2023 Reinstein Set – Packet 11

Tossups

1. This composer replaced the third movement minuet of his first symphony with a scherzo [SKAIRT-soh] that was part of the *String Octet in E-flat major* this composer wrote when he was 16. This composer's overture starting with two eighth notes, two 16th notes, and two quarter notes was inspired by Fingal's Cave. That overture, *The Hebrides [HEH-bruh-dees]*, was inspired by the same trip that inspired this composer's *Scottish* symphony. Another work by this composer is often combined with a piece from Richard Wagner's [REEK-hart VAHG-nur'z] *Lohengrin* [LOH-en-grin]. Name this composer whose "Wedding March" is taken from his incidental music for *A Midsummer Night's Dream*.
Answer: (Jakob) Felix **Mendelssohn** (Bartholdy)

2. One novel by this author both begins and ends with the protagonist talking to Deslauriers [deh-lor-ee-ay]. In that novel, this author's protagonist is fascinated by Marie Arnoux [ar-noh], whose husband Jacques has several affairs and financial and health problems. In another novel by this writer, Héloïse Dubuc [eh-loh-eez doo-book] dies, leading her husband Charles to find a new wife, and the pharmacist Homais [oh-may] undermines Charles's medical practice. The new couple have the daughter Berthe [bair-tuh], but this author then portrays the wife having affairs with Léon Dupuis [doo-pwee] and Rodolphe Boulanger [boo-lahn-zhay]. Name this French author of *Sentimental Education* and *Madame Bovary*.
Answer: Gustave **Flaubert** [**floh-bair**]

3. Kate Sheppard organized a petition effort in this country that led to the Electoral Act of 1893, which made this country the first to have universal suffrage. Indigenous people in this country refer to white people as "pakeha" [PAH-kuh-hah]. Many land disputes in this country can be traced back to an 1840 treaty drafted by William Hobson. That treaty, signed shortly after the end of this country's Musket Wars, is the Treaty of Waitangi ["why"-TANG-ee]. More recently, this country was noteworthy for its low number of COVID-19 cases before February 2022 under Prime Minister Jacinda Ardern [juh-SIN-duh ar-DURN]. Name this country whose native people are the Maori [may-OR-ee] and whose capital is Wellington.
Answer: **New Zealand** [accept **Aotearoa**]

4. This type of transformation is represented by a 2-by-2 matrix in which the first and last numbers are equal to each other, the other two numbers are opposites, and the top two numbers have squares that add to one. These transformations are used to remove xy terms from equations of conic sections. The cylindrical shell method is used to find volumes of objects generated by this type of transformation on a plane curve. Isometries ["eye"-SAH-muh-treez] allow for translations, reflections, and these transformations. Name these transformations that are typically done around a point or axis.
Answer: **rotation**s or **rotating** [accept **rotate**d; prompt on **revolution** or **revolving** or **revolve**d]

5. The two most common variants of this substance differ based on whether a molecule has five or six oxygen atoms and whether it has 72 or 70 hydrogen atoms. This substance sometimes masks the color of beta-carotene, but phycoerythrin [FY-koh-AIR-ith-rin] sometimes masks the color of this substance. When this substance is struck by a photon, it releases an electron to an electron transport chain that takes place in a thylakoid [THY-luh-koyd] membrane. This substance regains an electron from water, which allows the light-dependent reaction in photosynthesis to continue. Name this pigment that makes plants green.
Answer: **chlorophyll** [**KLOR-oh-fill**]

6. The most destructive pest to this crop is *Heterodera glycines* [heh-tuh-RAH-duh-ruh gly-SEE-niss], and the scientific name of this crop is *Glycine max*. In Indonesia, tempeh [TEM-peh] is made by fermenting this crop, and in Japan this crop is the main ingredient in miso [MEE-soh]. In many countries this crop is used to make edamame [eh-duh-MAH-may]. Though this crop originated in Asia, the two biggest producers now are the United States and Brazil, and the overwhelming majority of U.S. oilseed production comes from this crop. Name this crop that is commonly used to make meat substitutes like tofu.
Answer: **soy**beans [or **soya** beans]

7. Two brothers of John the Fearless died at this battle, which took place a few years before John was assassinated. Edward, 2nd Duke of York and Charles d'Albret [dal-bray] also died while leading troops at this battle. This battle is a major reason for the Treaty of Troyes [twah] signed five years later, in which Isabeau [ee-zah-boo] of Bavaria and Charles VI [6] disinherited their son Charles VII [7]. The victors at this battle had recently succeeded during the siege of Harfleur [har-floor], and they were led by King Henry V. Name this English victory that took place almost 70 years after the Battle of Crécy [kreh-see] during the Hundred Years' War.
Answer: Battle of **Agincourt** [**ah-zhin-koor**]

