

2022-23 Solon-Adjacent Novice Set (SANDS)

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Packet 8

1. **This character settles a debate on how to crack eggs between the Little and Big Endians. The Houyhnhms, a race of intelligent horses, call this character a “Yahoo.” This sailor discovers the island of Laputa and another island inhabited by a race of people six inches tall called (*) Lilliput.** A satirical novel by Jonathan Swift focuses on, for 10 points, what character’s “travels” to fantasy lands.

ANSWER: Lemuel **Gulliver** [accept ***Gulliver’s Travels***] <British Literature–Ganguli>

In one of this man’s dialogues, he claimed that the classical elements were composed of his namesake solids. For 10 points each:

[H] Name this Greek philosopher who names a group of five convex, regular polyhedra including the tetrahedron and the cube.

ANSWER: **Plato**

[E] An Octahedron, one of the Platonic solids, has this many faces. An octagon has this many sides.

ANSWER: **eight**

[M] The faces of regular polyhedra have this property. The sides of regular polygons also have this property.

ANSWER: **congruence** [accept **similar** or **identical**] <Other Science–Chae>

2. **When light hits a convex lens on a glass plane, an effect known as this physicist’s namesake “rings” occurs. It’s not Euclid, but this man wrote about his experiments using a prism in *Opticks*. The constant big G was introduced in this man’s law of universal gravitation, (*) while another set of his laws states that every action has an equal and opposite reaction as well as that $F = ma$.** For 10 points, name this English physicist who names three laws of motion.

ANSWER: Isaac **Newton** <Physics–Sivaram>

Answer the following questions about U.S. government relations with Native Americans in the late 19th century. For 10 points each:

[E] The Dawes Severalty Act broke the system of these locations, which are held and governed by federally recognized Native American tribes.

ANSWER: **reservations**

[M] At this 1876 battle, George Custer’s 7th Cavalry Regiment was annihilated by the forces of Sitting Bull and Crazy Horse.

ANSWER: Battle of **Little Bighorn**

[H] Fearing the rise of the Ghost Dance movement, the U.S. army massacred nearly one hundred Lakota Indians in 1890 at this site in South Dakota.

ANSWER: **Wounded Knee** [or **Wounded Knee** Massacre] <American History–Kapadia>

3. **The vigilante group Los Pepes and the First Search Bloc sought to kill the leader of one of these groups named for the city of Medellin. One of these groups named for the Mexican state of Sinaloa was led by El Chapo. (*) Pablo Escobar led a Colombian one of these organizations.**The DEA primarily combats, for 10 points, what crime organizations that produce and distribute substances like heroin and cocaine?

ANSWER: drug **cartels** <World History–Kapadia>

The French name for this process translates to “to speak the truth.” For 10 points each:

[H] Name this process, whose subjects may be dismissed for cause or by peremptory challenges if they are believed to be impartial.

ANSWER: **jury selection** [or **voir dire**]

[M] In most criminal cases, trial juries must reach a verdict in this manner. Trial juries are called “hung” if they cannot reach a verdict in this manner.

ANSWER: **unanimous** [accept **everyone agrees**]

[E] The *voir dire* process is also used to select the “expert” type of these people, who provide testimony in trials. The “eye” type of these people provide testimony of firsthand accounts.

ANSWER: **witnesses** <Other Academic/Miscellaneous–Kapadia>

4. In one poem, this author states “how dreary to be somebody.” This poet of “I’m Nobody! Who are you?” describes a “bird that kept so many warm” in “Hope is the thing with feathers.” In another poem, this author recounts a (*) carriage ride with Immortality and Death. For 10 points, name this “Belle of Amherst,” a reclusive American poet who wrote “Because I could not stop for Death.”

ANSWER: Emily **Dickinson** <American Literature–Ganguli>

One of these places in Philadelphia is named for Reading Terminal. For 10 points each:

[E] Name these retail facilities such as Seattle’s Pike Place one, which sell products such as fresh produce and meats. As opposed to traditional grocery stores, goods at these facilities are sold by their producers.

ANSWER: public **markets** [accept **farmer’s markets**]

[H] The West Side Market is located in this city’s “Ohio City” neighborhood. This city’s Flats neighborhood is located on the Cuyahoga River.

ANSWER: **Cleveland**

[M] The Ferry Building Marketplace can be found along this city’s Embarcadero. Near the Ferry Building, passengers can take boat rides to Oakland across this city’s namesake bay.

