

# Scobol Solo 2020

## Packet 10 (Round 10)



1. This person won a battle while John Jervis's forces were out of position at St. Vincent. In a later battle, this person ignored Hyde Parker's order to disengage, and he defeated Olfert Fischer's forces at the Battle of Copenhagen. While this person was fighting at Calvi, a bullet hit a sandbag and the debris flew up in his eye, causing permanent damage. This person was killed by a sharpshooter in battle while this person was aboard his ship, the HMS *Victory*. Name this British vice-admiral who won the Battle of the Nile and who died while winning the Battle of Trafalgar.

Answer: (Lord) Horatio Nelson(, 1st Viscount Nelson)

2. This constant equals the reciprocal of the square root of the product of the permittivity and permeability of free space. In the formulas for the momentum of a refracted ray, the energy of a photon is divided by this constant. According to Faraday's law of induction, the curl of an electric field equals the opposite of the derivative of the magnetic field with respect to time, divided by this constant. The index of refraction is calculated by dividing this value by a similar value that depends on the medium. Special relativity stipulates that this value is the same for all observers, regardless of motion. Name this constant equal to about 300 million meters per second.

Answer: speed of light in a vacuum [prompt on  $c_0$ ]

3. A large lamp that hangs in this building has Lord Curzon's name on it, since he organized a restoration of this building during the early 20th century. Many of the precious stones originally built into this building's walls were taken, especially during an 1857 rebellion. The white towers near this building lean slightly outward so that they would fall away during an earthquake. Those towers are minarets, and one of the buildings next to this one is a mosque. This 17th-century building is next to the Yamuna River. Name this mausoleum [maw-zuh-LEE-um] commissioned by Shah Jahan that is located in Agra, India.

Answer: Taj Mahal

4. In one poem, this writer asks "Wherein lies happiness?" and immediately answers "In that which beckons our ready minds to fellowship divine." This poet wrote those lines for a mythical poem named for a shepherd who falls in love with Cynthia, who is based on Selene. Another poem by this writer states "Heard melodies are sweet, but those unheard are sweeter" and begins with the line "Thou still unravished bride of quietness!". Name this English poet who wrote the line "A thing of beauty is a joy for ever" in "Endymion" [en-DIM-ee-un] and wrote the line "Beauty is truth, truth beauty" in "Ode on a Grecian Urn".

Answer: John Keats [keets]

5. This country is the home of the company that produces Solo electric vehicles, Electra Meccanica. Other than two banks, the largest company in this country is the energy company Enbridge. In 2018, this country arrested Chinese businesswoman Meng Wanzhou [mung wahn-joh], the chief financial officer of Huawei [h'WAH-way]. This country made concessions on dairy tariffs in 2018 as part of the USMCA, which is the successor to NAFTA. This country's prime minister is Justin Trudeau. Name this country whose capital is Ottawa.

Answer: Canada

**Check the score.**

6. The discoveries of both antimony [AN-tuh-moh-nee] and tin came later than they otherwise would have because they were both confused with this element. The carbonate of this element forms the mineral cerussite [suh-RUH-"site"], the sulfate of this element forms anglesite ["ANGLE-site"], and the sulfide of this element forms galena [guh-LEE-nuh]. This element is put in aprons that are used when people are getting X-rays because it is good at shielding radiation. The use of this element in gasoline and plumbing has caused significant harm, including decreased intelligence. Name this very dense, poisonous metal.

Answer: lead [accept Pb]

7. After King Manuel [man-WEL] rejected this person's offers, this person went to Charles I of Spain with a plan to take a Spanish voyage to the Spice Islands. This person was killed while fighting with people from Cebu [seh-BOO] against people from Mactan in 1521, but his expedition was completed by Juan Sebastián Elcano. After this person passed through the straits at the end of South America, they were named for him. Name this Portuguese explorer whose expedition to the East Indies in 1521 ended up being the first circum-navigation of the Earth.

Answer: Ferdinand Magellan [or Fernão de Magalhães]

8. In a novel by this author, the line "What I complain of is the horrible unwholesome tameness of our world" is spoken by Mark Rampion, whom this author based on D. H. Lawrence. In that novel, this author wrote about Marjorie Carling, who is married but is living with and pregnant by Walter Bidlake. In another novel by this author, Mustapha Mond—who is the Resident World Controller for Western Europe—exiles Helmholtz Watson and Bernard Marx. This author set that novel in the year 632 After Ford. In that novel, this author wrote about John, who was born on the Savage Reservation. Name this author of *Point Counterpoint* and *Brave New World*.

