2022 Reinstein Set – Packet 1

Tossups

1. This country's 1963 revolution is sometimes called the Ramadan Revolution and was followed by Ali Salih al-Sa'di's National Guard killing suspected dissidents. This country was established as a republic after the July 14 Revolution in 1958, which led to the deaths of Prime Minister Nuri al-Said [sah-EED] and King Faisal [FY-sahl] II. During the 1980s, this country fought a brutal war with Iran that ended in a stalemate and during which this country used chemical weapons against Iran and some of its own people. In 1990, this country annexed Kuwait, provoking a U.S. invasion. Name this country that was led by Saddam Hussein until the U.S. deposed Hussein in 2003.

Answer: (Republic of) **Iraq** [or Jumhuriyat al-**Iraq**]

2. The end of this short story refers to a "common wish of all hen-pecked husbands" and states that the title character tells this story to "every stranger that arrived at Mr. Doolittle's hotel". The end of this story also states that whenever there is a thunderstorm in the Catskills, people imagine it is Henry Hudson playing nine-pins. Earlier in this story, the title character is surprised to see a picture of George Washington where there used to be a picture of King George III. Name this story written by Washington Irving about a man who sleeps for 20 years.

Answer: "**Rip Van Winkle**"

3. The use of these devices is sometimes described by the adjective "isopycnic" ["ice-oh-picnic"], which originally referred to surfaces of constant density inside a fluid. One of these devices is used to find the packed cell volume of blood. The Zippe [ZIP-uh] type of these devices is sometimes regulated by international treaties because it is used to enrich uranium. The basket type of these devices is used to process cane sugar and is good at separating liquids from solids. These devices are named after a fictitious force. Name these devices that separate mixtures according to density by spinning quickly.

Answer: **centrifuge**s [**SENT-rih-fyooj**-ez]

4.   This crop is the main ingredient in the middle of the Italian food arancini [ah-rahn-CHEE-nee]. In Mexico but not in Europe, this crop is used to make a drink called horchata [or-CHAH-tah]. This crop is combined with a variety of different foods to make jambalaya [jum-buh-LY-ah]. The bran layer of this food is often removed, changing its color and making it a worse source of thiamine ["THIGH"-uh-min]. Though this crop is cultivated throughout the world, over 90% of it is grown in Asia. Name this brown or white crop that is grown in paddies.

Answer: **rice** [or ***O**ryza **sativa**]

5.   Much of this novel consists of diary and journal entries, though one chapter is two cuttings from "The Dailygraph" describing the wreck of the ship *Demeter* [dih-MEE-tur], in which the captain's body is tied to the wheel. A note at the end of this novel states that two characters had a son who was born on the anniversary of Quincey Morris's death. As Morris died, he noticed that the scar on Mina's [MEE-nuh'z] forehead had gone away. Earlier in this novel, Lucy Westenra died despite Abraham Van Helsing's attempts to protect her with garlic. Name this novel by Bram Stoker about a vampire.

Answer: ***Dracula***

6.   One of these devices uses a combination of laser cooling and fountain design to achieve accuracy. That device, which uses six lasers to cool molecules to a few millionths of a degree above absolute zero, is the N.I.S.T.-F1 in Boulder, Colorado. More traditional varieties of these objects use balance wheels and resonators such as quartz crystals. Though rubidium [roo-BID-ee-um] is cheaper, the most precise modern examples of these devices use cesium [SEE-zee-um]. These objects traditionally used pendulums. Name these devices, the analog types of which have a long hand that goes around every hour and a short hand that goes around every 12 hours.

Answer: **clock**s [accept atomic **clock**s or **timer**s or **chronograph**s or **chronometer**s or **timepiece**s or **timekeeper**s]

7. Shortly before dying in 1861, this politician stated "Every man must be for the United States or against it. There can be no neutrals in this war; only patriots and traitors." Earlier, this person stated "the people of a Territory can, by lawful means, exclude slavery from their limits prior to the formation of a State constitution", which became known as the Freeport Doctrine. This senator overturned part of the Missouri Compromise by writing and sponsoring the Kansas–Nebraska Act. This person finished fourth in electoral votes as the Northern Democrat in the election of 1860. Name this politician who, in 1858, took part in a series of debates against Abraham Lincoln.