ANSWER: **San Francisco** <Geography–Maiorana>

5. In this river’s basin, the Awá and Korubo are among nearly one hundred uncontacted tribes threatened by logging. Pink river dolphins and piranhas primarily inhabit this river. The Rio Negro joins this river at (*) Manaus, the capital of a northern Brazilian state named after this river. The world’s largest rainforest shares its name with, for 10 points, what river, the longest in South America?

ANSWER: **Amazon** River <Geography–Sareddy>

Dr. Pangloss claims that “all is for the best in the best of all possible worlds” in this novel. For 10 points each:

[H] Name this satirical novel, in which the title character travels to El Dorado with his valet Cacambo.

ANSWER: **Candide**

[M] *Candide* is by this French author. This Enlightenment thinker, who was imprisoned in the Bastille, is known for his advocacy of freedom of religion and use of satire.

ANSWER: **Voltaire**

[E] Candide tells Cacambo that this attitude “is the obstinacy of maintaining that everything is best when it is worst.” This viewpoint, often contrasted with pessimism, is a subtitle of *Candide*.

ANSWER: **optimism** <European Literature–Ganguli>

6. **These materials' substitutional type is created by switching one atom for a similar sized atom. When these materials involve mercury, they are called amalgams. Corrosion resistance in one of these materials is achieved by introducing chromium, which makes it “stainless. (*)** Examples of these materials that contain copper include bronze and brass. For 10 points, name these materials, which are composed of at least two different metals.

ANSWER: **alloys** <Chemistry–Sivaram>

Photo 51 was instrumental in discovering this structure of a certain molecule. For 10 points each:

[M] Name this shape, which was theorized by James Watson and Francis Crick for a macromolecule that contains nucleotides like adenine and guanine.

ANSWER: **double helix** structure of DNA [accept equivalents; prompt on **helix**]

[H] Watson and Crick utilized Photo 51, which was taken by this female scientist to support the idea of the double helix model.

ANSWER: Rosalind **Franklin**

[E] Franklin used diffraction of this portion of the electromagnetic spectrum to image the double helix of DNA. This portion of the spectrum is used to image bones by radiologists.

ANSWER: **X-rays** <Biology–Kodali>

7. **During this period, daybreak begins when the human eye can distinguish a white thread from a black thread. Laylat al-Qadr occurs during this period, during which people eat *suhoor* before sunrise and *iftar* at sunset. The pillar of (*) *sawm* is practiced during this month, which concludes with a large feast on the first day of Shawwal called Eid al-Fitr.** For 10 points, name this ninth month of the Islamic calendar, which involves daily fasting.

ANSWER: **Ramadan** <Religion–Ganguli>

This empire, whose traditions were recorded in the Florentine Codex, was conquered by Hernan Cortes. For 10 points each:

[E] Name this Mesoamerican empire that was based in central Mexico. This empire's last king was Montezuma II.

ANSWER: **Aztec** Empire

[H] This was the capital of the Aztec Empire. This ancient city, where an eagle legendarily landed on a cactus, is the present-day site of Mexico City.

ANSWER: **Tenochtitlan**

[M] Prisoners from “Flower Wars” were often used in this practice to appease the Aztec gods. This practice involved priests using a knife to remove the heart of victims.

ANSWER: **human sacrifice** [prompt on **sacrifice** or **ritual sacrifice**] <Ancient/Other History–Sareddy>

8. **This ballet's score contains a Russian Trepak and an Arabian Dance. The toymaker Drosselmeyer and the evil Mouse King appear in this ballet. The title object of this ballet is gifted to Clara and later broken by Fritz. This ballet contains “The Waltz of the Flowers” and (*) “The Dance of the Sugar Plum Fairy”.** For 10 points, name this ballet with music by Tchaikovsky, that is often performed around Christmas.

ANSWER: The **Nutcracker** <Other Fine Arts–Maiorana>

One character in this play prohibits his son, Cory, from accepting a football scholarship. For 10 points each:

[H] Name this play by August Wilson about the black garbage truck driver Troy Maxson. Denzel Washington plays Troy in a film adaptation of this play.

ANSWER: ***Fences***

[E] *Fences* is part of the “Pittsburgh Cycle,” which includes a play titled for “[this instrument’s] Lesson.” This keyboard instrument often has black and white keys.

ANSWER: **piano** [accept *The Piano Lesson*]

[M] In *Fences*, Troy Maxson is a former player of this sport. This sport is the subject of *The Natural* and “Casey at the Bat.”