8. When a man in this play is asked whether his "tardy master" is "now at hand", he replies "Nay, he's at two hands with me, and that my two ears can witness." In this play, that question is asked by a woman who had been arguing with her sister Luciana about whether a woman should serve her husband. That woman, Adriana, eventually uses the conjurer Doctor Pinch. The man who answers her question is one of two slaves in this play named Dromio. Name this play by William Shakespeare that revolves around the confusion between the two slave masters, who are twin brothers each named Antipholus [an-TIFF-uh-luss].
Answer: *The* ***Comedy of Errors***

9. The graph named for this person uses the reciprocal of absolute temperature on the x-axis and the log of the rate constant on the y-axis. That graph is supposed to show a line according to the equation named for this person, which usually expresses the rate constant in terms of a function that has activation energy in the exponent. In 1896, this scientist published calculations showing that increases in carbon dioxide could warm the atmosphere. This person defined acids and bases based on whether they increase the concentration of hydrogen or hydroxide ions. Name this Swedish chemist who won the 1903 Nobel Prize for his electrolytic [eh-LEK-troh-LIT-ik] theory of dissociation.
Answer: Svante (August) **Arrhenius** [SVAHN-teh **uh-REE-nee-uss**]

10. This creature lived in a bottomless body of water called the Alcyonian [al-see-OH-nee-un] Lake. While this creature was alive, humans had to cover their mouth and nose with cloth when approaching that lake because of the fumes. The blood of this creature was used to kill Nessus, which is why the Shirt of Nessus was poisonous. This creature was killed with the help of Iolaus ["eye"-oh-LAY-uss], who used fire to cauterize this creature's necks. This creature was killed as the second labor of Hercules. Name this creature that grew two new heads every time that one of its heads was chopped off.
Answer: Lernaean **Hydra** [or **Hydra** of Lerna]

11. Several of these objects are shown in the upper half of Childe Hassam's ["child" HAS-um'z] *The Avenue in the Rain*, which hangs in the Oval Office. The handling of these objects is shown in the most famous photographs by both Yevgeny Khaldei and Joe Rosenthal, both of which were taken in 1945. In 1954, two years after being discharged by the U.S. Army, an American artist painted a series of these objects, including a white one and an image combining three of them. That painter was Jasper Johns. Name this object that is held high by a woman in the Eugène Delacroix [oo-zhen deh-lah-kwah] painting *Liberty Leading the People*.
Answer: **flag**s [accept United States **flag**s before "Delacroix"; accept **flag**poles before "three of them"]

12. Without making any references to a magical ring, this ancient writer described Gyges ["GUY"-jeez] killing Candaules [kahn-DAW-leez] at the urging of Candaules's wife. According to this person, people on one side of the conflict he described claim that the conflict began when Io ["EYE-oh"], the daughter of Inachus [ee-NAH-kuss], was taken to Egypt. After this person died, his work was divided into nine sections named for the Muses. This person described the battles of Plataea [pluh-TEE-uh], Thermopylae [thur-MAH-puh-lee], and Marathon, and he also described the Persian Empire. Name this scholar from Halicarnassus who was referred to by Cicero as "The Father of History".
Answer: **Herodotus** [**heh-RAH-dih-tuss**]

13. This cabinet-level department oversees the Fostering Access, Rights, and Equity grant program through the United States Women's Bureau. This department's bureau of statistics publishes the Consumer Price Index and unemployment rate. Several laws that protect whistleblowers are overseen by this department's Occupational Safety and Health Administration. This department is headquartered in the Frances Perkins Building. Name this department that has a Benefits Review Board and an Employee Benefits Security Administration, and which is responsible for overseeing regulations regarding jobs.
Answer: United States Department of **Labor** [accept **Labor** Department; prompt on **DoL**]

14. This person wrote "You built for them a temple in hearing" as the last line in the first poem in his collection of 55 sonnets. This person wrote the advice "Nobody can advise you and help you, nobody" in a letter to Franz Xaver Kappus that was published in a collection after this person died. This poet wrote "Every angel is terrifying" in a collection that was delayed by this writer's service in World War I. In that work, this poet asks "Who, if I cried out, would hear me among the Angelic Orders?". This poet wrote that poem in a castle near the Adriatic Sea. Name this writer of *Letters to a Young Poet*, *Sonnets to Orpheus*, and the *Duino Elegies*.
Answer: (René Karl Wilhelm Johann Josef) Rainer Maria **Rilke**

