

# Scobol Solo 2020

## Packet 1 (Round 1)



1. The *Didache* [DI-duh-kay] states that this prayer should be recited three times each day. Theological arguments over the meaning of this prayer sometimes focus on the Greek word “epiousion” [ep-ee-YOO-see-ohn]. The last words of this prayer are often followed by an embolism, then a Rite of Peace, and then the Fraction of the Bread. This prayer is called the “Oratio [oh-RAH-tee-oh] Dominica” or “Pater [PAH-tur] Noster” in Latin. The shorter version of this prayer is from the Book of Luke, while the longer version is from the Sermon on the Mount in the Book of Matthew. Name this prayer, often spoken by Catholics, which states “Give us this day our daily bread.”

Answer: Lord’s Prayer [accept Oratio Dominica or Pater Noster before they are mentioned; accept Our Father before “Pater” and prompt thereon thereafter]

2. The Dirac [dir-AK] delta function is sometimes named for this quantity because multiples of that function are often used to set values of this quantity. The “specific” type of this quantity is measured in units of time and is multiplied by standard gravity and mass flow rate to calculate thrust. This quantity can be calculated by starting with Newton’s second law and multiplying both sides by the change in time. This quantity is the integral of force with respect to time, which can be simplified—if force is constant—to “force times time”. Name this quantity equal to the change in momentum.

Answer: impulse

3. A piano piece of this type dedicated to Robert Schumann has a 30-minute movement without breaks, though some critics say it has four movements. That work in B minor was composed by Franz Liszt [“list”]. Another piano piece of this type has four movements, the second of which instructs the pianist to use a piece of wood to play a cluster chord. That piece of this type has movements named for transcendentalist writers, is called the *Concord*, and is by Charles Ives. Another piece of this type was subtitled *Quasi una fantasia* [kwah-see oo-nah fahn-TAH-see-ah], but Ludwig Rellstab gave it a nickname based on a natural phenomenon on Lake Lucerne [loo-surn]. Name this type of piece exemplified by Ludwig Beethoven’s “Moonlight”.

Answer: piano sonata(s)

4. In a play by this writer, the protagonist says “You should never wear your best trousers when you go out to fight for freedom and truth.” This playwright had the same character say “The minority is always in the right.” This person wrote that play about Dr. Thomas Stockmann, who complains that there is too much bacteria in spa water. In another play by this writer, Kristine Linde and Dr. Rank visit the banker Torvald Helmer and his wife Nora. That play, which depicted the lack of opportunity for women, ends with Nora leaving her husband. Name this Norwegian playwright of *An Enemy of the People* and *A Doll’s House*.

Answer: Henrik (Johan) Ibsen

5. This U.S. president appointed the Wolcott Commission to work out an international bi-metallism agreement with Britain and France, but a few years after that effort failed, this president signed the Gold Standard Act. This person supported protectionism both as a congressperson and president, and he worked with Congressman Nelson Dingley to raise tariffs. This president was assassinated by an anarchist who supported Emma Goldman. Name this president who was assassinated by Leon Czolgosz [CHOL-gawsh]—leading to the presidency of Teddy Roosevelt—and who was president during the Spanish-American War of 1898.

Answer: William McKinley (Jr.)

**Check the score.**

6. One experiment by this person found that some people believe there are more circles than squares if there are five circles spread out and five squares close together. This person also found that people thought there is more water in a tall skinny glass than a wide glass even if there is the same amount of water in both. This person’s theory of cognitive development describes when people begin to understand the concept of using symbols to represent abstract concepts [pause] and the concept of object permanence. Name this Swiss psychologist who described how children develop from the sensori-motor stage to the formal operational stage.

Answer: Jean Piaget [zhahn pee-ah-zhay]

7. The satellite spheroidal [“sphere”-OY-dul] galaxies Andromeda 1, 2, and 3 are described by this adjective. In general, galaxies described by this adjective have very little dust and are characterized as low-luminosity. This adjective is also used to describe Delta Scuti [SKOO-tee] cepheid [SEH-fee-id] variable stars that have periods between 1 and 3 hours. This adjective also describes stars on or below the main sequence in the Hertzsprung-Russell diagram. Some such stars are barely larger than planets and are called “brown” in addition to this word, while “red” ones are a bit larger. Give this adjective that also describes extremely dense “white” stars.

Answer: dwarf [accept dwarfs]

8. One lead character in this musical sings “I’m a loser, I’m a coward, I’m a chicken, don’t you see?” after the other lead gives a five-step plan that ends with both of them in Rio. Soon after that in this musical, those two characters meet Franz Liebkind [LEEB-kind], who sings “In Old Bavaria”. When Franz breaks his leg in this show, he is replaced by Roger De Bris [bree], who is described as the worst director to have ever lived. One song in this musical, which contains the lines “Don’t be stupid, be a smarty, come and join the Nazi party”, is “Springtime for Hitler”. Name this Mel Brooks musical about Max and Leo trying to create a horrible musical.