ANSWER: **baseball** <American Literature–Ganguli>

9. After the disastrous Gallipoli campaign, this politician was forced to resign as First Lord of the Admiralty. This politician, who coined the term “iron curtain,” proclaimed that “we shall fight on the beaches” after an evacuation at (*) Dunkirk. This politician achieved his highest post after the resignation of Neville Chamberlain in 1940. For 10 points, name this Prime Minister of Great Britain during World War II.

ANSWER: Winston **Churchill** <European History–Rao>

One experiment at this university that tested delayed gratification was known as its namesake “marshmallow experiment”. For 10 points each:

[H] Name this private university home to psychologists Albert Bandura and Philip Zimbardo, the latter of whom conducted an experiment that ended early due to abuse among the subjects.

ANSWER: **Stanford** University

[E] Zimbardo is best known for an experiment simulating one of these institutions in a basement at Stanford. Subjects of that experiment were either assigned as guards or incarcerated criminals.

ANSWER: **prisons**

[M] Bandura ran an experiment where children beat up the “Bobo” type of these objects. The Clark couple devised that children preferred to play with a white-colored type of these humanoid toys rather than a black-colored one.

ANSWER: **dolls** <Social Science–Sareddy>

10. The citizenship of one participant in this event has come into question after she represented her mother’s birth country. That person, Eileen Gu, won events in the big air and (*) halfpipe type of one activity. This is the most recent iteration of a quadrennial event that includes competitions in figure skating and snowboarding. For 10 points, name this 2022 international sporting event held in the capital of China.

ANSWER: 2022 **Beijing Olympics** [accept **2022 Winter Olympics** before “2022” mention and prompt after mention; prompt on just “Winter Olympics”] <Pop Culture–Sareddy>

This ensemble is one of the most common in chamber music. For 10 points each:

[E] Name this ensemble consisting of four musicians: two violins, a viola, and a cello.

ANSWER: string **quartet**

[M] This composer, who wrote 106 symphonies, is considered “the father of the string quartet”. This composer’s “London” symphonies include the “Farewell” and “Surprise” symphonies.

ANSWER: Franz Joseph **Haydn**

[H] This royally-named string quartet by Haydn, the third in his Opus 76, was adapted into the German national anthem.

ANSWER: “**Emperor**” Quartet, Opus 76 No. 3 <Auditory Fine Arts–Maiorana>

11. **This ruler's horse Bucephalus died shortly after this ruler won the Battle of Hydaspes in India. Following his death, this ruler's lands were fought over by the Diadochi. At the Battle of Gaugamela, this ruler's defeat of (*) Darius III completed his conquest of the Persian Empire. An Egyptian city home to ancient wonders like a lighthouse and library was named for, for 10 points, what "Great" Macedonian conqueror?**

ANSWER: **Alexander** the **Great** [or **Alexander III**; prompt on **Alexander**] <Ancient/Other History–Kapadia>

This character asks "do I dare to eat a peach?" in one poem. For 10 points each:

[H] Name this subject of a "love song" in which "women come and go, talking of Michelangelo."

ANSWER: J. Alfred **Prufrock**

[M] "The Love Song of J. Alfred Prufrock" is by this poet, who also wrote "The Wasteland."

ANSWER: Thomas Stearns **Eliot**

[E] Prufrock claims to hear these figures singing "each to each" but laments that they will not sing to him. These mythological figures have the torso of a woman and the tail of a fish.

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

12. **The solution to the Basel problem is this constant squared over 6. Two times this constant is called tau. This constant is the period of tan, and this number of radians is equivalent to 180 degrees. This number is the ratio of a (*) circle's circumference to its diameter, and the area of a circle can be written as this constant times the radius squared. For 10 points, name this constant equal to around 22/7 or 3.14.**

ANSWER: **pi** <Other Science–Chae>

This soccer player claimed to have "peace of mind" after winning the 2021 Copa America against his former teammate, Neymar. For 10 points each:

[M] Name this soccer player, who left F.C. Barcelona and joined PSG in 2021. This forward recently won his seventh Ballon d'Or.

ANSWER: Lionel **Messi**

[E] Messi won the 2021 Copa America with this country's national team, which is known as the Albiceleste. Teams including Boca Juniors and River Plate have stadiums in this country's capital of Buenos Aires.

ANSWER: **Argentina**

[H] Messi is often compared to this soccer legend, who led Argentina to win the World Cup in 1986. This soccer player, who scored the infamous "Hand of God" goal, died of heart failure in 2020.