15. Richard Feynman ["FINE"-mun] stated that nobody has ever defined the difference between this effect and diffraction satisfactorily. The colorful patterns that form on soap bubbles are caused by the thin-film type of this effect. This effect is a direct result of the superposition principle. The fringes in Young's double-slit experiment are named for this phenomenon. This phenomenon can be constructive or destructive, both of which can be seen in a common experiment in which there are two point sources in a wave pool. Name this effect in which waves combine.
Answer: (wave) **interference** [accept waves **interfering**]

16. One of these speeches proposed a Second Bill of Rights to guarantee employment and housing. Another of these speeches was about party primaries and criticized people who repeatedly demanded a "restoration of confidence". The last of these speeches addressed the opening of the Fifth War Loan Drive, and it consisted of an urge to buy war bonds. There were thirty of these speeches spread out over 11 years, though there is a common mistaken perception that these speeches happened weekly. These speeches often began "My friends" or "My fellow Americans", and they were spoken directly to the American people. Name these radio addresses given by Franklin Roosevelt.
Answer: **fireside chat**s [accept additional information mentioning Franklin Delano Roosevelt or FDR]

17. After oxygen, hydrogen, chlorine, and sodium, this is the fifth-most abundant element in seawater. This element combines with hydroxide to form brucite [BROO-"site"], it combines with iron and silicate [SIH-lih-kut] to form olivine [AH-luh-veen], and it combines with calcium and carbonate to form dolomite [DOH-luh-"might"]. Periclase [PAIR-uh-klayss], which is very abundant in the Earth's crust, is a mineral consisting of this element's oxide. The sulfate of this element is hydrated to make Epsom salts. Brucite is used to make a common antacid called the "milk of" this element's oxide. Name this alkaline-earth metal located below beryllium [buh-RILL-ee-um] and above calcium on the periodic table.
Answer: **magnesium** [accept **Mg**]

18. In one novel by this author, a man says of his son, "If he is not the word of God, God never spoke." In much of that novel, this author depicts the man and his son traveling with a supermarket cart and trying to avoid cannibals. In another novel by this author, the sheriff of Terrell County is a World War II veteran who tries to protect Carla Jean. That sheriff is Ed Tom Bell, and in a novel by this author, Bell protects Carla Jean after her husband Anton Chigurh [chih-GUR] finds the aftermath of a drug deal gone bad in the Texas desert. Name this author of *The Road* and *No Country for Old Men*.
Answer: (Charles) Cormac **McCarthy** (Jr.)

19. This U.S. law led to the creation of State Implementation Plans and New Source Performance Standards. The original version of this law in 1963 was enforced by the Public Health Service and the Department of Health, Education, and Welfare, but a new agency was created to enforce this law before its major expansion in 1970. After that expansion, William Ruckelshaus directed much of this law's enforcement against the auto industry. A 1990 expansion of this law addressed acid rain. Name this law administered by the Environmental Protection Agency that now addresses ozone layer protection and climate change.
Answer: **Clean Air** Act [accept **CAA**]

20. Animals in this class have a layer of uncalcified dentine [DEN-tin] in their teeth, so their teeth are considered pedicellate [peh-duh-SELL-it]. Some animals in this class have parotoid [puh-RAH-toyd] glands near their neck that can secrete bufotoxins [byoo-foh-"toxins"] to deter predators. Most of these animals will die within a few hours if they are placed in saltwater but require a freshwater environment for breeding. This class of animals are born with gills, though they either develop lungs or the ability to breathe air through their skin. Name this class of vertebrates that includes salamanders and frogs.
Answer: **amphibian**s [accept **Amphibia**]

21. An arrangement of numbers named for this solid consists of the coefficients in trinomial [try-NOH-me-ull] expansions. A frustum formed from this solid is a prismatoid, and these solids themselves are classified as prismatoids by allowing one point to define a plane parallel to a face. The number of faces of this solid is n plus 1, and the number of edges is $2n$, if n is the number of sides of the base. The surface area of this solid equals the area of the base plus 1/2 times the base perimeter times the slant height. Name this shape that has a polygonal base and an apex, so it can be triangular- or square- based.
Answer: **pyramid**s