Answer: *The Producers*

9. In this novel, a guide describes the protagonist’s perspective as looking down a pipe while bolted to a flat-car and saying “That’s life”. The guide in this novel then says that he concentrates on good times, such as today at the zoo, instead of wars and the end of the world. The guide in this novel is able to see in four dimensions because he is a Tralfamadorian [tral-FAM-uh-DOR-ee-un]. The protagonist of this novel is described as having become “unstuck in time”. Name this novel about Billy Pilgrim that describes the firebombing of Dresden and was written by Kurt Vonnegut.

Answer: *Slaughterhouse-Five*

10. According to Herodotus [heh-RAH-tuh-duss], this ruler ordered the death of Aryandes [ar-YAHN-deez] in Egypt, who made silver coins that rivaled this ruler’s gold coins. The Behistun [buh-HISS-tun] Inscription describes the rise of this ruler and justifies his assassination of Bardiya [bar-DEE-yah]. This leader moved his capital from Pasargadae [pah-sar-GAH-day] to Persepolis [pur-SEP-uh-liss]. This person was the bodyguard of Cambyses [kam-“BY-sees”] II—who was the son of Cyrus the Great—before this person rose to power. Name this Persian king who extended his empire but was unable to control Greece after his troops lost the Battle of Marathon.

Answer: Darius the Great or Darius I [prompt on Darius]

***Check the score.***

11. The southwest part of this U.S. state contains the Uncompahgre [un-kum-PAH-gray] Wilderness, which used to be called the Big Blue Wilderness and which is north of this state’s San Juan National Forest. The eastern third of this state, including the Pawnee National Grassland, is significantly flatter than the rest of the state. The border between the flat and mountainous parts of this state is traversed by I-25, which goes through this state to connect Wyoming to New Mexico. Name this state where I-25 passes near the towns of Pueblo, Fort Collins, Boulder, and Denver.

Answer: Colorado

12. This number can be generated by recursively finding the square root of the quantity 1 plus the square root of the quantity 1 plus the square root of the quantity 1, et cetera. This number is 1 more than its reciprocal. A rectangle whose side lengths are in a ratio equal to this number can be used to generate a logarithmic spiral. Such a rectangle can be divided into a square and another rectangle whose side lengths are also in a ratio equal to this number. Name this number equal to  $\frac{1}{2}(1 + \sqrt{5})$  [“one-half the quantity 1 plus root 5”], which is approximately 1.618.

Answer: golden ratio [or golden proportion or golden mean or golden number or golden section or divine proportion; accept phi]

13. This poem has exclamation points at the three places when it seems to be addressed to a particular person. Those places are the word “Listen!”, the command “Come to the window, sweet is the night-air!”, and the beginning of the last stanza, which states “Ah, love, let us be true to one another!”. This poem tells the addressee they must be true because the world “hath really neither joy, nor love, nor light, nor certitude, nor peace, nor help for pain.” This poem begins “The sea is calm tonight”, and it ends “Where ignorant armies clash by night.” Name this poem set near an English ferry port, written by Matthew Arnold.

Answer: “Dover Beach”

14. This leader targeted his enemies through the Law of Political Responsibilities, which was used to confiscate people’s belongings to pay off national debt, and he passed the Law of the Repression of Freemasonry and Communism. After a meeting with this person, Adolf Hitler said he would “as soon have three or four teeth pulled out” as meet with him again, and this leader was neutral during World War II. This leader was supported by the Falange [fah-LAHN-hay], and he repressed the Popular Front that supported the Republicans during a civil war from 1936 to 1939. Name this fascist dictator who used the title *Caudillo* [“cow”-DEE-yoh] when he ruled Spain from 1939 to 1975.

Answer: Francisco Franco (Bahamonde)

15. When Anthony Noto was this company’s chief operating officer, he mistakenly said publicly that he wanted to buy another company. This company’s CEO is also the CEO of the payment processing company Square and is named Jack Dorsey. In recent months, this company often used the phrase “potentially misleading” to describe election-related claims, including many posts Donald Trump made on this site. Name this social media company whose logo is a blue bird.

Answer: Twitter, Inc.

***Check the score.***

16. Patients having problems in this organ are sometimes given a capsule containing amylase [“AM-uh-lace”], lipase [“LIE-pace”], and protease [“PRO-tee-ace”]. This organ sometimes has only one duct, but 70% of people have a second duct in it, called the duct of Santorini [san-tuh-REE-nee]. This organ always has the duct of Wirsung [VEER-sung], which joins the common bile duct. Two of the hormones released by this organ have opposite purposes: the liver converts glycogen into glucose when this organ releases glucagon [GLOO-kuh-gon], and several organs absorb glucose when this organ releases insulin. Name this organ behind the stomach that contains alpha and beta cells in its islets [“eyelets”] of Langerhans [LON-gur-hahnz].

