

Scobol Solo 2020

Packet 12 (Round 12)



1. According to Immanuel Kant, this concept “is the alone unoriginated birthright of man, and belongs to him by force of his humanity”. Milton Friedman said “The society that puts equality before [*this concept*] will end up with neither.” Friedman also argued that the economic form of this concept leads to the political form of this concept in a book whose title mentions an economic system and it. John Locke said “The end of law is not to abolish or restrain, but to preserve and enlarge” this concept. Jean-Jacques Rousseau [zhahn zhahk roo-soh] started *The Social Contract* by stating that although man is born with this concept, “everywhere he is in chains”. Name this concept, several forms of which are guaranteed by the First Amendment of the Constitution, but which is lacked by slaves.

Answer: freedom (Friedman’s book is *Capitalism and Freedom*.)

2. In one book by this author, the title animal is bought at a sheriff’s auction and later named “Gabilan”, after some nearby mountains. This author described Billy Buck trying to take care of that animal in a story that ends with Jody Tiflin attacking a buzzard. In a novel by this author, Crooks is not allowed to live in the bunk house because he is African-American. Crooks is treated badly by Curley’s wife, who is killed when her neck is broken by one of this author’s protagonists. Name this author of *The Red Pony* who wrote about the mentally-disabled ranch hand Lennie Small in *Of Mice and Men*.

Answer: John (Ernst) Steinbeck (Jr.)

3. A combination of transmission and this phenomenon can be described by the Fresnel [fruh-NEL] equations. This phenomenon does not occur if the incoming waves are polarized and strike a material at Brewster’s angle. Polarization occurs when the angle of this phenomenon is perpendicular to the angle of refraction, which also occurs at Brewster’s angle. Beyond the critical angle for refraction, the “total internal” type of this phenomenon occurs. The “specular” type of this phenomenon is commonly achieved using silvered-glass. Name this phenomenon in which light rays bounce, such as when they hit a mirror.

Answer: reflection [or reflecting]

4. The major art museum in this country’s most populous city was designed by Lina Bo Bardi and is supported by four red concrete pillars. This country’s federal government is located at the Three Powers Plaza, which includes the Palácio do Planalto. Lúcio Costa played a major role in designing this country’s capital. He worked closely with the architect of the Niterói Contemporary Art Museum, Oscar Niemeyer. Another city in this country has a 98-foot tall statue by Paul Landowski and Heitor da Silva Costa that portrays Jesus. Name this country that is home to the *Christ the Redeemer* statue in Rio de Janeiro.

Answer: (Federative Republic of) Brazil [or (República Federativa do) Brasil]

5. This country had its first presidential election in 1956 and was supposed to have a general election in 1959, but martial law was declared in 1958 by President Iskander Mirza. This country's first prime minister, who passed an Objectives Resolution to plan the Constitution and who was eventually assassinated by Said Babrak [sy-EED bahb-rahk], was Liaquat [lee-AH-kot] Ali Khan. This country's founder, who was inspired by the poet Muhammad Iqbal, was Muhammad Ali Jinnah. Name this country whose independence was supported by the Muslim League and which was created by the 1947 Partition of India.

Answer: (Islamic Republic of) Pakistan [or (Islami Jumhuriyah) Pakistan]

Check the score.

6. According to Norse mythology, the Svalinn is one of these objects, and it explains why the Earth does not burn up. In Arthurian legend, Perceval used an object of this type that had belonged to Joseph of Arimathea [air-uh-muh-THEE-uh], and he used it against the Knight of the Burning Dragon. Homer's *Iliad* spends over 100 lines describing the object of this type belonging to Achilles, which at its center depicts the Earth, sky and sea, the sun, the moon and the constellations. That example of this kind of object was made by Hephaestus [heh-FESS-tuss]. Name these large objects that people and gods used to protect themselves during battle.

Answer: shields

7. The time complexity of bubble sort is big O of n raised to the power of this number. Computers often represent negative numbers by making the most significant portion bit represent negativity, a system called this number's "complement". In IEEE ["I triple E"] floating-point notation, this number is used as the base. In computer science, unless otherwise specified, logarithms are usually understood not to be base 10 or base e , but rather to have this base. In Boolean logic, there are this many possible values for a variable. Name this number used as the base in binary.

Answer: 2 [before the first "this number", accept big O of n squared or quadratic complexity or second power]

8. A painting by this artist sold for 450 million dollars in 2017 and has not been in public since then. Scientific studies of that painting by this artist have led to the conclusion that it depicts Jesus holding a hollow crystal sphere. In that work, this artist depicted Jesus in Renaissance robes and crossing his fingers. This painter of *Salvator Mundi* made another portrait that was missing for two years after being stolen in 1911. That painting portrays the wife of Francesco del Giocondo [fran-CHESS-koh del joh-KOHN-doh]. Name this Italian Renaissance artist who painted *Mona Lisa*.

