

# Scobol Solo 2019

## Packet 6 (Round 6)



1. The paper introducing this theory begins by stating that Maxwell's electro-dynamics predict asymmetries that do not exist. That paper introducing this theory is "On the Electrodynamics of Moving Bodies". This theory is based on the postulates that the laws of physics are the same for observers in motion, and the speed of light in a vacuum is the same for all observers. This theory uses Lorentz transformations, which describe length contraction and time dilation. This theory explains mass-energy equivalence using the equation  $E = mc^2$  ["E equals m c squared"] but does not incorporate the curvature of spacetime. Name this theory introduced by Albert Einstein.

Answer: theory of special relativity [or the special theory of relativity; prompt on theory of relativity]

2. Some of the U.S.-supported fighting in this country took place in regions called Parrot's Beak and Fishhook. The U.S. president said of attacks in this country "If [Creighton] Abrams strongly recommends it we will do it." The attacks, which started as Operation Menu, featured expanded B-52 bombing during Operation Freedom Deal. The U.S. bombed this country to prevent troop movement in a neighboring war, and the U.S. supported Prime Minister Lon Nol, who overthrew Prince Sihanouk [SEE-uh-nook]. Name this country bombed by President Nixon during the Vietnam War before this country was controlled by the Khmer Rouge under Pol Pot.

Answer: (Kingdom of) Cambodia [or Kampuchea]

3. The Councils of Carthage of 256 stated that this process should not be accepted when performed by heretics, contradicting the Bishop of Rome. The Schleithem [SHLY-"time"] Confession was written by a group whose name suggests performing this process more than once; current offshoots of that group include the Mennonites and the Amish. Catholics believe that this process removes the stain of original sin. Many disagreements during the Protestant Reformation were based on whether this process should be performed on believers or infants. Name this process which washes away the sins of Christians by immersion in water.

Answer: baptism or baptizing

4. One work by this painter is named for the restaurant it was painted from and shows people gathered on a small circular artificial island around a tree. That work is *La Grenouillère* [gren-oo-yair]. Another painting by this artist is set near a windmill in Montmartre [mawn-mar-truh] in Paris and depicts a festive outdoor scene with a woman in a striped outfit sitting backwards on a bench talking to a man sitting at a table. Another painting by this artist shows a man sitting backwards on a chair at a restaurant while a woman holds a dog on the table. Name this French impressionist painter of *Bal du moulin de la Galette* [bahl doo moo-lan deh lah gah-let] and *Luncheon of the Boating Party*.

Answer: Pierre-Auguste Renoir [ren-war]

5. The end of one poem by this writer describes a dying soldier hearing “the distant strains of triumph, burst agonized and clear”. This writer began that poem with the line “Success is counted sweetest by those who never succeed.” Another poem by this writer describes a train going “around a pile of Mountains” and begins “I like to see it lap the miles.” This author wrote another poem that ends with horses’ heads towards eternity and that begins “Because I could not stop for death”. Name this poet who lived much of her life as a recluse in Amherst, Massachusetts.

Answer: Emily (Elizabeth) Dickinson

6. A predecessor state to this modern-day country was broken up by Tusun [TOO-sun] and Ibrahim [ee-bruh-HEEM], the sons of the Egyptian leader Muhammad Ali Pasha. Another predecessor of this country had its leaders exiled in 1891 by the Rashidi dynasty. This modern country unified in 1930 after the organization of a series of Ikhwan colonies. In 1975, this country’s King Faisal [fy-SAWL] was assassinated by his nephew. Faisal had protested Western support for Israel with this country’s oil embargo, provoking the 1973 oil crisis. Name this kingdom that espouses the Wahhabi religious movement and which often intervenes in neighboring Yemen.

Answer: (Kingdom of) Saudi Arabia [or (al-Mamlakah) Arabiyah as-Saudiyah]

7. The north part of this state contains Kabetogama [ka-buh-TOH-guh-muh] Peninsula and Voyageurs [vwah-yah-zhur] National Park, the latter of which is named for the fur traders who lived there. Part of the Red Lake Indian Reservation is on the fartherst-north part of this state, which is in the Northwest Angle near Lake of the Woods. The west end of Lake Superior is the site of this state’s city of Duluth. This state is also the location of the Mayo Clinic and the Mall of America. Name this state just east of the Dakotas whose capital is St. Paul.

