

18. **The falciform ligament attaches this organ to the wall of the abdomen. Macrophages in this organ that break down red blood cells are called Kupffer cells. The Cori cycle delivers lactic acid (*)** from the muscles to this organ. A potential complication of alcoholism is the scarring of this organ, a disease called cirrhosis. For 10 points, name these organs located under the adrenal glands, which produce urine.

ANSWER: **Liver** <Biology–Feldman>

This character is disappointed to find that Bentley Drummle has married his childhood love, Estella. For 10 points each:

[H] Name this character who is beaten by his sister, Mrs. Joe. This character visits the wedding gown-wearing Ms. Havisham at the Satis House.

ANSWER: **Philip “Pip” Pirrip** [accept any underlined part]

[M] Pip appears in this rags-to-riches novel, where Abel Magwitch acts as his benefactor.

ANSWER: ***Great Expectations***

[E] *Great Expectations* is by this author, who also wrote about Ebenezer Scrooge in *A Christmas Carol*.

ANSWER: Charles **Dickens** <British Literature–Ganguli>

19. During this man’s presidency, the Gulf of Tonkin Resolution increased U.S. involvement in one conflict. This president’s domestic welfare policies and so-called “War on Poverty” were collectively known as the Great Society. This president signed the (*) Civil Rights Act into law in 1964. For 10 points, what Texan succeeded John F. Kennedy as president?

ANSWER: **Lyndon Johnson** [or **LBJ**; prompt on **Johnson**] <American History–Rao>

A critic compared this painting to “wallpaper in its embryonic state”. For 10 points each:

[H] Name this Claude Monet painting of the port of Le Havre, set at dawn. This painting gives its name to the movement that Monet is most commonly associated with.

ANSWER: ***Impression, Sunrise***

[M] Monet painted multiple scenes of a “Japanese” one of these structures at his home in Giverny, as well one of these structures crossing the River Thames in London.

ANSWER: **bridges**

[E] One of these vehicles arrives at the Gare Saint-Lazare in another Monet painting. A J.M.W. Turner painting subtitled *The Great Western Railway* depicts one of these vehicles steaming across a bridge.

ANSWER: **trains** <Visual Fine Arts–Maiorana>

20. Surfaces known as asperities help to explain the presence of this force at microscopic levels. This force, which can be measured with a tribometer, has a namesake coefficient of this force is symbolized mu, and comes in kinetic and (*) static varieties. Substances that reduce the amount of this force acting on a surface are called lubricants. For 10 points, name this force that resists the motion of an object.

ANSWER: **friction** <Physics–Sivaram>

This man instructs a friend to “hang a lantern” in a poem that takes place “on the eighteenth of April, in Seventy-Five.” For 10 points each:

[M] Name this American revolutionary who delivers a “midnight message” in one poem.

ANSWER: Paul **Revere**

[H] That poem, “Paul Revere’s Ride” is by this poet, who also described a place “by the shores of Gitchee Gumee” in “The Song of Hiawatha.”

ANSWER: Henry Wadsworth **Longfellow**

[E] In “The Song of Hiawatha,” the title hero, Hiawatha, and his killer, Pearl-Feather, both belong to this cultural group. People belonging to this general cultural group have origins in the continental U.S and have tribes including the Ojibwe and Cherokee.

ANSWER: **Native Americans** [accept American **Indians** or **Indigenous** Americans]
<American Literature–Ganguli>