Answer: Leonardo (di ser Piero) da Vinci [accept either underlined portion]

9. A statue of this person is near four granite markers that honor other people, including one for Claudette Colvin. This person’s arrest warrant was signed by James Blake. Because this person’s state legal case got bogged down in appeals, this person’s allies focused on the *Browder v. Gayle* case instead. In this person’s book *My Story*, she wrote “No, the only tired I was, was tired of giving in.” This person is best known for an incident on December 1, 1955, which inspired a major boycott. Name this Black woman who lived in Montgomery, Alabama and who refused to give up her seat on a bus. Answer: Rosa (Louise McCauley) Parks [accept either underlined name]

10. The narrator of this novel states “Three seconds before the arrival of J. B. Hobson’s letter, I no more thought of pursuing the unicorn than of attempting the passage of the North Sea.” That letter, which is at the end of the second chapter of this novel, states in part “Commander Farragut has a cabin at your disposal.” After the *Scotia* mysteriously gets a hole at the beginning of this novel, the crew of the *Abraham Lincoln* investigates. Much of this novel is set aboard a futuristic submarine called the *Nautilus*. Name this novel featuring Captain Nemo written by Jules Verne [zhoov vairn]. Answer: Twenty Thousand Leagues Under the Sea(s: A World Tour Underwater) [or Vingt mille lieues sous les mers(: Tour du monde sous-marin)]

Check the score.

11. This company is investing 400 million dollars in Pony.ai [“pony” dot “A I”], an autonomous vehicle technology company. The CEO of this company said in November 2020 of Tesla “They aren’t really making something that’s real, people are just buying the recipe.” After Volkswagen, this is the second-largest car company in the world. This company’s luxury brand is Lexus. Its biggest selling full hybrid electric automobile is the Prius. Name this Japanese car company that makes the Land Cruiser, Corolla, and Camry. Answer: Toyota Motor Corporation

12. For discovering how to grow one of these things in a lab, the 1954 Nobel Prize in Medicine was given to John Enders, Thomas Weller, and Frederick Robbins. The classification of these things sometimes differentiates between “sense” and “anti-sense”, and it almost always specifies “single-stranded” or “double-stranded”. The discovery that these things cause the endemic variant of Burkitt’s lymphoma was the earliest link of them to cancer. Bacterio-phages [bak-TEER-ee-oh-FAY-jez] are examples of these things that infect bacteria. These agents can reproduce only when they are inside of living organisms. Name this general class of agents responsible for the common cold, influenza, and COVID-19. Answer: viruses [accept more specific answers]

13. This composer used parallel fourths in the flutes over a held D note in the violins in a tone poem he subtitled “Homage to Thomas Hardy”. That piece, named for a part of the fictional region of Wessex, is *Egdon Heath*. This composer wrote two pieces whose last of four parts are based on the folk tune “Dargason”. One of those pieces, which starts with a jig, is *St Paul’s Suite*. This composer also wrote a seven-movement work centered around a movement nicknamed “Bringer of Jollity”. That piece is based largely on astrological themes. Name this English composer of *The Planets*.

Answer: Gustav (Theodore) Holst (The other Dargason song is *Second Suite in F for Military Band*.)

14. A speech by this person began “Today the guns are silent. A great tragedy has ended. A great victory has been won.” That speech was made on board the USS *Missouri*. One of this person’s first actions as Chief of Staff of the United States Army was to drive the Bonus Army out of Washington, DC. When this person arrived in Australia, he stated “I shall return!”, by which he meant to the Philippines. In 1951, this person told Congress “Old soldiers never die; they just fade away.” Name this U.S. general who announced the surrender of Japan at the end of World War II and who was removed by President Truman over disagreements about the Korean War.

Answer: Douglas MacArthur

15. Near the beginning of this play, the villain justifies hiding his intentions with a speech that ends “But I will wear my heart upon my sleeve for daws to peck at. I am not what I am.” That villain later tells this play’s title character “Oh, beware, my lord, of jealousy! It is the green-eyed monster.” At the beginning of this play, Roderigo is upset because Brabantio’s daughter has married the title character. Roderigo talks to Iago [ee-AH-goh], who eventually makes the title character suspicious of Cassio by planting Desdemona’s handkerchief on him. Name this William Shakespeare play whose title character is “the Moor of Venice”.