Answer: pancreas

17. The narrator of this novel gets invited to eat lunch with a man after knocking over flowers, causing her skirt to get wet. That event occurs in Monte Carlo, where this novel’s narrator was working for Mrs. Van Hopper. In this novel, that lunch quickly leads to a wedding and the narrator moving with her new husband to Cornwall. This novel’s narrator is told to leave everything to the housekeeper, but the housekeeper keeps praising the husband’s first wife. In this novel, Mrs. Danvers is Maxim de Winter’s housekeeper at Manderley. Name this novel by Daphne du Maurier [maw-ree-ay].

Answer: Rebecca

18. Some of the first casualties of this war were family members of a man named Gall, who later determined that a second attack was coming from the north. Gall then helped kill some of this battle’s attackers on a hill and finish off the rest in the Deep Ravine. The victors of this battle called it the Battle of the Greasy Grass. One of the victors of this battle, who was killed a year later while a prisoner at Camp Robinson, was Crazy Horse. Name this 1876 Lakota victory, led by Sitting Bull, that is sometimes called Custer’s Last Stand.

Answer: Battle of the Little Bighorn [accept Battle of the Greasy Grass before “Greasy”; prompt on Custer’s Last Stand]

19. One painting by this artist depicts the chancellor of the Duchy [DUH-chee] of Burgundy seated in purple with his hands together, facing Mary and baby Jesus while Mary is crowned by an angel. That painting is this artist’s *Madonna of Chancellor Rolin* [ROH-lin]. In another work, this painter showed two clogs on the floor and a small dog standing in front of two people—a man wearing a purple tabard [TAB-urd] and a woman wearing a green dress. That painting also has a chandelier with only one candle lit. Name this 15th-century early Netherlandish painter of the *Arnolfini Portrait*.

Answer: Jan van Eyck [rhymes with “bike”] [or Johannes de Eck; prompt on Eyck or Eck]

20. Thiols [“THIGH-awls”] are not this type of substance, but replacing one of their hydrogen ions with a metal ion creates thiolates [“THIGH-oh-late”s], which are. Phosphazene [FAHSS-fuh-zeen] is an example of both the “low-nucleo-philic [noo-klee-oh-FIL-ik]” and the “super-” types of this substance. The low-nucleo-philic type of this substance is unusual, and nucleo-philic [NOOK-lee-oh-“files”] generally are this type of substance. Nitrogen is present in most organic examples of these substances, including amines [uh-MEENS]. This type of substance is an electron-pair donor and often contains a hydroxide ion. Name this type of substance that causes water to have a pH above 7, in contrast with acids.
- Answer: bases [or basic substances; accept alkalis or alkaline substances]

***This is the end of regulation. Check the score. If it is tied, proceed to overtime tossups. If it is not tied, the game is over.***

- <sup>TB</sup>21. This person took advantage of Karl Sand’s murder of the dramatist August Kotzebue [KAHT-sub-yoo] to encourage Germany to increase spying and censorship through the Carlsbad Decrees. Over time, this person lost influence due to his rivalry with Franz Anton von Kolowrat [KOH-lohv-raht], and this person was eventually told to resign by Archduke Ludwig [LOOT-vig]. This person often negotiated with Nesselrode and von Hardenberg, including at a large meeting he hosted that established the German Confederation and guaranteed the neutrality of Switzerland. Name this Austrian statesman who hosted Viscount Castlereagh [“VIE-count CASTLE-ray”] and Talleyrand at the Congress of Vienna.
- Answer: Klemens (Wenzel) von Metternich

***If the score is still tied, continue. If it is not tied, the game is over.***

- <sup>TB</sup>22. This quantity is the same along each independent degree of freedom for molecules in thermal equilibrium, according to the equipartition theorem. When using that theorem, this quantity is usually calculated by multiplying 3/2 times Boltzmann’s constant times absolute temperature. One way to calculate escape speed is to find the speed at which two forms of this quantity balance each other. The change in this quantity equals the amount of work. A famous equation from relativity theory relates this quantity to mass. Name this quantity that has thermal, potential, and kinetic forms.
- Answer: energy [accept kinetic energy or thermal energy]

***If the score is still tied, continue. If it is not tied, the game is over.***

- <sup>TB</sup>23. During this month in 1865, Robert E. Lee surrendered to Ulysses Grant at Appomattox [AP-uh-MAT-ukss]. The Battles of Lexington and Concord took place during this month, which is remembered in some states as Patriots’ Day. The Boston Marathon takes place during this month. The Gay, Lesbian, and Straight Education Network Day of Silence is during this month. It is common to play practical jokes on the first day of this month. Name this fourth month of the year.
- Answer: April

***There are no more overtime questions available. If the score is still tied, contact the control room for further instructions. If it is not tied, the game is over.***