Answer: Stephen A(rnold) **Douglas**

8. Near the beginning of this opera, two of the characters sing "E soffitto e pareti" [ay soh-FEET-toh ay pah-RAY-tee] while inspecting a new house. In Act 2 of this opera, the female lead sings "Un bel dì, vedremo [vay-DRAY-moh]" while imagining seeing smoke on the horizon. In this opera, a man enters a marriage under the assumption he will be able to get a divorce, and the man is surprised to learn much later that the marriage produced a son. That man is U.S. Navy Lieutenant Pinkerton. The wife, who uses a sword to kill herself near the end of this opera, is Cio-Cio-san [cho cho sahn]. Name this Giacomo Puccini [JAH-koh-moh poot-CHEE-nee] opera that is set in Japan.

Answer: *__Madame Butterfly__* [or *__Madama Butterfly__*]

9. These organs are the primary source of the angiotensin [an-jee-oh-TEN-sin]-converting enzyme. The collapse of these organs is called atelectasis [at-uh-LEK-tuh-siss] and can be caused by a lack of surfactants. These organs have oblique fissures on both sides but a horizontal fissure only on the right side, so there are three lobes on the right one of these organs and two on the left. These organs are in pleural ["plural"] sacs. These organs expand when the diaphragm contracts. The artery going to this organ carries deoxygenated [dee-"oxygen-ate-id"] blood. This organ has many tiny structures called alveoli [al-VEE-uh-"lie"] that take in oxygen. Name these organs of the respiratory system.

Answer: **lung**s

10. Arthur Pigou [pih-goo] wrote a book on his theory of this concept, which inspired John Maynard Keynes' ["canes"] to reply "We are, as I have said, one equation short." Okun's [OH-kun'z] law gives a linear relationship between the rate of this concept and a country's production. The concept of a non-accelerating inflation rate of this concept is now preferred by economists over the idea of it having a "natural" rate. The frictional form of this concept is often based on voluntary instability, while the structural form occurs when there is a mismatch between skills and labor market requirements. Name this concept in which people are looking for work but do not have a job.

Answer: **unemployment**

11. This person's name is used in the title of the posthumously collected papers written by Milman Parry, and this person is the subject of much of the second half of Albert Lord's *The Singer of Tales.* The hymns named for this person, beginning with "To Dionysus ["die"-oh-NY-siss]", praise a variety of gods. A work attributed to this writer begins with Chryses ["CRY-sees"] trying to get his daughter Chryseis ["cry-SEE-us"] back, and that work ends with the burial of Hector after King Priam ["PRY"-um] has retrieved his body. Another work attributed to this writer is about a hero's return to his wife, Penelope. Name this legendary ancient Greek writer credited with writing the *Iliad* and the *Odyssey.*

Answer: **Homer** [or **Homer**os]

12. The premier of the northern part of this country was Ahmadu Bello [uh-MAH-doo BELL-oh] from 1954 until his assassination in 1966. This country's first prime minister, Abubakar Tafawa Balewa [uh-BOO-bah-kar tuh-FAH-wuh bah-LAY-wuh], was also assassinated in 1966. Soon after that, Odumegwu Ojukwu [aw-doo-MAY-goo oh-JOOK-woo] declared that the southern part of this country was the Republic of Biafra [bee-AH-fruh]. More recently in this country, 276 girls were kidnapped in 2014 in Chibok [chee-BOHK] by the terrorist group Boko Haram. This country is the most populous country in Africa. Name this country that in 1991 moved its capital from Lagos [LAH-gohss] to Abuja [ah-BOO-jah].

Answer: (Federal Republic of) **Nigeria**

13. The number of intersections of these geometric things equals "*n* choose 4". The product of the lengths of these figures gives one side of the equation in Ptolemy's [TOL-uh-mee'z] theorem for cyclic quadrilaterals. The number of these figures is maximized in a convex shape, in which they number one-half *n* times the quantity *n* minus 3. One of these segments is the perpendicular bisector of the other one in a kite, and these segments bisect each other in a parallelogram. Name these entities that are not edges but connect vertices [VER-tuh-seez] of a polygon.