Answer: Othello

Check the score.

16. This function of x equals the imaginary component of e^{ix} [“e to the i x power”]. This function of x equals the sum, over all natural n , of -1 to the n th power times x to the $(2n + 1)$ st [“2 n plus first”] power, all over the quantity $2n + 1$ factorial. When complex numbers are expressed in “cis” [siss] form, the imaginary component involves this function. The reciprocal of this function is the co-secant function. This function gives the y -coordinate of points on the unit circle. Name this function that, for an acute angle in a right triangle, equals “opposite over hypotenuse”.

Answer: sine function [accept answers that additionally mention x ; do not accept “cosine”]

17. A hiking trail near this city used to be called Wonder Rift but is now called Fat Man's Pass. That path is near the Ahwatukee [ah-wuh-TOO-kee] Foothills and South Mountain Park in this city. Camelback Mountain is in this city's east side, while the Sonoran Preserve is in the north part. This is the most populous city a little over 100 miles south of Sedona [seh-DOH-nuh] and a little over 200 miles south of the Grand Canyon. There are several towns just east of this city, including Gilbert, Chandler, Mesa, Scottsdale, and Tempe. Name this capital and most populous city of Arizona.

Answer: Phoenix, Arizona

18. In the last major battle fought by these people, they were allied with the Alans at the Battle of Nedao. The earliest recorded member of this group was Uldin, who defeated Gainas ["GUY"-nuss], the leader of another group. These people were for a time ruled by the brothers Octar and Rugila [ROO-guh-luh], and when they died the leadership passed to the sons of their brother Mundzuk. Roman Emperor Valentinian III convinced these people not to attack Rome shortly after these people fought against the Romans and Visigoths at the Battle of the Catalaunian Plains. Name these people who for a time were led by the "Scourge of God", Attila.

Answer: Huns

19. This poem asks "What praise could they receive?" and "What proof could they have given sincere of true allegiance?" after stating "Freely they stood who stood, and fell who fell." This poem asks "What in me is dark illumine, what is low raise and support" so that its poet "can justify the ways of God to men". In this poem, Mammon and Beelzebub [bee-ELL-zeh-bub] help Satan. This poem begins by stating it is "Of Mans First Disobedience, and the Fruit of that Forbidden Tree." Name this 1667 poem about Adam and Eve being expelled from the Garden of Eden, written by John Milton.

Answer: Paradise Lost

20. According to Bent's rule, this property correlates with p orbitals, but its opposite correlates with s orbitals. A common scale for this property uses dissociation [diss-oh-see-AY-shun] energies and is based on hydrogen's value of this property being 2.2. Another scale for this property uses the average of the first ionization energy and the electron affinity. Those scales are the Pauling and Mulliken scales. If two elements have very different values of this property, bonds between those elements are classified as ionic. Name this property that measures an atom's ability to attract electrons and which is very high for fluorine.

Answer: electro-negativity

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.

^{TB}21. During a brawl in this novel, Tony Fontaine shoots a twin, and his brother shoots Cade Calvert. That brawl in this novel was in Jonesboro after the twins were expelled from the University of Virginia. Those twins, Stuart and Brent Tarleton, are attracted to this novel’s protagonist, who marries a man who dies “of pneumonia, following measles” while preparing for war. After Charles Hamilton, this novel’s protagonist is married to Frank Kennedy and Rhett Butler, and she loves Ashley Wilkes. Name this novel in which Margaret Mitchell describes the Civil War-era life of Scarlett O’Hara.

Answer: *Gone with the Wind*

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

^{TB}22. In 1920, this country’s troops put down an uprising led by one of its poets in what is now Croatia during Bloody Christmas. Albania gained independence after fighting this country in the Vlorë War, also in 1920, but in 1939 this country forced King Zog of Albania into exile. This country’s colonization of Africa was set back by the Battle of Adwa in 1896, but it returned to the same location in the 1930s and forced Haile Selassie [“highly” suh-LAH-see], the emperor of Ethiopia, into exile. In 1936, this country’s leader said that Europe would rotate on an “axis” through Germany and this country. Name this country that was led by Benito Mussolini.

Answer: Italy [or Italian Republic or Repubblica Italiana]

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

^{TB}23. During this month in 1967, the Apollo 1 fire killed astronauts “Gus” Grissom, Ed White, and Roger Chaffee. This month is Slavery and Human Trafficking Prevention Month. The first name of the actress who portrayed Betty Draper in *Mad Men* is the same as this month’s name. This month is the birth month of Martin Luther King Jr., and it is the month when presidential inaugurations occur. Name this first month of the year.

Answer: January

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.