2023 Reinstein Set – Packet 10

Tossups

1. One sculpture by this artist depicts a boy walking after his father, who is carrying his own father. That sculpture is *Aeneas, Anchises, and Ascanius* [ay-NEE-uss, an-KY-seez, "and" ass-KAN-ee-uss]. This artist probably worked on that piece with his father, which is also true of a work located at the foot of the Spanish Steps. Another sculpture by this artist shows a woman turning into a tree. That work, which like the *Aeneid* scene is in the Galleria Borghese [bor-GAY-zay], is *Apollo and Daphne.* In another sculpture by this artist, an angel holds a golden spear above a woman. Name this sculptor of many works in Rome, including *The Ecstasy of Saint Teresa.*
Answer: Gian Lorenzo **Bernini** ["John" loh-REN-zoh **bair-NEE-nee**] [or Giovanni Lorenzo **Bernini**]

2. Special examples of this type of triangle are called the golden gnomon [NOH-mun] and the golden triangle. In this type of triangle, the Euler [OY-lur] line is the only axis of symmetry. The height of this type of triangle can be calculated using the formula "the square root of the quantity *a* squared minus 1/4 *b* squared". If a right triangle is also this type of triangle, then the length of its hypotenuse equals root 2 times the length of a leg. Name these triangles that have a pair of congruent sides and a pair of congruent angles.
Answer: **isosceles** triangles

3. Plumbers use the "basin" type of this tool in hard-to-reach spaces. This tool is called a spanner in England. A cross-shaped tool of this type is used on lug nuts. Interchangeable sockets are often used with a ratchet to work as this type of tool. Idiomatically, a person is said to be "throwing this tool into the works" when they prevent a plan from being successful. Name this tool that usually has a long handle, may be adjustable, and is used to tighten nuts and bolts.
Answer: **wrench**es [accept **spanner**s before "spanner"]

4. This person said "I see that it must produce war, and such a war as I will not describe, in its twofold character" before mocking the idea of a peaceable secession. In another speech, this person said "Liberty and Union, now and forever, one and inseparable!". Those speeches were this person's Seventh of March Speech and this person's response to a close ally of Vice President John Calhoun, South Carolina Senator Robert Hayne. Name this person who served three presidents as secretary of state, served both New Hampshire and Massachusetts in Congress, and was known as a great orator.
Answer: Daniel **Webster**

5. Though magnesium and titanium were also used, most of Sputnik 1 was made out of this metal. Copper and this metal are the most common metals used for electric wiring. The oxide of this element is in sapphires, which are a type of corundum [kuh-RUN-dum], though the primary mineral source for this element and gallium [GAL-ee-um] is bauxite [BAWK-"site"]. That mineral is refined by the Bayer process, which is followed by smelting in the Hall-Héroult [heh-rohl] process to obtain this element. Name this element whose most abundant use is for cans, and which is also used to make baseball bats and foils.
Answer: **aluminum** [accept **aluminium**; prompt on **Al**]

6. When this person was probably less than 20, he benefited from support from King Henry I of France to win the Battle of Val-ès-Dunes [val es doon] against rebels led by Guy [ghee] of Burgundy. Later, this leader faced a rebellion by his oldest son when his younger sons William Rufus and Henry dropped water on the head of his oldest son, Robert Curthose. This leader ordered the construction of the Tower of London. This leader also ordered a great survey of his realm, which was recorded in 1086 in the Domesday ["doomsday"] Book. Name this king of England who led the Normans to victory over Harold Godwinson at the Battle of Hastings.
Answer: **William the Conqueror** [accept **William I** or **William of Normandy**; prompt on **William**]

7. In one story by this writer, Leon Chenal [shuh-nahl] narrates the saddest love affair of his life, and the story ends with Leon kissing the lips of a dead woman. This author of "Mrs. Harriet" wrote a story about a woman who was born into a family of clerks and married a minor official at the Ministry of Education. That couple in this writer's story is forced to dismiss their maid, rent a small apartment, and work overtime to pay off a large debt. That story by this author ends with Madame Forestier [for-ess-tee-yay] saying "It was worth five hundred francs [frahnks] at most." Name this French short story writer who wrote "The Necklace".
Answer: (Henri René Albert) Guy de **Maupassant** ["ghee" duh **moh-pah-sawnt**]