Answer: Aldous (Leonard) Huxley

9. Some adherents of this religion consider the town of Shashemane [shah-shuh-MAH-nee] to be their holy land; they were given a land grant there during the 1960s. Many followers of this religion follow a diet called *ital* [“EYE”-tahl] that is nearly identical to the Jewish kosher diet. Groups within this religion call themselves “mansions”; one such group is the Twelve Tribes of Israel. Members of this religion often replace the word “we” with the phrase “I and I”, and they refer to god as “Jah”. Many members of this religion wear their hair in dreadlocks. Name this Jamaican religion that gives special reverence to former Ethiopian Emperor Haile Selassie [“highly” suh-LAH-see].

Answer: Rastafarian(ism) or Rastafari people or Rastafaris

10. A series has conditional convergence if and only if applying this function to each term causes the series to diverge. The derivative of this function equals 1 when the input is positive but  $-1$  when the input is negative. Applying this function is equivalent to squaring and then taking the square root. This function is also equivalent to finding the magnitude of a one-dimensional vector. The graph of this function looks like the letter ‘V’. Name this function that leaves positive numbers unchanged and that changes negative numbers into positive numbers.

Answer: absolute value [prompt on magnitude or modulus or norm]

**Check the score.**

11. This person used an alliance with Jabez [JAY-bez] Bostwick and Peter Watson to control the South Improvement Company, which gave him the upper hand over his competitors in Pennsylvania. This person and Henry Flagler then bought up several companies. Samuel C. T. Dodd helped this person set up his business as a trust, which allowed it to operate in several states. This person’s manipulation of railroad rates was uncovered in *McClure’s* magazine, then compiled into a *History* by Ida Tarbell. Name this extremely wealthy founder of the University of Chicago who started the Standard Oil Company.

Answer: John D(avison) Rockefeller Sr.

12. This painter portrayed a woman sitting with crossed legs in *Hotel Lobby* and *Compartment C, Car*. Another such painting by this artist shows a woman drinking coffee in a brightly lit room, while behind her there is a dark room with two rows of overhead lights. This painter of *Automat* portrayed a woman staring at what appears to be a book of matches she holds, sitting next to a man at a bar that has one other customer. This artist painted a man in white serving that triangular urban bar. Name this painter of *Nighthawks*.

Answer: Edward Hopper

13. The Fisher effect states that the expected value of this phenomenon equals the nominal interest rate minus the real interest rate. Taylor’s rule is similar but adds in a term that multiplies a coefficient times the difference between the actual rate of this phenomenon and the target rate. Contractionary monetary policy decreases short-term growth but is sometimes done to decrease this phenomenon. Graphs showing wages or debt over time should generally be indexed to account for this phenomenon. Name this phenomenon that can be measured by changes in the consumer price index and which is the general increase of prices over time.

Answer: inflation

14. One novel from this country begins “It is a general truism of this world that anything long divided will surely unite, and anything long united will surely divide.” That novel describes a period of this country’s history, starting with an indoor rainbow and a female chicken turning into a male chicken. Another novel from this country is about a monk who travels to get sacred texts [pause] and a monkey born from a stone. There is some poetry in an ancient divination text from this country that uses apparently random numbers. Name this country that is the source of *Romance of the Three Kingdoms*, *Journey to the West*, and the *I Ching* [ee cheeng].

Answer: China [or Zhongguó; accept People’s Republic of China or PRC]

15. A theory about how this tissue works was put forward independently by Andrew Huxley and Hugh Huxley, who were not related, and is called the cross-bridge theory. This tissue contains a large protein called titin [“TIGHT-in”] that connects the M line to the Z line. This tissue grows when satellite cells, which are located near this tissue’s sarcolemma, are activated. This tissue includes filaments of actin and myosin [“MY”-oh-sin]. This tissue is classified as striated [STRY-ay-tid], cardiac, or smooth. This tissue is often attached by tendons to bones, and it can contract to cause motion. Name this tissue that forms the deltoids and biceps.