Answer: Minnesota

8. The earliest example of this device was a wine jar with eight dragon-heads around it, surrounded by sculptures of toads. In the 20th century, Hugo Benioff [BEN-ee-awff] developed a version of this device that measured the gap in a magnetic circuit. Over 100 of these devices are now part of the International Monitoring System used to detect nuclear explosions. Some of these devices use accelerometers [ak-sell-uh-RAH-mih-turz], and the United States Geological Survey uses them for early detection of dangerous events, especially in California. Name this instrument that detects motion of the ground, especially to measure earthquakes.

Answer: seismograph(s) or seismometer(s) [or seismoscope(s); accept earthquake detectors before the end]

9. One song in this musical uses four quarter notes, two eighth notes, a quarter note, two eighth notes, and a quarter note while one character sings about the age of another character. The children in this musical sing “So Long, Farewell” and another song that names the solfège [SOHL-fej] system notes. This musical contains the song “Sixteen Going on Seventeen” and was the original setting of the song “My Favorite Things”. According to this show’s opening song, “the hills are alive with” the title concept. Name this musical based on *The Story of the Trapp Family Singers*, in which Maria helps the von Trapp family escape Nazi-controlled Austria.

Answer: *The Sound of Music*

10. A boy in this novel tells the main character “Tell me about the great John J. McGraw.” This novel often states that the main character dreams about lions on the beach, including at the end of this novel, when he does so in his shack. Much of this novel consists of conversations between the main character and his apprentice, Manolin. This novel states at the beginning that the main character has been unsuccessful for 84 days and then goes on to describe how his success is ruined by sharks. This short novel set in and around Cuba is about Santiago. Name this book written by Ernest Hemingway.

Answer: *The Old Man and the Sea*

11. This type of concept titles a series of James Steiner lectures describing British attitudes towards Polynesia. According to James Frazer in *The Golden Bough* [bao], when this kind of concept applies to people they cannot feed themselves. Frazer contrasted this type of concept with pollution, saying that the two are equivalent in savage cultures. Sigmund Freud wrote about the way societies view incest, which is a common example of this type of concept. This concept means actions that are discouraged by society for social or religious reasons. Give this Polynesian term for prohibitions that Freud combined in a book title with the term *Totem*.

Answer: taboo [accept *Totem and Taboo*]

12. In binary, this number is written as “zero point one”. The area of a regular polygon equals this number times the product of perimeter times apothem [AP-uh-thum] length. A quantity used several times in Hero’s formula equals this number times the perimeter of a shape. The antiderivative of  $x$  with respect to  $x$  equals this number times  $x$  squared plus a constant. Using this number as an exponent is equivalent to taking a square root. Multiplying the length of the diameter of a circle by this number gives the length of the radius. Name this number between 0 and 1.

Answer: 1/2 or 0.5

13. When this ruler fought battles, he left Macarius in charge. Macarius wrote a book claiming this leader was descended from a brother of Augustus who did not actually exist. This leader was also advised by the priest Silvester, who was on the Chosen Council. Following setbacks in the Livonian War, this leader insisted on having direct control over part of his country and thousands of bodyguards, a policy called *oprichnina* [ah-PRICH-nee-nah]. This person's son Feodor I was the last Rurik leader of Russia. Several people claimed to be this person's son Dmitry during the Time of Troubles. Name this 16th-century ruler who proclaimed himself the first tsar of Russia.

Answer: Ivan the Terrible [or Ivan IV or Ivan Grozny or Ivan Vasilyevich; prompt on Ivan]

14. In one novel by this author, the protagonist is told that the thinker inside of him is 100 years old but the dancer "is scarcely half a day old". After that person is killed, this author has Mozart bring a radio and start playing it. In addition to that novel involving Hermine ["hear"-MEE-nay], this author wrote a novel that begins with the title character learning with Govinda. That title character raises his son after Kamala is bitten by a snake. This author set that novel at the time of Gautama, the Buddha. Name this author who wrote about Harry Haller in *Steppenwolf* [SHTEP-en-vulf] and also wrote *Siddhartha* [sid-AR-tuh].

Answer: Hermann (Karl) Hesse

15. Chuck Todd said "This is going to become a bad meme" after this person said "Truth isn't truth." This person represented Reza Zarrab [RAY-zuh zah-RAHB] when President Trump told Secretary of State Rex Tillerson to work out a deal to drop corruption charges. This person was supposed to go to Vienna in October 2019 to join his associates Lev Parnas [PAR-nuss] and Igor Fruman [FROO-mun], but his trip was cancelled after his associates were arrested. Name this former mayor of New York City who recently volunteered as President Trump's personal attorney.