8. Samples from these things have been gathered by the *Hayabusa* missions. The D-types of these objects are difficult to find, but a few dozen of them have been located. The vast majority of objects that have had non-zero Torino [tor-EE-noh] scale ratings are these objects, but as of the writing of this question there are no objects with current non-zero ratings. Examples of these objects that were on that scale are Apophis [uh-PAH-fiss] and 2022 AE1. Most of these objects are located between 2 and 4 astronomical units from the Sun. Some of the largest examples of these objects are Hygiea ["hi"-JEE-uh], Pallas, and Vesta. Name these rocky objects that are mostly located in a belt between Mars and Jupiter.
Answer: **asteroid**s [accept **minor planet**s or **planetoid**s; do not accept "dwarf planet(s)"; do not prompt on "planet(s)"]

9. One character in this play states "Trifles light as air are to the jealous confirmations strong." Those words are in the same scene in this play as a character saying "Think'st thou I'd make a lie of jealousy", shortly after hearing that jealousy is "the green-eyed monster which doth mock the meat it feeds on". That conversation is part of an effort to convince this play's title character that Cassio and his wife are having an affair. In this play, Emilia figures out what her husband Iago has done when she is shown a handkerchief. Name this play by William Shakespeare in which Desdemona is married to the Moor of Venice.
Answer: *The Tragedy of **Othello**(, the Moor of Venice)*

10. This person's work was publicized by his collaborator Robert Underwood Johnson in *The Century Magazine*. This person's book *A Thousand-Mile Walk to the Gulf* describes his walk to Florida. Some discussions that this person had with a U.S. president may have inspired the Antiquities Act. The president spent three days almost alone with this person after they met in Raymond, California. This person wrote *My First Summer in the Sierra*, and he was the first president of the Sierra Club. Name this environmentalist who convinced Teddy Roosevelt to have the federal government take control of Yosemite National Park.
Answer: John **Muir**

11. One estimate of this quality is the square root of cohesive energy density, which is the Hildebrand parameter of this quality. The partition coefficient compares two of these qualities and is also known as the distribution coefficient. Rules for this quality generally have several exceptions; for example, silver nitrate has this quality even though most salts of silver do not have this quality. Also, chlorides generally have this quality, but mercury chloride does not. Determining this quality is equivalent to finding the saturation point. Name this ability to be dissolved.

Answer: **solubility** [accept being **soluble**; accept **dissolvability** or **dissolvable** before the end and prompt on them thereafter]

12. One protagonist created by this author ends up in a private hospital run by Dr. Sonderborg after annoying the psychic Jules Amthor. This author placed Moose Malloy in that hospital. In another novel by this author, Owen Taylor is hired by a family to be their driver, but his car drives off a pier. Before that, Taylor took film that had been used to blackmail Arthur Geiger's daughter, Carmen. This author's novels were set in and around Los Angeles. Name this author whose novels *Farewell, My Lovely* and *The Big Sleep* featured the private detective Philip Marlowe.

Answer: Raymond (Thornton) **Chandler**

13. The BOLL gene encodes for the creation of these cells. These cells undergo a process called capacitation [kuh-PASS-ih-TAY-shun], which temporarily makes them susceptible to chemotaxis [kee-moh-TAK-siss] and leads to these cells being bound to another cell's zona pellucida [puh-LOO-sih-duh]. The creation and growth of these cells is helped by Sertoli cells. The front parts of these cells are covered with an acrosome [AK-roh-sohm] containing several enzymes, while the back parts are flagella that move these cells forwards. These cells move through the epididymis [ep-ih-DID-ih-miss] to the vas deferens. Name these male reproductive cells that fertilize eggs.

Answer: **sperm** cells [or **spermatozoon** or **spermatozoa**]

14. After the new year, Shintos use a large one of these things called a Dondo-Yaki [DOHN-doh YAH-kee] to bring good luck. According to the Koran, one of the angels claims that he is better than man because man was made from clay but the angel was made from this thing. In Leviticus, this thing kills Aaron's sons Nadav [nuh-DAHV] and Avihu [ah-VEE-hoo]. In Luke 12:49, Jesus says that he is bringing this thing to Earth. During a Vedic Agnihotra [ahg-nee-HOH-truh] ceremony, three of these things exist to the east, west, and south. Name this thing that, according to the King James Bible, is combined with brimstone when punishing Sodom and Gomorrah.