Answer: **diagonal**s

14. This god got nine servants to kill each other by throwing a whetstone in the air. He then changed himself into a snake to get to Gunnlod ["gun-LOAD"], whom he was able to seduce. This god then drank mead that was made from blood and changed himself into an eagle to escape. This god uses magic to preserve Mímir's [MEE-mir'z] head, which he consults because it can divine the future. This god made the world with the body of Ymir [EE-mir] along with his brothers, Vili and Vé. This god is often helped by the wolves Geri ["GEAR"-ee] and Freki [FREK-ee], the ravens Huginn [HYOO-gin] and Muninn [MYOO-nin], and the eight-legged horse Sleipnir [SLAYP-neer]. Name this husband of Frigg who oversees Valhalla.

Answer: **Odin** [or **Wotan**]

15. A novella by this writer begins "It is a sin to write this" and is mostly set in a tunnel under the earth. In that work, this author wrote about the World Council of Scholars, which rejects a rediscovery of electricity. Another novel by this author is about the use of an alloy that is both lighter and stronger than steel and that is developed by Hank Rearden. In that novel, this author has some characters wonder "Who Is John Galt?". Galt hacks a radio broadcast to give a speech that supports this writer's philosophy, objectivism. Name this author of *Anthem* and *Atlas Shrugged*.

Answer: Ayn **Rand** ["eye"n **rand**] [or Alisa (Zinovyevna) **Rosenbaum** or Alice **Rosenbaum** or Alice **O'Connor**]

16. This planet's Elysium Planitia [uh-LEE-zee-um pluh-NEE-shuh] is where the InSight lander touched down in 2018. The first craft to orbit this planet was *Mariner 9* in 1971, which arrived just before Soviet orbiters. The geography of this planet includes Tharsis Bulge, which is near both its equator and a large group of canyons called Valles Marineris [VALL-uss mair-uh-NEAR-is]. This planet is also the location of our Solar System's largest volcano, Olympus Mons. This planet's surface is covered with iron oxide, which explains its color. This planet's moons are Phobos and Deimos [DEE-mohss]. Name this red planet, the fourth planet from the Sun.

Answer: **Mars**

17. Narciso [nar-SEE-soh] López, who was born in Venezuela, recruited people from the United States for two failed attempts to take over what is now this country. Pierre Soulé [soo-lay] encouraged the production of a document, probably written by James Buchanan, that called for purchasing this country. That 1854 document is the Ostend Manifesto. The Spanish-American War was sparked when the U.S.S. *Maine* was blown up while it was in what is now this country. In 1961, President Kennedy was heavily criticized for a botched invasion of this country at the Bay of Pigs. Name this Caribbean country where the U.S. tried to overthrow Fidel Castro.

Answer: (Republic of) **Cuba** or (República de) **Cuba**

18. In high-power circuits, the "expulsion" type of this device is used and contains boric acid to prevent arcing. This device often has metal caps at the ends of a glass tube. In household applications, this device is sometimes replaced with a penny, which is very dangerous. This device contains a wire or soldered [SAH-durd] joint that melts when it is overheated. This device is similar to a circuit breaker but cannot be reused once it blows. Name this device designed to stop a circuit that has too much current.

Answer: **fuse**

19. This statue is surrounded by stone walls that form an 11-pointed star and that used to be part of Fort Wood. Part of this statue was redesigned by Gutzon Borglum so that it now contains hundreds of pieces of tinted yellow cathedral glass. Shortly before designing the Biltmore Estate and The Breakers for the Vanderbilts, Richard Morris Hunt designed the pedestal for this statue. The framework for this statue was built by Gustave Eiffel [goo-stahf "eye"-ful], and its design is by Frédéric Auguste Bartholdi [bar-tohl-dee]. This copper sculpture shows a woman holding a book and lifting up a torch. Name this sculpture that welcomes immigrants in New York Harbor.