Answer: muscles or muscle tissue [accept muscular tissue; accept more specific answers]

### **Check the score.**

16. Two recent pieces on which this instrument is the lead are Qigang [kee-GAHNG] Chen’s *Joie éternelle* [zhwah ay-ter-nel] and Guy Barker’s *Lanterne of Light*, both of which were premiered by Alison Balsom. Joseph Haydn wrote a *Concerto in E-Flat Major* for this instrument when Anton Weidinger [“VIE”-deen-gur] made a five-keyed version of it. A brass quintet often uses two of these instruments, though sometimes one or both are replaced by cornets, which are very similar. Name this brass instrument that now usually has three valves and which has been played by many jazz musicians, such as Louis Armstrong.

Answer: trumpets

17. This civilization’s village of Joya de Cerén [HOY-ah day seh-REN] has the oldest evidence of domesticated cassava [kuh-SAH-vuh] plants. That site was destroyed by a volcano in 600 CE, and much of this civilization depopulated around 900. Tikal [tee-KAHL] was a more powerful city of this civilization. A modern descendant of these people, Rigoberta Menchú [ree-goh-BAIR-tah men-CHOO], won the 1998 Nobel Peace Prize for supporting indigenous farmers. These people developed the city of Chichen Itza [chee-CHEN eet-SAH] on the Yucatán Peninsula. Name these successors of the Olmecs who lived in and near what is now Guatemala.

Answer: Mayans

18. In one sequel to this book, Rob and Teddy are referred to as “the Lion” and “the Lamb”, and in another sequel to this book, Annie Harding is referred to as “Naughty Nan”. Those sequels to this book are about Professor Bhaer and his students at Plumfield. In this novel, a boy nicknamed Laurie lives with his grandfather next door to the main characters, and he eventually marries Amy. For much of this novel, Amy lives with her sisters Meg, Jo, and Beth. Name this novel about the March sisters written by Louisa May Alcott.

Answer: Little Women

19. This major city is southeast of the Chiltern Hills Area of Outstanding Natural Beauty. This city is the location of the Hayward Gallery, which together with several performance venues is part of the Southbank Center. A bridge in this city featuring twin towers and high-level walkways is called the Tower Bridge. From 2000 to 2006 this city had the world’s tallest Ferris wheel, the Millennium Wheel. Its tallest building is in Southwark [SUTH-urk], was designed by Renzo Piano, and is called “The Shard”. Name this city whose other tourist destinations include Buckingham Palace and Westminster Abbey.

Answer: London, England, United Kingdom

20. People with this disease have strong negative reactions to methacholine [METH-uh-KOH-leen]. If a young person uses short-acting beta agonists, it is probably to treat this disease. The primary symptoms of this disease often happen along with allergies or eczema [EK-zeh-muh], which differentiates this disease from C.O.P.D. This disease also has similar symptoms to chronic bronchitis [brahn-KY-tiss] and emphysema [em-fuh-SEE-muh]. One of the symptoms of this disease is a whistling sound that comes from the chest, called wheezing. Like C.O.P.D., this disease is treated with albuterol [al-BYOO-tur-awl] inhalers. Name this disease of the airways of the lungs.

Answer: asthma

*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 element and carbon combine to form cement-ite, which is often a product when an allotrope of this element called austen-ite is created. Adding carbon to this metal strengthens it, forming steel. Magnetism was discovered by studying magnetite, which is an oxide of this element. This element has very similar magnetic properties to cobalt and nickel, and those properties allow this element to be made into a permanent magnet. Nickel and this element make up the core of the Earth. Name this metallic element that oxidizes to form rust.

Answer: iron [accept Fe]

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

<sup>TB</sup>22. Pablo Picasso had a goat named Esmeralda and one of these animals, named Lump, whom he placed in several of his paintings and made an abstract sketch of. In a 1534 painting, one of these animals is lying on the bed near the feet of a naked woman who is wearing a gold bracelet with black enamels and is holding a posy of roses. That painting is Titian's [TEE-shun'z] *Venus of Urbino*. Name this type of animal that C. M. Coolidge repeatedly painted playing poker.

Answer: dogs [prompt on canines]

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

<sup>TB</sup>23. During this month in 1970, members of the FLQ kidnapped the provincial Deputy Premier Pierre Laporte and British diplomat James Cross in Quebec. Some people celebrate Mean Girls Day during this month. In 1962, the Cuban Missile Crisis happened during this month. The World Series is usually played during this month. A major festival in Munich, Germany is named for this month. Name this month whose last day is Halloween.

Answer: October

*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.*