Answer: (Rudolph) "Rudy" Giuliani III

16. The complex-o-metric form of this procedure, which is sometimes called chelatometry [kee-lay-TAH-muh-tree], uses EDTA ["E-D-T-A"] to detect metal ions. The curve named for this procedure has one part that is much steeper than the rest of the curve, around the equivalence point. The curve named for this procedure is on a graph of pH versus volume. It is common to use a buret [byur-ET] for this procedure, and an Erlenmeyer flask is sometimes named for it. Name this procedure used to find the molar concentration of an analyte [AN-uh-"light"] by combining it with a solution that has a known concentration and contains an indicator.

Answer: titration [or titrating or titrate]

17. Heitor Villa-Lobos [eh-tor VIL-uh LOH-bohss] wrote a composition of this type based on a projection of mountains onto graph paper titled “On the Outline of the Mountains of Brazil”. On the first anniversary of Russia’s entry into World War II, the BBC broadcast a composition of this type by Dmitri Shostakovich [shoh-stuh-KOH-vich] entitled *Leningrad*. That piece has a fourth movement that is *Allegro non troppo* and a first movement in sonata form, which is a common form for these works. Many composers believed in a “curse of the ninth” of these pieces. Name these works such as Joseph Haydn’s *Surprise*, Mozart’s *Jupiter*, and Gustav Mahler’s one *of a Thousand*.

Answer: symphony/ies

18. Near the beginning of this work, the protagonist describes ancient Romans who came to England, saying “They were conquerors, and for that you want only brute force.” The narrator of this work is told that he will meet somebody in charge of a trading-post who “sends in as much ivory as all the others put together”. That person turns out to be very ill, and near the end of this work he dies, saying “The horror! The horror!”. Name this novella about Charles Marlow and Mr. Kurtz that takes place mainly along the Congo River and was written by Joseph Conrad.

Answer: Heart of Darkness

19. This U.S. president’s acting secretary of state negotiated a treaty that demilitarized our border with Canada, the Rush-Bagot [BAG-ut] Treaty. This president’s other secretary of state negotiated the purchase of Florida through the Adams-Onís [oh-NEESS] Treaty. Working closely with that secretary of state, John Quincy Adams, this president stated that the Americas were “not to be considered as subjects for future colonization by any European powers”. That statement became known as this president’s “doctrine”. Name this president during the “Era of Good Feelings” who served between James Madison and John Quincy Adams.

Answer: James Monroe

20. Heme [heem] and this molecule are formed by combining molecules of 5-amino-levu-linic [uh-MEE-noh-lev-yoo-LIN-ik] acid. Two common variations on this molecule differ by whether there is a methyl group or formyl group in position three. Scientists in Australia found a new variation of this molecule about a decade ago that is labelled *f*. This molecule is created in a type of plastid whose name has the same prefix as this molecule. In this molecule, four pyrrole [PIR-ohl] rings form a ring with magnesium in the center. This molecule absorbs light and converts it into energy for an organism. Name this class of green pigments used in photo-synthesis.

Answer: chlorophyll

***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. The earliest known reference to this resource is the Sanskrit text *The Lesson of Profit* from around 300 BCE. India was the only known source of this resource until it was found in Brazil in the 18th century. In recent times, significant amounts of this resource come from Orapa and other locations in Botswana. The word “blood” is often used in front of the name of this resource when it funds a side in a civil war, such as in Angola or the Ivory Coast. Much of this resource has come from South Africa since Erasmus Jacobs made a discovery at Kimberley. Name this form of carbon that is often a major part of royal crown jewels.

Answer: diamonds

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

<sup>TB</sup>22. This person impressed one of his followers by saying “I saw you under the fig tree.” This man later tells a woman “I, that speak unto thee, am he.” When that woman tells this person that she has no husbands, he responds by saying that she has had five husbands. That woman is surprised that this person spoke to her because she is a Samaritan. This person predicted that he would be mocked, which happened when he was called “the King of the Jews” using the abbreviation “I.N.R.I.” Name this person whose life is described in the Gospels in the New Testament.

Answer: Jesus Christ of Nazareth [accept either underlined part]

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

<sup>TB</sup>23. This type of building is named in the title of Alice Walker’s novel about Arveyda. A major university in Philadelphia takes its name from the fact that it started in the basement of one of these buildings. This word is a more general term than “church”, “mosque”, and “synagogue”. A “mount” in Jerusalem named for this type of building is a holy location for Judaism, Christianity, and Islam. Give this term for a building where people worship.

Answer: temple(s)

***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.***