Answer: The **Statue of Liberty** [or **Liberty Enlightening the World** or La **Liberté éclairant le monde**]

20. One of the first actions this person took as a leader was to name Martin Crawford, Andre Roman, and John Forsyth to a peace commission that was never received. This person was eventually captured near Irwinville and held for two years, but he was never put on trial and eventually went to Canada. Leading into the Hampton Roads Conference, this person feuded with the person next in line for his job, Alexander Stephens [STEE-venz]. This person had earlier been Franklin Pierce's secretary of War and a congressperson from Mississippi. Name this person who appointed Robert E. Lee as his top general when this person was President of the Confederate States.

Answer: Jefferson (Finis) **Davis**

21. If this formula is used to solve a monic [MAH-nik] problem, then the denominator equals 2. The golden ratio can be found by plugging the numbers 1, -1, and -1 into this formula. This formula can be verified by using the sum and product of its solutions, and it is often derived by completing the square. This formula has a discriminant that is negative when this formula gives complex solutions. Name this formula used to find either the x-intercepts of a parabola or the solutions to a second-degree polynomial equation.

Answer: **quadratic** formula

1. This thing "sits looking over harbor and city on silent haunches and then moves on".

A. Name this phenomenon that, in a poem named for it, "comes on little cat feet".

Answer: **fog**

B. This poet wrote "Fog", "Chicago", and "The People, Yes".

Answer: Carl (August) **Sandburg**

C. In this other Sandburg poem, the title object says, "I cover all" and "Let me work." This poem begins "Pile the bodies high at Austerlitz and Waterloo."

Answer: "**Grass**"

2. When Jesus said "I have come into the world to bear witness to the truth", this person replied by asking "What is truth?".

A. Name this governor of Judea [joo-DEE-uh] who presided over the trial of Jesus and ordered the crucifixion.

Answer: (Marcus) **Pontius Pilate** [accept either underlined name; accept **Pilatus**]

B. This two-word Latin phrase attributed to Pontius Pilate means "behold the man".

Answer: **ecce homo** [EK-ay HOH-moh]

C. After the crucifixion, Pontius Pilate allowed this man to take the body of Jesus.

Answer: **Joseph of Arimathea** [air-ih-muh-THEE-uh] [prompt on **Joseph**]

3. This day is June 6, 1944.

A. Name the day of the Normandy landings during Operation Overlord in World War II.

Answer: **D**-Day

B. The Normandy coast was divided into five so-called beaches. Give the codename of the deadliest one, which was named for a U.S. city.

Answer: **Omaha** Beach

C. Shortly after D-Day, the Soviets launched this operation that resulted in hundreds of thousands of casualties and the Soviets retaking what is now Belarus [BELL-uh-rooss].

Answer: Operation **Bagration**

4. This quantity equals force per unit area.

A. Name this quantity that can be measured in pascals or atmospheres.

Answer: **pressure**

B. This ancient principle, which states that any completely or partially submerged object in a fluid at rest is acted upon by a buoyant [BOY-unt] force equal to its weight, is used to calculate water pressure.

Answer: **Archimedes**' [ark-ih-MEE-deez'] principle

C. This pressure used in Bernoulli's [bair-NOO-lee'z] law is the difference between total pressure and static pressure. This pressure is calculated as one-half times fluid mass density times the square of flow speed.

Answer: **dynamic** pressure

5. The protagonist of this novel is exiled after his gun goes off at a funeral, causing a death.

A. Name this novel about Okonkwo [oh-KAHNK-woh] that is set primarily in the village of Umuofia [oom-WOH-fee-uh].

Answer: ***Things Fall Apart***

B. *Things Fall Apart* was written by this Nigerian author who wrote about Okonkwo's grandson in *No Longer at Ease.*

Answer: (Albert) Chinua **Achebe** [CHIN-wah **uh-CHEB-ay**]

C. Many of the characters in *Things Fall Apart*, including Okonkwo, grow this food. Before each harvest, the village holds a feast to honor the goddess Ani [AH-nee] for this food.

Answer: (new) **yam**s [do not accept "sweet potato(es)"]

6. Equivalence relations have a reflexive property, a symmetric property, and this property.

A. Name this property stating that if x is related to y and y is related to z, then x is related to z.

Answer: **transitive** property or **transitivity**

B. This relationship between sets exists when all the elements of one set are contained in another set. This relationship is transitive but not symmetric.