ANSWER: Diego **Maradona** <Popular Culture–Ganguli>

13. **This city's Baixa district is home to Pombaline architecture built after a major 1755 earthquake. This port city's longest bridge crosses the Tagus River and is named after explorer Vasco da Gama. This city is the (*) westernmost capital in mainland Europe. This is the capital of the smaller of two countries on the Iberian Peninsula. For 10 points, name this capital of Portugal.**

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

A powerful family that ruled this city included men like Lorezno the Magnificent. For 10 points each:

[M] Name this Italian city once ruled by the Medici family. This city is the most populous one in Tuscany.

ANSWER: **Florence** [or **Firenze**]

[E] In 1378, Florence was the site of the Ciompi Revolt, initiated by disgruntled producers of this textile good, which comes from sheep.

ANSWER: **wool**

[H] While de facto ruler of Florence, Girolama Savonarola ordered one of these specific events to purge the city of sinful items like books, paintings, and musical instruments.

ANSWER: **Bonfire of the Vanities** [prompt on **Bonfire**] <European History–Kapadia>

14. **The perpetrators of an attack in this city claimed the *benefit of the clergy* to reduce their punishments. That attack in this city, which allegedly started with onlookers throwing snowballs, resulted in the death of Crispus Attucks. Mohawk disguises were worn by Samuel Adams's (*) Sons of Liberty before they dumped hundreds of tea chests into the harbor of, for 10 points, what city, the capital of Massachusetts?**

ANSWER: **Boston** [accept **Boston** Massacre or **Boston** Tea Party] <American History–Kapadia>

A Medal of Freedom was given to New York nurse Sandra Lindsay for being the first American to get one of these things. For 10 points each:

[M] Name these things that can be given to anyone over the age of 6 months, according to the CDC. Companies like BioNTech make it possible to get these things at local clinics and pharmacies.

ANSWER: **COVID-19 Vaccines** [prompt on vaccine with “for what disease?”]

[E] In addition to getting the COVID vaccine, the CDC advises to wear these objects indoors in public or if at high risk for COVID. These objects, which include the N95, cover the mouth and reduce the chance of spreading COVID.

ANSWER: **masks**

[H] At the end of 2021, this new variant of COVID was first detected in Botswana, and its BA.5 variant has spread to become the most dominant strain in the U.S. This variant of COVID spreads more easily than all other variants, including Delta.

ANSWER: **Omicron** <Current Events–Ganguli>

15. **In a novel by this author that begins “happy families are all alike,” Kitty marries the farmer Konstantin Levin. Andrei Bolkonsky’s engagement to Natasha Rostova is broken off before marrying Pierre Bezukhov in another novel by this author. A character who has an affair with (*) Count Vronsky commits suicide by jumping in front of a train in this author’s *Anna Karenina*. For 10 points, name this Russian author of *War and Peace*.**

ANSWER: Leo **Tolstoy** <European Literature–Ganguli>

Explanations for the color of the sky in this painting include a volcanic eruption and nacreous clouds. For 10 points each:

[M] What painting by Edvard Munch features a ghastly figure under a red-orange sky with its hands on its face?

ANSWER: *The Scream*

[H] Two versions of *The Scream* were created in this medium, in which artists use sticks consisting of pigment and binder.

ANSWER: **pastel**

[E] Multiple versions of *The Scream* have been victims of this crime. An Italian museum worker committed this crime in 1931 by attempting to take the *Mona Lisa* back to Italy.

ANSWER: **theft** [accept **stealing** or **stolen**] <Visual Fine Arts–Maiorana>

16. **One painting in this building depicts souls in the process of being sent to either heaven or hell. In a painting in this building, God reaches out with one finger to give life to the first man. *The Last Judgment* and *The* (*) *Creation of Adam* are frescoes in this church. An artist hired to paint the inside of this church designed a scaffolding system to paint its ceiling. For 10 points, name this church in Vatican City with an interior painted by Michelangelo.**

ANSWER: The **Sistine** Chapel <Visual Fine Arts–Maiorana>

This figure accidentally pulled the Hawaiian islands from the ocean floor while fishing with his magic fish hook. For 10 points each:

[H] Name this Polynesian trickster demigod.

ANSWER: **Maui**

[E] Maui produced the first tree of this fruit by killing and burying an eel. A type of crab named for this fruit climbs palm trees to reach this fruit and drops it from a height to crack its hard exterior.

ANSWER: **coconut**

[M] In another story, because his mother never had enough time to finish making kapa clothes, Maui lassoed this object and bargained with it to not sink into the underworld as quickly each day.