Answer: **fire**s [accept bon**fire**s or **flame**s]

15. In one novel by this author, Iowa Bob says "You've got to get obsessed and stay obsessed." Bob is the father of Win Berry in this author's *The Hotel New Hampshire.* Another novel by this author is titled for a list posted by a light switch that includes "Please don't smoke in bed or use candles." This author set much of that novel at St. Cloud's Orphanage, which is where Candy gives birth to Angel. In the same place, this author portrayed Dr. Wilbur Larch training Homer Wells to become an obstetrician. Name this author who addressed the issue of abortion in his novel *The Cider House Rules.*

Answer: John (Winslow) **Irving** [or John Wallace **Blunt** Jr.]

16. Though this country does not contain the town of Agartala [uh-gur-tuh-LAH], the founders of this country were accused of plotting for its independence there. Those leaders, who expanded on the Six Point Movement, included this country's first prime minister, Sheikh Mujibur Rahman ["shake" moo-JEE-bur RAH-mon]. This country's Liberation War in 1971 may have caused over 1 million deaths. During that war, the Mukti Bahini [MOOK-tee buh-HEE-nee] fought for this country's independence with the support of the Awami [uh-WAH-mee] League and India. Name this country that before its independence was East Pakistan and whose capital is Dhaka [DAH-kuh].

Answer: (People's Republic of) **Bangladesh** [or (Gonoprojatontri) **Bangladesh**]

17. In this novel, the last guest to arrive at a party is described as "talking in a luxurious, self-taught stammer". That character, an open homosexual who reads lines from *The Waste Land* through a megaphone in this novel, is Anthony Blanche. Another character in this novel writes a note saying "Aloysius [al-oh-ISH-uss] won't speak to me until he sees I am forgiven", which is a reference to that character's teddy bear. That character in this novel, who belongs to the Marchmain family, is Lord Sebastian Flyte. Name this English novel about Charles Ryder written by Evelyn [EE-vuh-lin] Waugh.

Answer: ___***Brideshead Revisited***___*(: The Sacred & Profane Memories of Captain Charles Ryder)*

18. Some of the first white people to live in what is now this city made attempts to convert the Kumeyaay [KOO-mee-"eye"] people to Christianity, causing a 1775 uprising. A statue in this city commemorates the landing of Juan Rodríguez Cabrillo [kah-BREE-yoh] and is near the North Island Naval Air Station on Point Loma Peninsula. Some of the suburbs of this city are Chula Vista, Oceanside, and Escondido. This city's zoo is in Balboa Park, and the organization that runs it also runs a popular Safari Park. Before Orlando and San Antonio, this city was the site of the original SeaWorld. Name this major city in California south of Los Angeles and adjacent to Mexico.

Answer: __**San Diego**__, California

19. Some relations named for this scientist set partial derivatives of temperature or entropy equal to partial derivatives of pressure or volume and to second derivatives of potentials. When quantum effects are negligible, the statistics named for this scientist and an Austrian scientist describe the energy distribution of particles. A thought experiment with a door between two gas containers is named for this scientist's "demon". Name this scientist who combined Ampére's law with Faraday's law and two of Gauss's laws to give a four-equation summary of electromagnetism.

Answer: James Clerk __**Maxwell**__

20. This musician is the namesake of the practice within jazz of changing chords by intervals of major thirds. This musician made those changes often on an album with several songs named for his relatives, including "Cousin Mary", "Syeeda's [suh-YEE-duh'z] Song Flute", and "Naima [nah-EE-muh]". That album is *Giant Steps*. This musician included the Cole Porter standard "Every Time We Say Goodbye" on his album *My Favorite Things*. Both this saxophonist and "Cannonball" Adderley performed on Miles Davis's *Kind of Blue* album. Name this musician who included the sections "Acknowledgement", "Resolution", "Pursuance", and "Psalm" on *A Love Supreme*.

Answer: John (William) **Coltrane**

21. In Pascal's triangle, collections of this type of number form downward-facing triangles that combine to form a Sierpinski [sur-PIN-skee] triangle. A graph has an Eulerian [oy-LAIR-ee-un] cycle if all of the graph vertices have a degree that is this type of number. All of the exponents of non-zero terms in the Taylor series of the cosine function are this type of number. These numbers are the sums in Goldbach's conjecture. If the degree of a polynomial is this type of number, then both ends of the polynomial go to infinity or both go to negative infinity. Binary representations of these numbers end in zero, not one. Name these numbers that are divisible by 2, so they are not odd.

Answer: **even** numbers [accept **even**s]