Answer: **subset** relationship or **subset**s or "is a **subset** of" [accept answers that additionally include "proper"]

C. Find the number of subsets for a set that has four elements.

Answer: **16** subsets

7. Answer the following about rulings the Supreme Court made in 2021:

A. The court supported Shawne Alston over this organization, so student athletes can now receive non-cash compensation for academic-related purposes.

Answer: **NCAA** or **National Collegiate Athletic Association**

B. In a separate case, the court ruled that Google could use parts of Java application programming interfaces even though this company owns the copyright to Java.

Answer: **Oracle** (America, Inc.)

C. Give the common name for the Migrant Protection Protocols policy. The court forced the Biden Administration to try to follow the policy by rejecting a stay in *Biden v. Texas.*

Answer: **Remain-in-Mexico** policy

8. This region takes up over 80% of the Earth's volume.

A. Name this region between the core and the crust.

Answer: **mantle**

B. Many of the rocks in the mantle, including olivine [AH-luh-VEEN], garnet, and pyroxene ["pie-ROCK-seen"], contain this element and oxygen. This element is the second-most abundant in the crust after oxygen, and it is third after magnesium in the mantle.

Answer: **silicon** [accept **S**]

C. The inner mantle has these rocks with the same structure as calcium titanium oxide, though the ones in the inner mantle tend to be magnesium, iron, or calcium silicate [SIL-ih-kit].

Answer: (post-)**perovskite** [**puh-RAHVSS-"kite"**] [or **silicate perovskite**]

9. Chamber music is written for a small number of instruments that each play their own part.

A. This composer's chamber music includes at least 68 string quartets, making him the "Father of the String Quartet". He also wrote over 100 symphonies.

Answer: (Franz) Joseph **Haydn**

B. This composer put a wrinkle in chamber music line-ups when his *Trout Quintet* included a double bass instead of a second violin.

Answer: Franz (Peter) **Schubert**

C. In modern times, some composers have written chamber music for the same combination of instruments as this Arnold Schoenberg [SHURN-berg] song cycle: singer, flute, clarinet, violin, cello, and piano.

Answer: *(Dreimal sieben Gedichte aus Albert Girauds)* ***Pierrot Lunaire*** [prompt on ***Pierrot*** ensemble]

10. Identify these Chief Justices of the United States.

A. This person held the position as a recess appointment for a few months in 1795. The Senate eventually rejected his nomination after he strongly denounced Jay's Treaty, so he retired.

Answer: John **Rutledge**

B. This person served as Chief Justice from 1836 to 1864. He was heavily criticized for his *Dred Scott* decision.

Answer: Roger (Brooke) **Taney** [**TAW-nee**]

C. This person served as Chief Justice from 1921 to 1930. He was also the president in between Teddy Roosevelt and Woodrow Wilson.

Answer: William Howard **Taft**

11. The amount of this energy transferred equals temperature times the change in entropy.

A. Name this form of energy that flows from a warmer object to a colder object.

Answer: **heat** [or **thermal** energy]

B. For a given substance, this property equals heat change divided by temperature change per mass.

Answer: **specific heat** capacity or **heat capacity**

C. This law states that the molar specific heats of many metals are nearly the same.

Answer: Law of **Dulong** and **Petit** [**pay-tee**] or **Dulong-Petit** law [both names required without prompting; either order is acceptable]

12. In this play, Joseph Garcin [gar-san] says "Hell is other people."

A. Name this French play in which Garcin is in a room with Inèz Serrano and Estelle Rigault [ree-gawl].

Answer: ***No Exit*** [or ***Huis Clos**;* accept **In Camera** or **No Way Out** or **Dead End**]

B. *No Exit* was written by this existentialist who also wrote the novel *Nausea.*

Answer: Jean-Paul **Sartre** [zhahn "Paul" **sart**-ruh]

C. The room in *No Exit* has an ornament or statue that is made of this material and is too heavy to lift.

Answer: **bronze** [prompt on **metal**]