ANSWER: **sun** <Mythology–Kapadia>

17. A serpent named for this phenomena is a creator god in Australian mythology. Heimdall guards a bridge made of this phenomenon that connects Asgard and Midgard called the Bifrost. Iris is a goddess of this phenomena in Greek myth. A (*) “pot of gold” guarded by a leprechaun is said to be found at the end of these phenomena in Irish legend. For 10 points, name these colorful phenomena that appear in the sky after it rains.

ANSWER: **rainbow** <Mythology–Ganguli>

The Miller-Urey experiment was able to produce these molecules. For 10 points each:

[M] Name these molecules, which can combine through peptide bonds to form proteins. An "essential" variety of these molecules are required by the human body, such as tryptophan.

ANSWER: **amino** acids

[E] The Miller-Urey experiment used electrical sparks to simulate this phenomenon occurring on prehistoric Earth. This natural phenomenon is often accompanied by thunder.

ANSWER: **lightning**

[H] The Miller-Urey experiment hoped to investigate this process. Spontaneous generation was an early candidate for this process, which could have occurred in a “primordial soup.”

ANSWER: **abiogenesis** [accept related answers such as the **origin of life**] <Chemistry–Chae>

18. An agreement known as an escrow is often involved in the purchase of these things. Those interested in buying one of these things may use websites such as Redfin or Zillow. Companies that assist buyers of these things include Rocket and (*) Quicken Loans. Buyers of these things will often consider square footage as well as the number of bedrooms and bathrooms. For 10 points, name these dwellings that one can finance payment for in a mortgage.

ANSWER: **house** [accept **real estate**, prompt on **property** or **land**] <Other Academic/Miscellaneous–Maiorana>

This disease is the subject of Peter Van Houten’s *The Imperial Affliction*. For 10 points each:

[E] Name this disease, which Augustus Waters and Hazel Grace Lancaster suffer from in one novel. This disease is often treated with radiation and chemotherapy.

ANSWER: **cancer**

[M] The cancer patients Augustus Waters and Hazel Grace Lancaster appear in this novel by John Green.

ANSWER: *The **Fault in Our Stars***

[H] In *The Fault in Our Stars*, Hazel and Augustus go to a house named for this author in Amsterdam. This author claimed that “in spite of everything” she believes “people are really good at heart” in a work written while hiding in the “secret annex.”

ANSWER: **Anne Frank** [accept either underlined portion; accept **Anne Frank House**] <Other Literature–Ganguli>

19. **Pierre Verhulst introduced a logistic function to model the growth of this quantity, which Thomas Malthus theorized a geometric increase for. The value of this quantity for an environment is limited by a constant symbolized K, the (*) carrying capacity.** Since the Black Death, this quantity for humans has consistently increased. For 10 points, name this quantity stating the number of organisms in a certain area.

ANSWER: **population** size [accept **number** of **humans** or **organisms** before mentioned] <Biology–Chae>

The Tigris River apocryphally ran black with ink when this city’s House of Wisdom was sacked in 1258. For 10 points each:

[E] Name this medieval center of Islamic learning, the modern-day capital of Iraq

ANSWER: **Baghdad**

[H] Baghdad was once the capital of this Islamic caliphate, which came to power following Abu Muslim’s revolution against the Umayyad Caliphate.

ANSWER: **Abbasid** Caliphate

[M] Mills for producing this substance emerged in Baghdad after the methods were divulged by Chinese prisoners. This substance was among China’s Four Great Inventions.

ANSWER: **paper** <World History–Kapadia>

20. **This character, who lives in a cave on Mount Crumpit, ties a horn onto his dog, Max. While stealing a tree, this character encounters a two-year-old looking for a glass of water named Cindy-Lou. This character, whose heart grows (*) “three sizes,” is surprised to see joyous singing in Whoville for the title holiday.** For 10 points, name this Dr. Seuss character, who attempts to steal Christmas.

ANSWER: the **Grinch** <Other Literature–Chae>

This state is the most common form of ordinary matter in the universe. For 10 points each:

[E] Name this “fourth” state of matter, which consists of ionized gas and charged particles.

ANSWER: **plasma**

[M] Mass ejections from this part of the Sun’s atmosphere release a significant amount of plasma. This is the outermost layer of the Sun’s atmosphere

ANSWER: solar **corona**

[H] These particles, along with quarks, form their namesake plasma, which filled much of the early universe. They are the gauge bosons for the strong force, which bind quarks together.

ANSWER: **gluons** <Physics–Chae>