13. The left half of this picture shows a cypress tree, and the upper right corner shows a crescent moon.

A. Name this 1889 painting with a swirling sky.

Answer: *The **Starry Night*** [or De **Sterrennacht**]

B. This Dutch post-impressionist artist painted *The Starry Night.*

Answer: Vincent (Willem) **van Gogh**

C. *The Starry Night* is set in this small town in the south of France, where van Gogh spent time in an asylum.

Answer: **Saint-Rémy**-de-Provence [**sen reh-mee** deh praw-vanss]

14. Matrix columns sometimes represent these mathematical things.

A. Name these things that have magnitude and direction.

Answer: (coordinate) **vector**s

B. This operation finds a vector perpendicular to two vectors. The result has a magnitude equal to the product of the original vectors' magnitudes times the sine of the angle between the vectors.

Answer: **cross product** [accept **cross**ing; prompt on vector **product**]

C. Find the x-component of the cross product of the vector "1, 2, 3" and the vector "4, 0, 3".

Answer: **6**

15. Parasites are technically this type of creature, but this word more commonly refers to big carnivores like lions, tigers, and bears.

A. Give this term for an animal that kills and consumes prey.

Answer: (apex) **predator**s

B. Some species avoid predators by imitating another species. What term refers to that practice?

Answer: **mimic**ry [accept **mimic**king]

C. These differential equations are called predator-prey equations because they model population changes in predators and prey.

Answer: **Lotka-Volterra** equations

16. These two wars were fought from 1839 to 1842 and from 1856 to 1860.

A. Name these wars between China and the United Kingdom that were fought over China's attempt to reduce trade in the namesake drug.

Answer: **Opium** Wars

B. Name the queen of the United Kingdom during those wars.

Answer: Queen (Alexandrina) **Victoria** (Hanover)

C. The First Opium War ended with this treaty. This first unequal treaty gave the U. K. control of Hong Kong.

Answer: Treaty of **Nanking** or Treaty of **Nanjing**

17. The mineral halite [HA-"light"] consists of this compound.

A. Name this compound that makes salt water salty and is the main component of table salt.

Answer: **sodium chloride** or **NaCl**

B. This term is given to solutions of sodium chloride in water that are used as medicine, including eye drops.

Answer: **saline** solutions

C. This other compound is hydrated to form Epsom salt.

Answer: **magnesium sulfate** [or **MgSO$_4$**; do not accept "magnesium sulfite"]

18. This poem ends "And then my heart with pleasure fills, and dances with the daffodils."

A. Name this poem that is sometimes just called "Daffodils".

Answer: "**I Wandered Lonely as a Cloud**"

B. This poet wrote "I Wandered Lonely as a Cloud" and several poems about a girl named Lucy.

Answer: William **Wordsworth**

C. William Wordsworth also wrote this poem which, after starting with its title, states "Late and soon, getting and spending, we lay waste our powers."

Answer: "The **World Is Too Much With Us**"

19. Both a and b can be described by this term in the equation "x over a plus y over b equals 1".

A. Give this term for a point at which the graph of a function or relation intersects the x- or y-axis.

Answer: (x- and/or y-)**intercept**(s)

B. Find the y-intercept for the line "$2x$ plus $3y$ equals 24".

Answer: **8** or **(0, 8)**

C. Find the x-intercept for the function "y equals -2 plus the log base 3 of x".

Answer: **9** or **(9, 0)**

20. During a debate, these creatures are described as "the most filthy, noisome, and deformed animals which nature ever produced."

A. Name these fictional creatures that resemble humans and are ruled by a race of talking horses.

Answer: **Yahoo**s

B. The Yahoos appear in the fourth part of this novel. Its title character goes to Laputa [lah-POO-tuh] and Brobdingnag [BRAHB-ding-nag].

Answer: ***Gulliver's Travels*** (or ***Travels into Several Remote Nations of the World***. *In Four Parts. By Lemuel Gulliver, First a Surgeon, and then a Captain of Several Ships*)

C. This author wrote *Gulliver's Travels* and *A Modest Proposal.*

Answer: Jonathan **Swift**